



# Industrial Policy Action Plan (IPAP) 2012/13 – 2014/15



the dti

Department:  
Trade and Industry  
REPUBLIC OF SOUTH AFRICA



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## ABBREVIATIONS AND ACRONYMS

<b>ABC</b>	Aerial Bundled Conductor
<b>AECMSA</b>	Association of Electric Cable Manufacturers of South Africa
<b>AIDC</b>	Automotive Industry Development Centre
<b>AIDS</b>	Acquired Immune Deficiency Syndrome
<b>AIS</b>	Automotive Investment Scheme
<b>APDP</b>	Automotive Production and Development Programme
<b>API</b>	Active Pharmaceutical Ingredients
<b>ART</b>	Antiretroviral Treatment
<b>ARV</b>	Antiretrovirals
<b>AsgiSA – EC</b>	Accelerated and Shared Growth Initiative for South Africa – Eastern Cape
<b>ATF</b>	Aluminium Trifluoride
<b>B-BBEE</b>	Broad Based Black Economic Empowerment
<b>BNDES</b>	Brazil's <i>Banco Nacional de Desenvolvimento Econômico e Social</i>
<b>BPS</b>	Business Process Services
<b>BTX</b>	Benzene, Toluene and Xylene
<b>CAV</b>	Centurion Aerospace Village
<b>CDM</b>	Clean Development Mechanism
<b>CEF</b>	Central Energy Fund
<b>CIACM</b>	Competitiveness Improvement of Automotive Component Manufactures
<b>CIPRO</b>	Companies and Intellectual Property Registration Office
<b>CKD</b>	Completely Knock Down
<b>CMMI</b>	Capability Maturity Model Integration
<b>CMT</b>	Cut, Make and Trim
<b>COC</b>	Centre of Competence
<b>CSA</b>	Corrugated Seamless Aluminium
<b>CRM</b>	Customer Relations Management
<b>CSDP</b>	Competitive Supplier Development Programme
<b>CSID</b>	Corporate Strategies and Industrial Development
<b>CSIR</b>	Council for Scientific and Industrial Research
<b>CSP</b>	Customised Sector Programme
<b>CTS</b>	Concentrated Thermal Solar
<b>CTCP</b>	Clothing and Textiles Competitiveness Programme
<b>CTFL</b>	Clothing Textiles, Leather and Footwear
<b>DAC</b>	Department of Arts and Culture
<b>DAFF</b>	Department of Agriculture, Forestry and Fisheries
<b>DBSA</b>	Development Bank of Southern Africa
<b>DFIs</b>	Development Finance Institutions
<b>DG</b>	Director General
<b>DIRCO</b>	Department of International Relations and Cooperation
<b>DMR</b>	Department of Mineral Resources
<b>DoC</b>	Department of Communications
<b>DoD</b>	Department of Defence
<b>DoE</b>	Department of Energy

<b>DoH</b>	Department of Health
<b>DHET</b>	Department of Higher Education and Training
<b>DoJ</b>	Department of Justice
<b>DoL</b>	Department of Labour
<b>DoT</b>	Department of Transport
<b>DPE</b>	Department of Public Enterprises
<b>DPW</b>	Department of Public Works
<b>DST</b>	Department of Science and Technology
<b>the dti</b>	The Department of Trade and Industry
<b>DTT</b>	Digital Terrestrial Television
<b>DWEA</b>	Department of Water and Environmental Affairs
<b>EC</b>	Eastern Cape
<b>EE</b>	Energy Efficiency
<b>EDD</b>	Economic Development Department
<b>EIA</b>	Environment Impact Assessment
<b>EIP</b>	Enterprise Investment Programme
<b>EMIA</b>	Export Marketing and Investment Assistance
<b>EPI</b>	Extended Programme of Immunisation
<b>ERA</b>	Enterprise Reference Architecture
<b>ESKOM</b>	Electricity Supply Commission
<b>EU</b>	European Union
<b>EV</b>	Electric Vehicle
<b>FET</b>	Further Education and Training
<b>FIETA</b>	Forest Industries Education and Training Authority
<b>FPM</b>	Fibre Processing and Manufacturing
<b>FRIDGE</b>	Fund for Research into Industrial Development Growth and Equity
<b>FSA</b>	Food Safety Agency
<b>FSA</b>	Forestry South Africa
<b>FTPP</b>	Forestry, Timber, Pulp and Paper
<b>GDP</b>	Gross Domestic Product
<b>GHS</b>	Globally Harmonised System
<b>GFCF</b>	Gross Fixed Capital Formation
<b>GW</b>	Gigawatt
<b>GWH</b>	Gigawatt Hour
<b>ha</b>	hectares
<b>HF</b>	Hydrogen Fluoride
<b>HIV</b>	Human Immune Virus
<b>HRD</b>	Human Resource Development
<b>HS</b>	Harmonised System
<b>ICT</b>	Information Communication Technologies
<b>IDC</b>	Industrial Development Corporation
<b>IDZ</b>	Industrial Development Zone
<b>IEE</b>	Industrial Energy Efficiency
<b>IFPI</b>	International Federation of the Phonographic Industry
<b>IPAP</b>	Industrial Policy Action Plan



<b>IRP</b>	Integrated Resource Plan
<b>ITAC</b>	International Trade Administration Commission
<b>ITED</b>	International Trade and Economic Development
<b>JASC</b>	Joint Aerospace Steering Committee
<b>JV</b>	Joint Venture
<b>KAP</b>	Key Action Programme
<b>KDB</b>	Korean Development Bank
<b>KZN</b>	KwaZulu-Natal
<b>LSOH</b>	Low Smoke Zero Halogen
<b>m</b>	metres
<b>MACC</b>	Mobilisation, Alignment, Capacity Building and Cooperation
<b>MCEP</b>	Manufacturing Competitiveness Enhancement Programme
<b>Merseta</b>	Manufacturing, Engineering and Related Services SETA
<b>MHCV</b>	Medium and Heavy Commercial Vehicles
<b>MIDP</b>	Motor Industry Development Programme
<b>MNC</b>	Multi-National Corporations
<b>MOA</b>	Memorandum of Agreement
<b>MoU</b>	Memorandum of Understanding
<b>MTBPS</b>	Medium Term Budget Policy Statement
<b>MTBS</b>	Medium Term Budget Statement
<b>MTIDC</b>	Malawi-Tanzania Industrial Development Cluster
<b>MW</b>	Megawatt
<b>NAAMSA</b>	National Association of Automobile Manufacturers of South Africa
<b>NADP</b>	National Artisan Development Programme
<b>NAMC</b>	National Agricultural Marketing Council
<b>NQF</b>	National Qualification Framework
<b>NCSDP</b>	National Craft Sector Development Programme
<b>NCPC</b>	National Cleaner Production Centre
<b>NDT</b>	National Department of Tourism
<b>NECSA</b>	South African Nuclear Energy Corporation
<b>Nedlac</b>	National Economic Development and Labour Council
<b>NEF</b>	National Empowerment Fund
<b>NERSA</b>	National Energy Regulator of South Africa
<b>NFVF</b>	National Film and Video Foundation
<b>NGP</b>	New Growth Path
<b>NIPF</b>	National Industrial Policy Framework
<b>NIPP</b>	National Industrial Participation Programme
<b>NLA</b>	National Laboratory Association
<b>NMISA</b>	National Metrology Institute of South Africa
<b>NNR</b>	National Nuclear Regulator
<b>NPA</b>	National Prosecuting Authority
<b>NRCS</b>	National Regulator for Compulsory Specification
<b>NSDS</b>	National Skills Development Strategy
<b>NSF</b>	National Skills Fund
<b>NSSS</b>	Nuclear Steam Supply System

<b>NT</b>	National Treasury
<b>NTB</b>	Non-Tariff Barriers
<b>NFTN</b>	National Foundry Technology Network
<b>NTI</b>	National Tooling Initiative
<b>NTP</b>	Nuclear Technology Products
<b>ODA</b>	Official Development Assistance
<b>OEMs</b>	Original Equipment Manufactures
<b>PBMR</b>	Pebble Bed Modular Reactor
<b>PFMA</b>	Public Finance Management Act
<b>PGM</b>	Platinum Group Minerals
<b>PGWC</b>	Provincial Government of the Western Cape
<b>PI</b>	Production Incentive
<b>PILC</b>	Paper Insulated Lead Covered
<b>PPA</b>	Power Purchase Agreement
<b>PPP</b>	Public Private Partnership
<b>PPFA</b>	Preferential Procurement Policy Framework Act
<b>PRASA</b>	Passenger Rail Agency of South Africa
<b>PSA</b>	Proudly South African
<b>PV</b>	Photovoltaic
<b>REFIT</b>	Renewable Energy Feed in Tariff
<b>REIPP</b>	Renewable Energy Independent Power Producers
<b>REIPPPP</b>	Renewable Energy Independent Power Producer Procurement Programme
<b>RFP</b>	Request for Proposals
<b>RIBS</b>	Rigid Inflatable Boats
<b>ROV</b>	Remotely Operated Undersea Vehicles
<b>RPL</b>	Recognition of Learning
<b>RPO</b>	Radiation Protection Officers
<b>R&amp;D</b>	Research and Development
<b>RSDIP</b>	Regional Spatial Development Initiatives Programme
<b>QCTO</b>	Quality Council for Trades and Occupations
<b>SA</b>	South Africa
<b>SaaS</b>	Software as a Service
<b>SAA</b>	South African Airways
<b>SABC</b>	South African Broadcasting Corporation
<b>SABS</b>	South African Bureau of Standards
<b>SADC</b>	Southern African Development Community
<b>SAFVCA</b>	South African Fruit and Vegetable Canning Association
<b>SAHC</b>	South African Handmade Collection
<b>SANs</b>	South African National Standards
<b>SANAS</b>	South African National Accreditation System
<b>SAOGA</b>	South African Oil and Gas Alliance
<b>SAOSO</b>	South African Organics Sector Organisation
<b>SAPS</b>	South African Police Services
<b>SARS</b>	South African Revenue Services
<b>SARi</b>	South African Renewables Initiative

<b>SAT</b>	South African Tourism
<b>SATS</b>	South African Technical Standard
<b>SDI</b>	Spatial Development Initiatives
<b>SDP</b>	Supplier Development Plans
<b>SANAS</b>	South African National Accreditation System
<b>seda</b>	Small Enterprise Development Agency
<b>SETA</b>	Skills Education and Training Authorities
<b>SEZ</b>	Special Economic Zones
<b>SKD</b>	Semi Knock Down
<b>SME</b>	Small and Medium Enterprises
<b>SMME</b>	Small Medium and Micro Enterprises
<b>SOC</b>	State-Owned Companies
<b>SOC-ATD TTT</b>	State-Owned Companies artisan development task team
<b>SOEs</b>	State-Owned Enterprises
<b>SPS</b>	Sanitary and Phyto-sanitary Standards
<b>SPX</b>	Sequenced Packet Exchange
<b>SQAM</b>	Standards, Quality Assurance and Metrology
<b>SSAS</b>	Sector Specific Assistant Scheme
<b>SSP</b>	Sector Skills Plans
<b>STB</b>	Set Top Box
<b>SWH</b>	Solar Water Heaters
<b>SWOT</b>	Strength, Weakness, Opportunity and Threats
<b>TBT</b>	Technical Barriers to Trade
<b>TEO</b>	The Enterprise Organisation
<b>T/G</b>	Turbine Generator
<b>TISA</b>	Trade and Investment South Africa
<b>TPA</b>	Tonnes Per Annum
<b>TNPA</b>	The National Ports Authority
<b>TSP</b>	Team Software Process
<b>TV</b>	Television
<b>TVC</b>	Technology Venture Capital
<b>UNIDO</b>	United Nations Industrial Development Organisation
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change
<b>US</b>	United States
<b>VAT</b>	Value Added Tax
<b>WC</b>	Western Cape
<b>WTO</b>	World Trade Organisation



## FOREWORD BY THE MINISTER OF TRADE AND INDUSTRY

The publication of the 2012 Industrial Policy Action Plan: IPAP 2012/13 – 14/15 provides an opportunity to take stock of the progress made and challenges experienced since the commencement of the first IPAP in 2008. Our experience of implementation of IPAP demonstrates that industrial policy can and does succeed in South Africa if it is well designed, adequately resourced and informed by robust and constructive stakeholder dialogue. This has been demonstrated in a number of sectors.

In Automotives, the technical work for the completion of the transition from the Motor Industry Development Programme (MIDP) to the Automotive Production and Development Programme (APDP) in 2013 has largely been completed. The sector has demonstrated an unequivocal vote of confidence in South African capabilities and policy in the form of more than R15 billion in recent investment commitments from both assemblers and component suppliers, much of which is already under way. This has been accompanied by large increases in vehicle assembly volumes and localisation of componentry. Even as policy is being finalised to broaden our interventions into the Medium and Heavy Commercial vehicle segments, significant investment interest and commitments have been attracted, including a recent \$100 million commitment in a joint truck and car assembly facility.

In Clothing, Textiles, Leather and Footwear, we recognised that the Duty Credit Certificate (DCC) Programme was not working and moved decisively to replace it with an industry upgrading incentive in 2009: the Clothing Textile Competitiveness Programme (CTCP). The CTCP has resulted in significant competitiveness improvements and brought manufacturers and retailers closer together to take advantage of the proximity, quality and flexibility that domestic manufacturers offer. Even though the implementation of the CTCP overlapped with the global economic crisis, it managed to arrest employment losses by 2010, with a modest increase in employment in 2011.

There has been significant progress in a range of other sectors, including Business Process Services and Pharmaceuticals. The implementation of IPAP has resulted in a number of critical platforms being put in place that will be used as the basis for further scaling up of key sectors.

A major achievement has been the conclusion of the work of the intra-departmental team to introduce changes to the Preferential Procurement Policy Framework Act (PPPFA) regulations that enable the Department of Trade and Industry (**the dti**) to designate industries for domestic production where procurement is conducted by public entities, including the State-Owned Enterprises (SOEs). Sectors designated in the first round in December 2011 include: Buses; Rolling Stock; Power Pylons; Canned Vegetables; Clothing, Textiles, Leather and Footwear; and Set Top Boxes. More will follow during the 2012/13 financial year and thereafter.

Significant progress has been achieved with respect to the long-term reorientation of the Industrial Development Corporation (IDC) to finance IPAP and New Growth Path (NGP) sectors. R102 billion has been identified by the IDC, with specific allocations earmarked for labour-intensive investments, the 'green economy' and energy

efficiency, the agricultural value chain as well as companies in distress as a consequence of the crisis. The 12I tax incentive for large investments has now been supplemented by the announcement in the budget of the Manufacturing Competitiveness Enhancement Programme (MCEP), which will be deployed towards upgrading the competitiveness of relatively labour-intensive and value-adding manufacturing sectors impacted by the currency, global crisis and electricity cost escalations. Draft legislation for Special Economic Zones (SEZs) sets the basis for a broader range of industrial parks and infrastructure for effective clustering of value-adding and employment-enhancing manufacturers.

Trade and competition policy is now more strategically aligned with industrial policy objectives. Tariff setting is significantly more sophisticated, informed by sectoral analysis and priorities. Campaigns to tackle customs fraud and illegal imports are being scaled up, together with those aimed at products that do not meet mandatory standards. Recent standards development work has also enabled the growth of a range of new sectors, particularly related to green industries and industrial energy efficiency. A range of competition investigations have been conducted in relation to anti-competitive behaviour in sectors providing inputs into production sectors of the economy, particularly manufacturing and agriculture.

Our successes in implementing transformative industrial policy action plans in these sectors, coupled with the hard work to put in place critical platforms, place us in a position to upscale our efforts across a range of sectors. Three sectors in particular are well placed for scaling up through leveraging market growth and associated upgrading of supply capacity and capabilities:

**Green industries:** Particularly the manufacturing of componentry inputs into our 17,8 Gigawatts renewable energy generation programme; and solar water heating and other industrial opportunities arising from requirements for higher energy efficiency in the economy.

**Agro-processing:** Including expediting of regulatory and support mechanisms to establish a large-scale biofuels industry; identification and promotion of export market opportunities in net food-importing countries; and product development and standards support.

**Metal Fabrication, Capital and Transport Equipment:** Particularly leveraging the large-scale public procurements in rail and electricity; providing associated upgrading support; and taking advantage of mining capital equipment investment domestically and on the rest of the continent.

It is important to note, however, that the implementation of IPAP faces some severe global and domestic headwinds. Implementation of IPAP has coincided with two overlapping external economic shocks and one internal shock. The Global Crisis and ensuing Great Recession have – since 2008 – slowed the world economy generally and export demand in two of our key traditional markets in particular: Europe and the United States (US). This has coincided with ongoing currency overvaluation and volatility, which pre-dated the crisis but exacerbated its impact on the tradable sectors of the South African economy. Domestically, producers have been subject to large and rapid electricity price increases over the last three years, cumulatively of the order of between 75% and 140%. Port charges – among the highest in the world – remain a significant constraint. We, therefore, welcome the announcement by the President in his State of the Nation Address of measures to mitigate high and escalating electricity and port charges.

We believe the 2012/13 IPAP is a confidence-building one. We have demonstrated what is possible in a range of sectors through constructive and ambitious partnerships. We have built a number of critical enabling platforms. Through similar partnerships we can arrest the threat of deindustrialisation and grow value addition and jobs in our manufacturing sector.

A handwritten signature in black ink, appearing to read 'Rob Davies', with a stylized flourish at the end.

**Dr Rob Davies, MP**  
**Minister**  
**Department of Trade and Industry**

## 1. INTRODUCTION

The publication of IPAP 2012/13 – 14/15 takes place within the framework of continuous improvements and upscaling of concrete industrial development interventions, as set out in the National Industrial Policy Framework (NIPF). Therefore, successive iterations of IPAP seek to scale up key interventions over a rolling three-year period, with a 10-year outlook on desired economic outcomes. The NIPF has the following core objectives:

- To facilitate diversification beyond the economy's current reliance on traditional commodities and non-tradable services that require the promotion of value-addition, characterised particularly by the movement into non-traditional tradable goods and services that compete in export markets and against imports;
- To ensure the long-term intensification of South Africa's industrialisation process and movement towards a knowledge economy;
- To promote a labour-absorbing industrialisation path, with the emphasis on tradable labour-absorbing goods and services and economic linkages that create employment;
- To promote industrialisation, characterised by the increased participation of historically disadvantaged people and marginalised regions in the industrial economy; and
- To contribute towards industrial development in Africa with a strong emphasis on building the continent's productive capacity and secure regional economic integration.

### 1.1 Progress in the implementation of IPAP

The IPAP 2012/13 – 14/15 represents the fourth annual iteration of the action plan. Key achievements registered to date in sectors such as Automotives, Clothing, Textiles, Leather and Footwear, and Business Process Services demonstrate that well-designed industrial policy interventions can and do work for South Africa. Critical success factors that stand out in such sectors include:

- Interventions have been based on sound economic research and analysis;
- They have been the subject of constructive stakeholder engagement and enjoy their buy-in;
- They have been appropriately resourced; and
- They have enjoyed the necessary intra-governmental co-ordination and co-operation.

In addition to substantial progress with respect to some of our key sector strategies, the implementation of successive iterations of IPAP has put in place the necessary critical transversal platforms to unlock growth and employment generation in a range of other sectors. Of particular importance are:

- The amendment of procurement regulations to designate key sectors for domestic production in relation to public procurement, particularly in relation to public infrastructure expenditure;
- Ongoing re-orientation of the IDC to provide appropriate financing instruments for priority IPAP and NGP sectors;
- Agreement and announcement of the MCEP aimed at upgrading value-adding and labour-intensive manufacturing sectors;
- Much greater strategic alignment of trade and competition policy with industrial policy; and
- Greater and more concerted effort to tackle customs fraud, illegal imports and products that do not meet mandatory standards.

## **Procurement and Designations**

The first phase of procurement reform has culminated in the adoption by Government of amended regulations to the Preferential Procurement Policy Framework Act (PPPFA). These regulations came into force on 7 December 2011. Concurrently, **the dti** developed a sector designation methodology, compiled the necessary research, guidelines and instruction for National Treasury, and led the South African Bureau of Standards (SABS) process for the development of a South African Technical Standard on local content. The Minister of Trade and Industry designated the following industries for local procurement as from December 2011:

- Buses;
- Rolling Stock;
- Power Pylons;
- Canned Vegetables;
- Clothing, Textiles, Leather and Footwear; and
- Set Top Boxes.

The amended regulations of the PPPFA need to be supported by the concrete actions of other stakeholders, flowing from high level co-commitments made by business and labour in the Procurement Accord process led by the Economic Development Department (EDD).

## **Industrial Financing**

Further significant and ongoing progress has been registered with respect to the long-term reorientation of the IDC to strengthen its ability to finance IPAP and NGP sectors. Funding of R102 billion over the next five years has been earmarked by the IDC for IPAP and NGP sectors, as follows:

- R10 billion Job Creation Fund at Prime less 3% over five years;
- R25 billion towards 'green economy';
- R500 million energy efficiency fund;
- R7,7 billion agricultural and forestry value chains; and
- R6,1 billion to support companies in distress as a consequence of the global financial crisis.

The 12I Tax Incentive has leveraged large manufacturing investments worth R21,8 billion. The research and development (R&D) tax incentive has allocated more than R1 billion in tax deductions to encourage private sector R&D activities worth R9,6 billion between 2006 and 2011. These measures will be supplemented by the MCEP – announced in the 2012 Budget – which will be deployed towards upgrading the competitiveness of relatively labour-intensive and value-adding manufacturing sectors. Draft legislation and associated funding for SEZs creates the foundation for a broader range of industrial parks and infrastructure for effective clustering of value-adding and employment-enhancing manufacturing activities.

## **Trade and Competition Policy**

Trade and Competition policies have become more strategically aligned with industrial policy objectives. Tariff setting is informed by sectoral analysis and priorities. The International Trade Administration Commission (ITAC) processed numerous applications for increases, rebates and reductions of duties across a range of sectors. ITAC



has commenced with processes to ensure tariff support is conditional on reciprocal commitments to gauge the performance of intended beneficiaries in line with IPAP priorities.

Work on standards has enabled the growth of a range of new sectors, including green industries and industrial energy efficiency. To this end, the SABS and the South African National Accreditation System (SANAS) developed a range of enabling standards and accreditation programmes and increased testing capacity for various industries and products.

A variety of investigations were undertaken in relation to anti-competitive behaviour where inputs into production sectors of the economy are significant. These include settlements reached with Sasol and grain trading and storage companies for anti-competitive behaviour, as well as completed investigations into fertilizer, maize and wheat milling, bread, milk sub-sectors, steel, polymers, construction bid-rigging, forestry, cement, fuel and various food products. Cases referred to and in the Tribunal hearing processes include polymer chemicals, reinforcing steel, poultry, and mealie meal and wheat flour.

### **Customs fraud and illegal imports**

Continuous, concerted and integrated efforts to tackle customs fraud, illegal imports and the importation of substandard goods has resulted in significant progress. The South African Revenue Service (SARS) conducted 112 raids over the last year, 42 of which were in the clothing sector and in which 260 tonnes of goods were confiscated. Over three years, R1 billion worth of illegal or substandard goods have been confiscated. This progress has been registered against the background of the SARS Modernisation Programme, which includes a real-time electronic system and introduces an electronic reference pricing system and risk engine for search and seizure. This was supported by technical upgrading, co-ordination of intelligence and strengthening of capacity at ports of entry.

### **Automotives**

The technical work for the finalisation of the transition from the MIDP to the APDP in 2013 has largely been finalised.

About R15 billion in investment commitments from assemblers and component suppliers, with a recent further commitment of \$100 million for a truck and car assembly plant by China's First Auto Works (FAW) demonstrates a vote of confidence in South Africa's policy framework and capabilities. The programmes have supported a conservative estimate of 33 524 jobs since their inception and demonstrated large increases in levels of volume and localisation.

### **Clothing, Textiles, Leather and Footwear**

The CTCP, which replaced the ineffective DCC in 2009, has effectively stabilised a deeply vulnerable sector. Despite implementation of the CTCP coinciding with the worst economic crisis since the Great Depression and ongoing currency overvaluation and volatility, employment levels had stabilised in the sector by late 2011, with the programme supporting at least 48 384 jobs.

## **Business Process Services**

Significant progress has been achieved, including R3,4 billion in new investment secured and 1 373 jobs created over the last year. A further set of approved projects will create about 11 000 jobs over the next three years. 3 400 young trainees were trained under the Monyetla II Programme, 70% of which were placed directly into employment by the BPO consortium. The first Amazon African customer service centre in Cape Town was launched in August to service global English- and German-speaking clients.

## **Green Industries**

The Renewable Energy Independent Power Producer Programme (REIPPP) to procure 17,8GW of renewable generation capacity by 2030 was launched by the Department of Energy in August 2011. **the dti** has secured minimum and ongoing increasing levels of local content in the REIPP. The REIPP, combined with the completion of the technical work for solar and wind energy manufacturing strategies, provides a significant opportunity for South Africa to become a major manufacturer of componentry of renewable energy projects. New regulations on mandatory blending of biofuels were published for comment in the Government Gazette. Energy Efficiency Building Regulations became effective from November 2011, and the Industrial Energy Efficiency Programme was launched in the same month. Draft regulations requiring oil majors operating in South Africa to uplift biofuels for mandatory blending with mineral fuels have been published in the Government Gazette. This has sent oil majors and potential biofuel manufacturers a clear signal that Government is serious about progressing biofuels in South Africa. Once the final regulations have been promulgated, they will effectively create the market for biofuels and, when accompanied by the financial support mechanism, will provide full regulatory certainty leading to significant new investment in commercial-scale biofuel manufacturing facilities.

### **1.2 Scaling up**

Significant achievements in implementing transformative industrial policy actions plans at the sectoral level and the development of stronger transversal platforms set the basis for further strengthening of industrial policy interventions. Special emphasis will be placed on three sectors that are particularly well placed for scaling up through leveraging market growth and associated upgrading of supply capacity and capabilities. These are:

- **Green Industries:** In particular, the manufacture of components for the 17,8GW renewable energy generation programme and the production of solar water heaters and components and a range of other goods and services that arise from the requirements of higher energy efficiency in the economy.
- **Agro-processing:** In particular, the expediting of regulatory and support mechanisms to create a large-scale biofuels industry; the identification and promotion of export market opportunities to major net food-importing countries; and investment, product development and standards support.
- **Metal Fabrication, Capital and Transport Equipment:** Significant opportunities arise from the leveraging of large public procurements in rail and electricity; the provision of associated investment and upgrading support; and exploitation of opportunities arising from mining capital equipment investment in South Africa and on the rest of the continent.

### 1.3 Constraints

The implementation of IPAP has taken place against the backdrop of serious constraints exogenous to its implementation.

Firstly, implementation overlapped with the onset of the worst and most prolonged global recession since the Great Depression. This impacted severely on the South African economy, with the manufacturing sector hardest hit.

Secondly, despite the fact that South Africa did not experience a real-economy minerals commodity boom – since commodity prices increased dramatically from 2004 – it has attracted massive short-term capital inflows into domestic resource shares. Added to short-term equity inflows were massive bond market inflows attracted by high real interest rates relative to the bulk of developing countries. These factors prevented the exchange rate from playing its role as stabiliser of the productive sectors of the economy, precisely at the point when this was desperately needed – a global economic crisis and ensuing slow and uncertain growth.

Thirdly, these two external shocks coincided with a major internal shock: double-digit increases in electricity and logistics costs.

Implementation of IPAP has occurred against the backdrop of a range of negative factors impacting the manufacturing sector, which were either exacerbated by the crisis or pre-dated it:

- Weakened domestic demand as the credit-fuelled consumption boom of 2005-2007 unwound;
- Weak growth in traditional export markets, particularly the US and European Union (EU);
- Significantly, above-inflation increases for administered prices, with huge electricity price increases of between 75% and 90% from Eskom and up to 140% where municipal increases are factored in;
- Ongoing high cost and significant inefficiencies in the rail and ports freight and logistics systems;
- Major market failures with respect to finance for fixed investment, including: the bulk of private credit extension going to various forms of household debt rather than fixed investment; concentration of fixed investment in consumption-driven and capital-intensive sectors; high relative cost of capital in relation to key competitor countries; and insufficiently long-term tenure of loans;
- A significant slowdown and backlogs in infrastructure expenditure at all levels of Government;
- Short-term and unstrategic procurement practices in relation to major areas of public capital expenditure, which both raises costs and limits prospects for localisation; and
- Slow progress with regard to addressing the skills shortage.

It is against this background that President Jacob Zuma's announcements in the 2012 State of the Nation address concerning measures to strengthen public infrastructure investment and address steeply escalating administrative prices is welcomed. These interventions will be bolstered by an additional support mechanism, the MCEP, announced in broad outline in Finance Minister Pravin Gordhan's 2012 Budget speech. The MCEP is an additional manufacturing support response to the global crisis and pervasive market and institutional failures. The MCEP rests on the recognition of the importance of providing manufacturing companies discouraged by the adverse economic climate with additional support, particularly with regard to improving their competitiveness.

## 2. THE IMPORTANCE OF IPAP TO THE NEW GROWTH PATH AND VISION

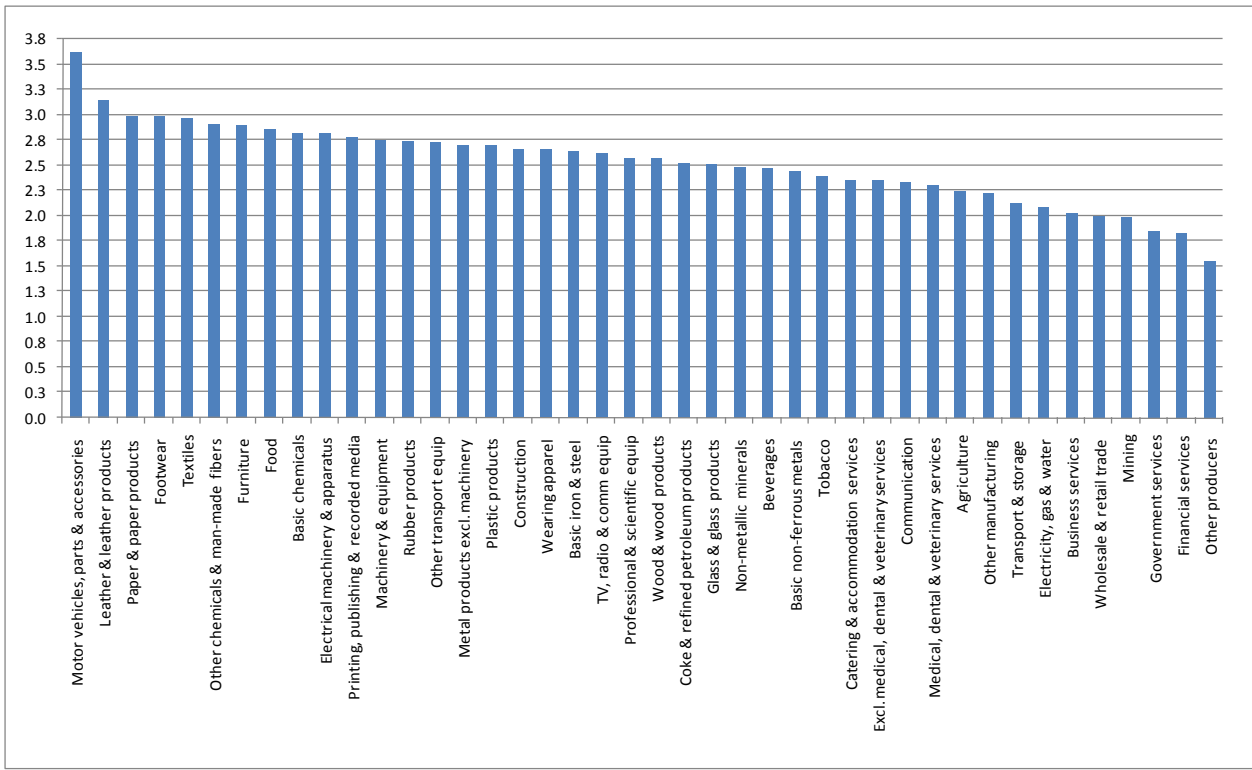
### 2.1 IPAP in the context of South Africa’s long-term growth path and vision

The IPAP is framed by and constitutes a key pillar of the NGP, which was launched by the Minister of Economic Development in November 2010. Government interventions set out in the NGP, the National Development Plan Vision 2030 and other policy documents seek to ensure that critical steps in support of the restructuring of the economy are secured to set it on a more value-adding and labour-intensive growth path.

Long-term development needs to be underpinned by higher growth in the production sectors, led by manufacturing. This is due to the fact that the economy is not made up of a set of discrete and isolated activities, but rather sectors that are fundamentally interlinked. Figures 1 and 2 show that manufacturing sectors have the highest growth multipliers in the economy and a number have high employment multipliers.

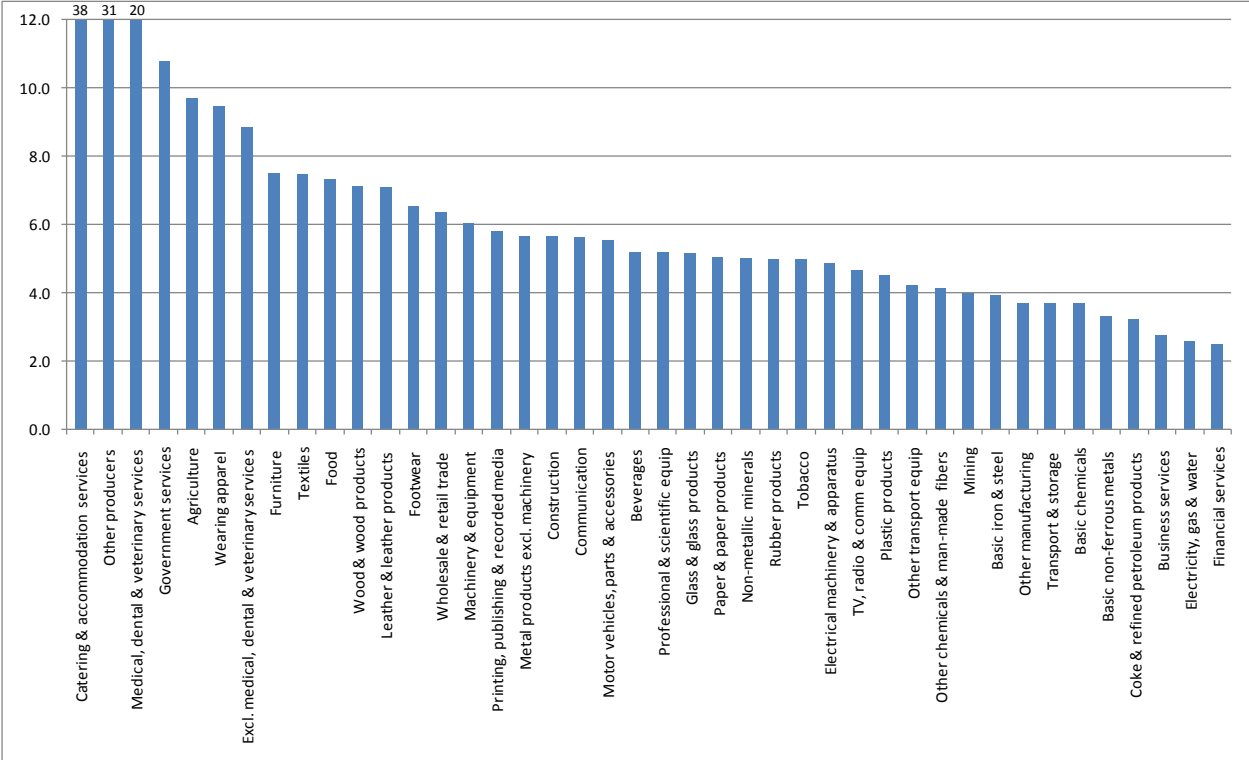
Manufacturing, therefore, plays a critical role in driving income growth and employment. It has substantial direct employment potential. It is also the core production sector that can raise incomes and increase the level and sustainability of employment growth in consumption-driven services sectors in particular, through growing per capita incomes in the economy rather than ever higher (and unsustainable) levels of household debt.

Figure 1: Growth multipliers



Source: CSID calculations using Quantec data

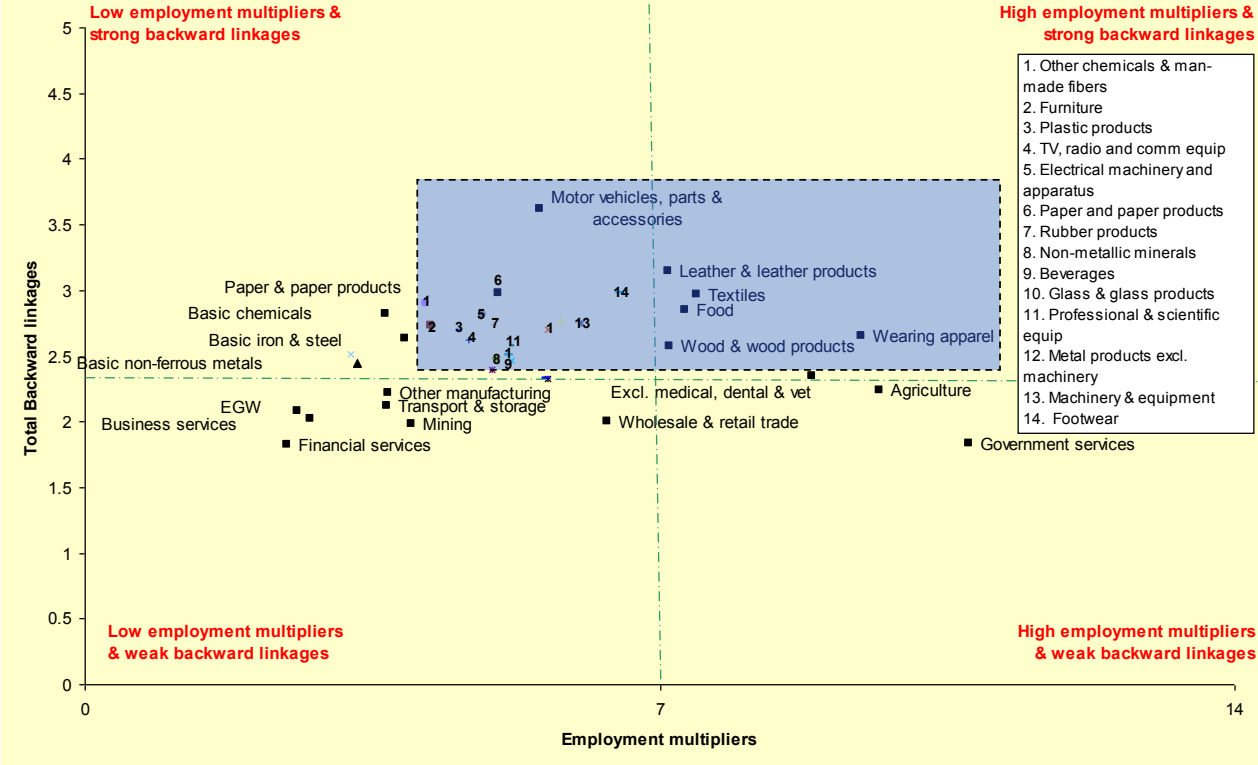
**Figure 2: Employment multipliers**



Source: CSID calculations using Quantec data

IPAP has a particular role to play in dynamising employment and growth in the economy through its focus on value-adding sectors that embody a combination of relatively high employment and growth multipliers (Figure 3). As measured through backward linkages, manufacturing and other IPAP sectors pull through inputs from primary and other manufacturing and services sectors and transform them into higher-value products, stimulating employment along the entire value chain. They also provide an additional impetus to employment and growth through forward linkages to ‘downstream’ sectors, predominantly in services.

**Figure 3: IPAP: Value-added sectors with high employment and growth multipliers**



Source: CSID calculations using Quantec data

It is in this sense that manufacturing and other IPAP sectors should play an increasingly central dynamising role in the economy through a combination of direct and indirect effects to achieve a step change towards dealing with a set of structural imbalances in the economy.

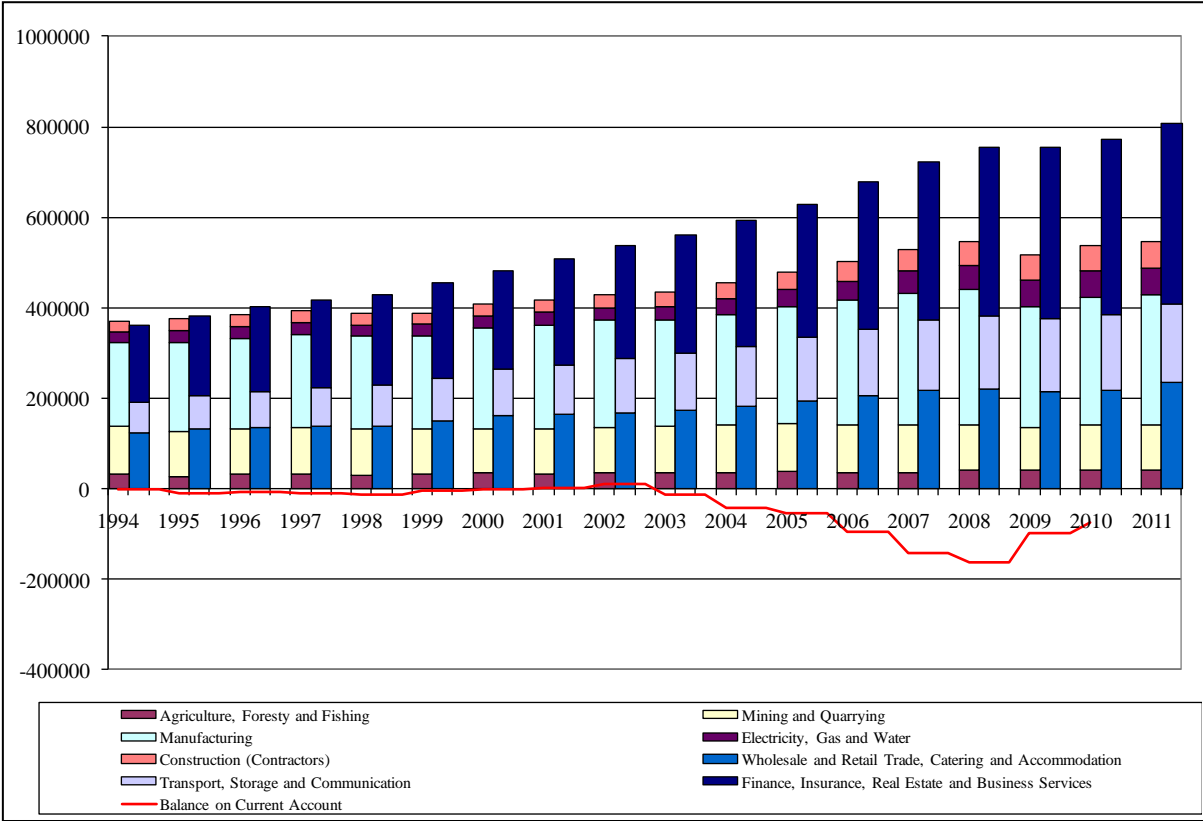
**2.2 Structural imbalances in South Africa’s current growth path**

Prior to the extended global crisis and recession that began in 2008, South Africa achieved reasonably high growth rates, particularly during the 2005 – 2007 period. However, these were lower than average peer middle-income developing country growth rates and never resulted in unemployment falling below 23%. The onset of the recession and accompanying declines in production resulted in the loss of more than a million jobs, over 200 000 of which were in the manufacturing sector. This contrasts sharply with a range of countries, most particularly the BRICS countries China, Brazil and India, which continued to register sustained, albeit slightly lower rates of growth. This is due to both the policies these countries followed prior to the recession, which focused on production sectors, and significant interventions to counteract the effects of the extended recession. South Africa’s modest pre-recession growth rates, which declined during the global downturn, masked key structural fault lines in the economy.

As before the recession, growth has continued to be driven by unsustainable increases in private credit extension and consumption rather than a more sustainable growth path underpinned by the growth of production-driven sectors of the economy (Figure 4). Thus, consumption-driven sectors (that is, finance and insurance, real estate, transport and storage, communication, wholesale and retail, catering and accommodation) are the driving force of South Africa’s modest economic growth as opposed to production-driven sectors (i.e. agriculture, mining,

manufacturing, electricity and water, and construction). The resultant large current account deficits over the last few years have persisted through 2011.

**Figure 4: GDP by production and consumption sectors, 1994 – 2011 and Balance on Current Account (R million at 2005 prices)**



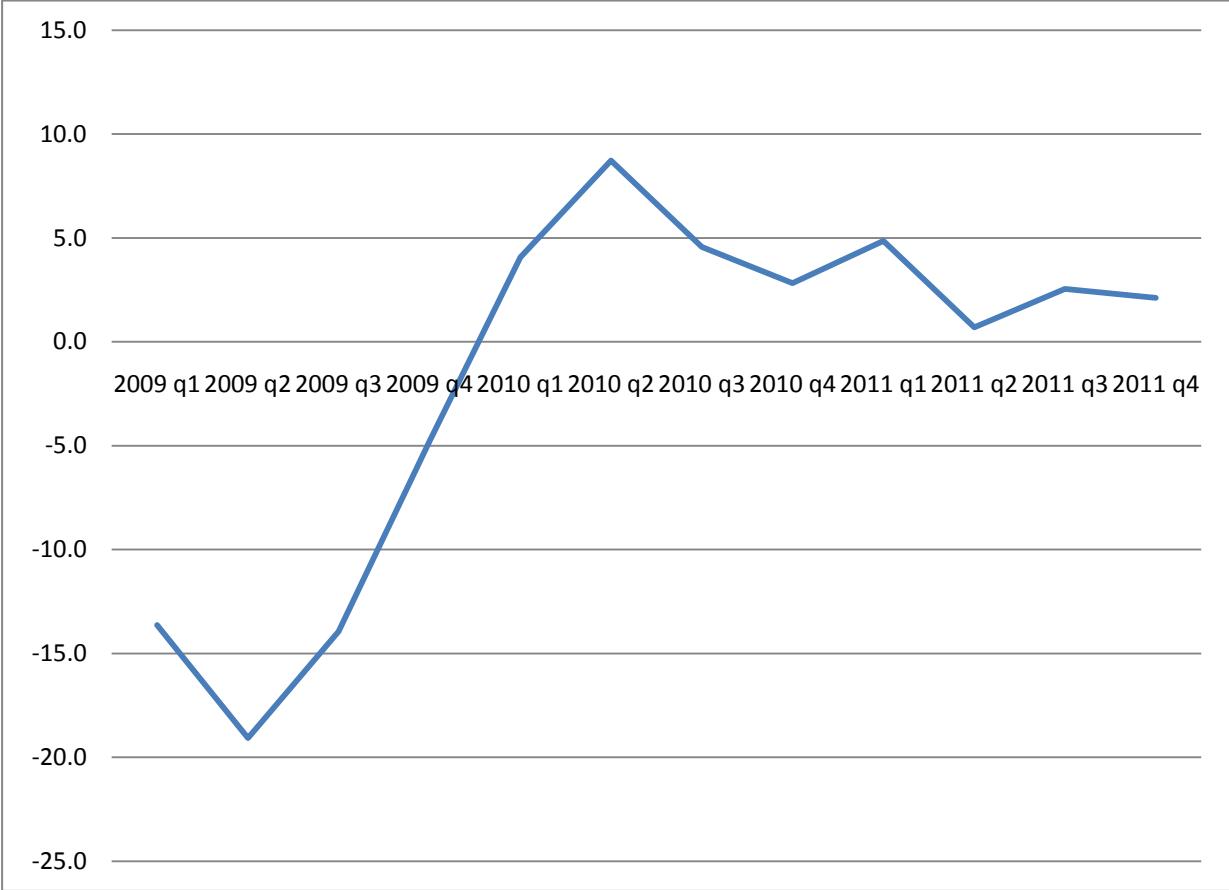
Source: SARB

In recent years, formal employment growth has come predominantly from the services sector, particularly wholesale and retail, and business services sub-sectors. However, these gains are precarious since wholesale and retail employment growth has been as a result of sustained household credit extension. Business services employment growth has been driven predominantly by two main factors: the outsourcing of activities such as logistics and catering; and growth in the private security sector.

**2.3 Manufacturing**

The manufacturing sector came under increasing levels of stress since the onset of the global economic crisis. It declined by almost 20% from 2008 to 2009 and then recovered somewhat, showing growth of 5,0% and 2,5% in 2010 and 2011 respectively (Figures 5 and 6).

Figure 5: Growth in manufacturing production (% change year-on-year)



Source: Quantec



**Figure 6: Manufacturing Production and Growth (Seasonally adjusted)**

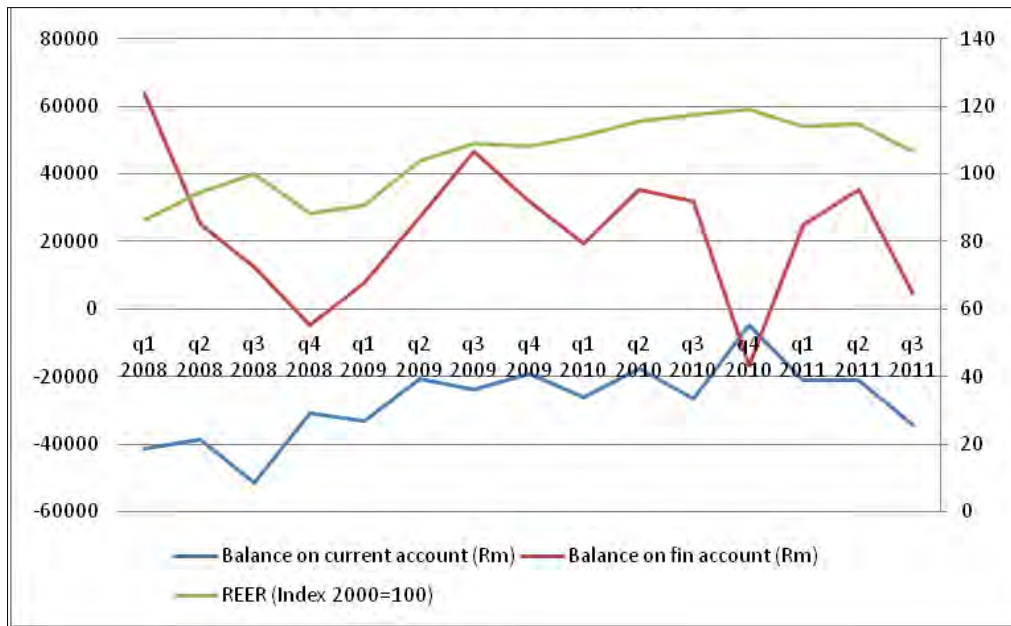


Source: Quantec

South Africa’s value-added exports have predominantly gone to traditional advanced markets such as the EU and US, while our primary and semi-processed commodity exports are the subject of ongoing and increased demand by large developing economies such as China and India. Efforts to realign South African manufacturing exports face a long and painful adjustment period, although there are positive indications in this regard.

The difficulty of this adjustment is severely compounded by the continued overvaluation and volatility of the currency into 2012 (Figure 7). The real effective exchange rate reached its highest point on record in the third quarter of 2010. Although it subsequently depreciated in the early part of the first quarter of 2011, it experienced renewed appreciation in the second and third quarters of 2011.

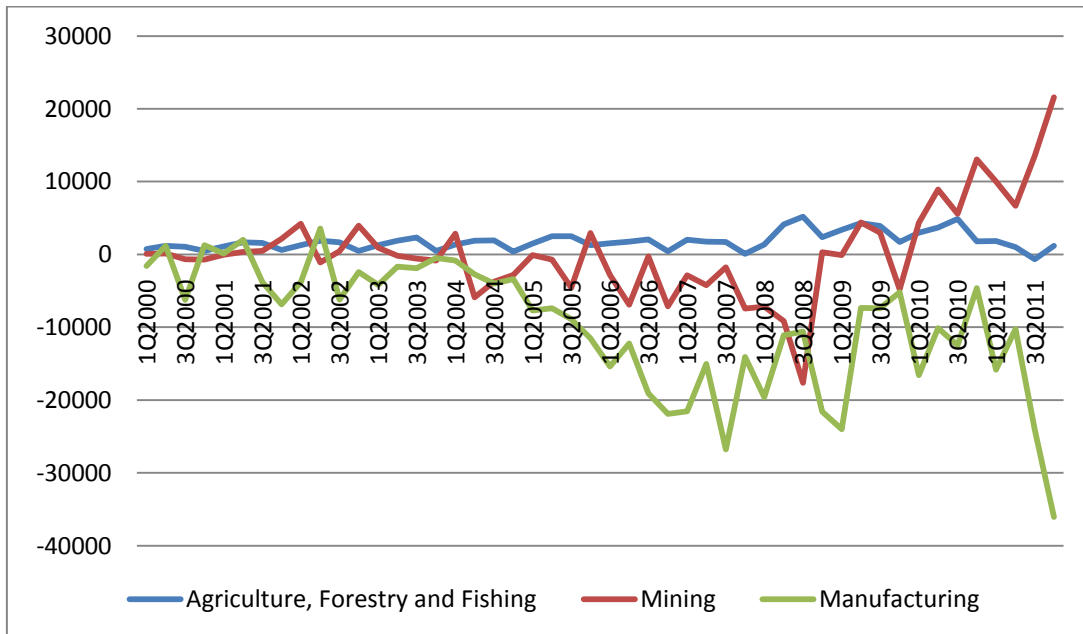
**Figure 7: Balance on current account, financial account and real effective exchange rate (R million, Index 2000 = 100)**



Source: SARB

South Africa, therefore, continues to run a large trade deficit, particularly in the manufacturing sector (Figure 8), resulting in a large current account deficit shown in Figure 7.

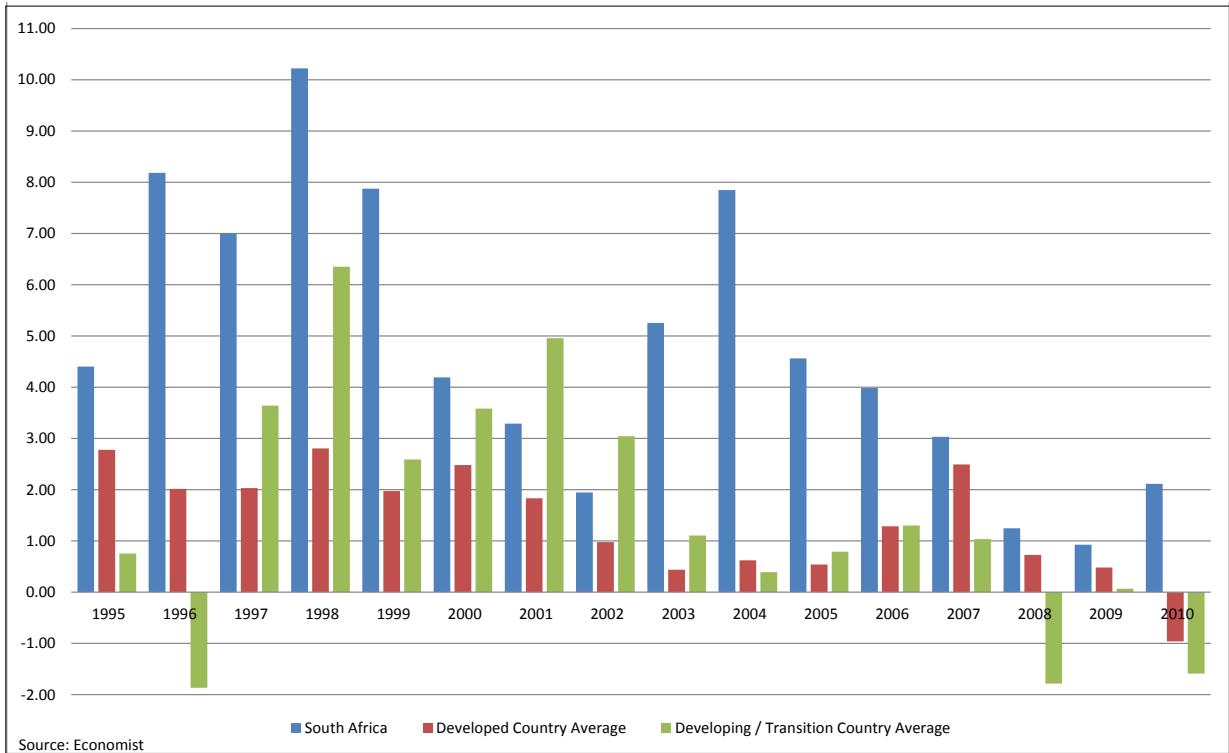
**Figure 8: Trade balance by sector (Rand million) Q1 1995 – Q4 2011**



Source: Quantec

Previous iterations of IPAP have made the point that notwithstanding massive growth in the extension of private credit since 1994, only a small proportion is extended to fixed investment – a mere 5,7% in 2009 and 6,7% in 2010. Despite nominal interest rates at 30-year lows, Figure 9 indicates that the underlying real cost of capital in South Africa remains high relative to that of our main trading partners. In manufacturing, the cost of capital is even lower in many of South Africa’s trading partners due to subsidies and subsidised credit through development banks and export credit banks and agencies.

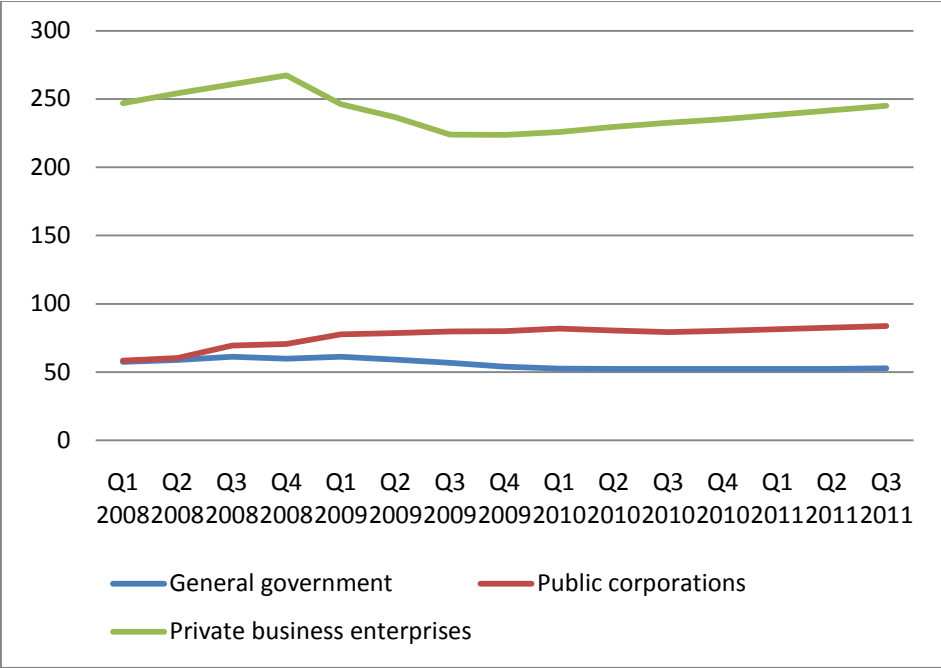
**Figure 9: Short-term real interest rates in South Africa and major developed and developing economies**



Source: The Economist

Gross fixed capital formation (GFCF) in the private sector started to pick up from the third quarter of 2009 as shown in Figure 10. Real GFCF increased by 3,6% in the first nine months of 2011, compared with the same period in 2010, recovering from the contraction of 1,6% in 2010.

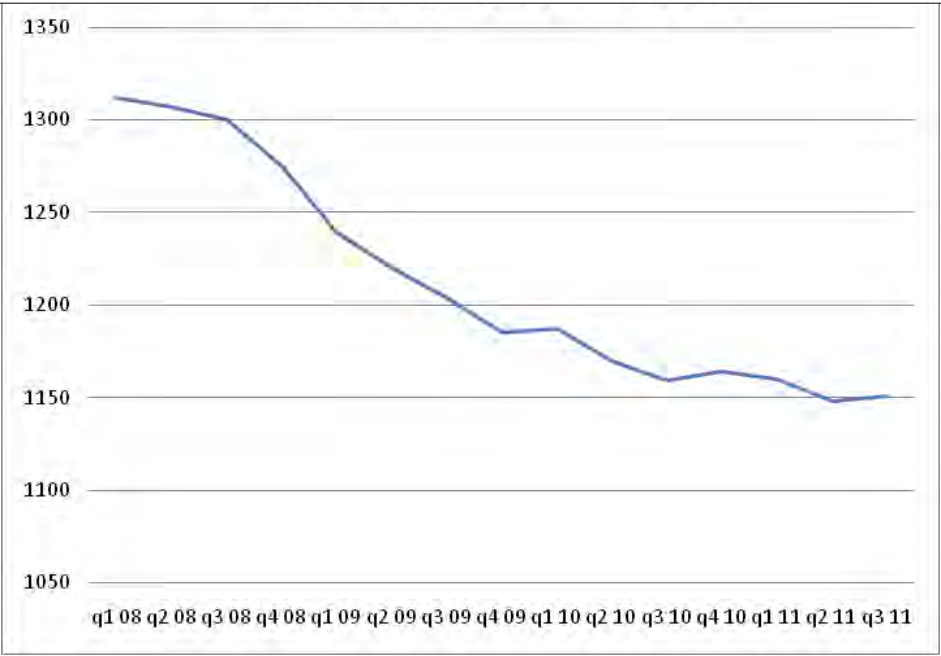
**Figure 10: Real gross fixed capital formation Q1 2008 to Q3 2011 (R'bn 2005 prices, seasonally adjusted and annualised)**



Source: SARB

The recovery in manufacturing employment levels in the third and fourth quarters of 2010 did not last into 2011 against a backdrop of 'double dip' depressed global and domestic growth (Figure 11).

**Figure 11: Manufacturing employment ('000) Q1 2008 to Q3 2011**



Source: Stats SA

The structural imbalances in the economy and systemic constraints in relation to manufacturing require that there is a comprehensive and integrated approach to industrialisation cutting across key government departments, policies and social stakeholders.

### **3. A COMPREHENSIVE AND INTEGRATED RESPONSE TO SCALE UP INDUSTRIAL POLICY**

IPAP represents a range and mix of policies that are critical to achieve a scaled-up industrial policy and a shift towards strengthening the productive side of the economy in general. These include, but are not confined to:

- i. Stronger articulation between macro- and micro-economic policies;
- ii. The deployment of a range of integrated and aligned incentive programmes, including the recently announced MCEP;
- iii. Industrial financing channelled to real economy sectors;
- iv. Promotion of public procurement to raise domestic production and employment in a range of sectors. This does not exclude the need for the alignment of B-BBEE and industrial development objectives and an encouragement of private procurement processes to support localisation;
- v. Developmental trade policies that deploy trade measures in a selected and strategic manner, including tariffs, enforcement and Standards, Quality Assurance, Accreditation and Metrology (SQAM) measures. These should be deployed together with stronger interventions to prevent illegal imports and customs fraud;
- vi. Competition and regulation policies that lower costs for productive investments, and for poor and working-class households;
- vii. Skills and innovation policies that are aligned to sectoral priorities;
- viii. Interventions designed to stimulate sub-regional growth, including in key sectors and value chains by way of the SEZ policy and programmes;
- ix. Interventions that give expression to Government's commitment to regional economic development and integration in Africa; and
- x. The deployment of these policies in general and in relation to more ambitious sector strategies, building on the significant platforms.

### **4. STRENGTHENED COHERENCE BETWEEN MACRO- AND MICRO-ECONOMIC POLICIES**

The sustained global recession and the negative impact of a range of factors in the domestic economy have underlined the need to work towards stronger coherence and mutual support between macro- and micro-economic policies.

The success of the IPAP depends fundamentally on macroeconomic policies that are favourable – relative to our key trading partners – in the following respects:

- A competitive and stable exchange rate structure; and
- A competitive real interest rate structure.

Micro-economic policies can make a substantial contribution to the stability of macroeconomic variables. This includes:

- A focus of certain micro-economic policies – particularly competition policy – on lowering inflation, particularly with regard to:
  - Inputs of critical goods and services into manufacturing and other productive activities, and
  - Goods and services that are consumed by poor and working-class families;
- Active promotion of investment in certain sectors, which can also have a positive impact on inflation. For instance, the promotion of small-scale maize millers will contribute to increasing competition and moderating pricing in a key sub-sector, which has an impact on food pricing.

A strengthened IPAP, which builds on progress platforms and introduces a new MCEP, will contribute substantially towards an improvement in the trade balance with respect to not only increasing the production of domestic goods and services, but also building new areas of export competitiveness.

## **5. INDUSTRIAL FINANCING**

It was noted in previous iterations of IPAP that the availability, cost and duration of finance is a key determinant of the viability of manufacturing investment. Ongoing research and engagement with manufacturing sectors have demonstrated that:

- South Africa's cost of capital is high, and the average term of loans is short relative to our major trading partners;
- Most recent private credit extension has been in the form of debt-driven consumption;
- Where credit has been extended for investment, it has been highly concentrated in consumption-driven services sectors and to a lesser extent capital- and energy-intensive industries;
- New entrants without substantial equity require grace periods to go through one or more business cycles to generate the necessary liquidity to finance their capital repayments; and
- Working capital is of critical importance to the operational performance of a firm as the smaller its size, the greater the burden on the performance of a firm.

The private financial sector in South Africa is not adequately aggregating savings and distributing them towards productive fixed investment in the economy. Clearly inherent market failures exist, the most critical of which is the asset-liability mismatch. The short-term nature of the source of funding (mainly deposits and short-term capital inflows) manifests in impatient capital eager to fund either established 'relatively low-risk' industries (e.g. upstream capital-intensive and energy-intensive industries) or industries achieving profitability within a short period of time (e.g. consumption-driven services). Consequently, banks are not willing to channel funds towards relatively less entrenched or established industries (particularly downstream manufacturing industries) as these require longer-term investment horizons and grace periods for new entrants.

Moreover, downstream manufacturing industries face structural limitations in their ability to raise working capital. The magnitude of working capital is a function of a sector's buying power and the length of time required for value addition. Consequently, working capital is a permanent and significant burden on downstream manufacturing firms because of the length of time required to transform input(s) to final product and the asymmetry in power in favour of upstream input markets, which dictate the terms of their transactions with downstream firms as a result of their financial depth, comparatively large scale and concentration.

Hence the role of public industrial financing is to channel capital into productive fixed investments and have the potential to generate direct and indirect sustainable jobs and value addition. Funding solutions should therefore include:

- A longer term of financing;
- A grace period allowance;
- Lower interest rates; and
- Funding for working capital.

It is critical to emphasise that targeted industrial financing has a number of positive macroeconomic impacts. Industrial financing lowers pressure on monetary authorities for unduly low interest rates across the entire economy, which could be channelled into unsustainable, debt-driven consumption and speculative investment activities. Increased supply in productive sectors lowers price pressures in the economy and hence moderates inflation. Increased investment that generates a mix of import replacement and exports lowers the current-account deficit and reduces associated balance-of-payments risks. It also has a positive net tax revenue effect.

## **5.1 Key Action Programmes**

### **5.1.1 Securing ongoing sources of concessional funding for disbursement by the IDC into IPAP sectors**

#### **Key milestones**

- 2012/13 Q1: Consolidate the findings of the Industrial Finance Review and hand over this work to EDD and the IDC.
- 2012/13 Ongoing: Work with IDC and TEO to integrate and restructure industrial financing together with EDD.

#### **The Manufacturing Competitiveness Enhancement Programme (MCEP)**

It is evident that a manufacturing support response to the ongoing global crisis and pervasive market and institutional failures is required. These structural challenges include:

- A persistently overvalued exchange rate that promotes capital intensity and a skills bias;
- Rapid and steep increases in electricity and other administered prices;
- Inefficient and unreliable port and electricity infrastructure due to investment backlogs;
- Low absolute and relative levels of profitability, low investment in productivity enhancement, poor product and process innovation and obsolete capital equipment; and
- Inadequate provision of suitable financial instruments by the private financial sector – loan tenure and cost of capital.

The purpose of the MCEP is to raise confidence to invest in a period where there is short- and medium-term uncertainty and turbulence.

Considerable research and analysis informs the MCEP. This includes lessons flowing from a review of the clothing and textiles and automotives sector incentives as well as industry engagement.

The MCEP will significantly strengthen and be aligned with the range of sector-specific and transversal interventions currently deployed, including the distressed company, employment creation and industrial financing packages available from the Development Finance Institutions (DFIs).

The MCEP will incorporate the following major elements:

- Grant finance will be provided with clear rules-bound access criteria aimed at firms in key sectors to upgrade production facilities, process, products and people;
- Eligibility criteria to access the MCEP incentives will include the provision of Tax Clearance Certificates and Audited Statements with upfront commitments to retain baseline employment;
- The MCEP will provide support for capital investment, working capital and pre-shipment finance, feasibility studies, product development and process improvement, value chain localisation and supplier development, cluster studies and new market access, and energy efficiency and logistics with a clear focus on strategic industrial sectors set out in the IPAP. Qualifying firms will be required to present a viable competitiveness enhancing plan;
- The MCEP will seek to maximise employment and value-added potential in strategic sectors set out in the IPAP; and
- It will contain stipulated exclusions, including sectors already benefitting from dedicated support (Autos, CTFL and BPS), capital-intensive sectors, high market concentration and firms with a history of anti-competitive behaviour.

### **5.1.2 The MCEP**

#### **Nature of the intervention**

An innovative, integrated manufacturing support mechanism to:

- address competitiveness enhancement in defined strategic manufacturing sectors;
- strengthen the responsiveness of available incentives, aligned with **the dti's** existing incentives and industrial financing packages available from DFIs; and
- build on the achievements and positive experience of the CTCP/PI and MIDP.

#### **Economic rationale**

South African manufacturing companies are faced with critical problems arising from the extended global recession, rising input costs (particularly administered prices), and low and falling levels of investment arising from institutional and private-sector market failures. The MCEP provides support to companies to invest in competitiveness enhancement during the uncertainty caused by the global recession.

#### **Outcomes**

Greater levels of competitiveness in companies in strategic sectors of manufacturing arising from increases in capital investment; easing of working capital and pre-shipment finance constraints; product development and process improvement; value chain localisation and supplier development; new market access; energy efficiency and logistics improvements; increased market intelligence; and advantages flowing from clustering.

#### **Key Milestones**

- 2012/13 Q1: Finalisation of the MCEP, including rules and criteria for qualifying firms in key sectors, eligibility criteria, enhancement plan framework, exclusions and criteria for determining the quantum/cap for qualifying firms.
- 2012/13 Q1: Finalisation of the Impact Indicators and Monitoring Plan for the roll-out of the MCEP.



- 2012/13 Q1: Launch and roll-out of MCEP.
- 2012/13 Q1: Sector-specific engagement with strategic sector stakeholders, including Metals Fabrication, Transport and Capital Equipment; Agro-Industries and Green Industries to test framework and rules.
- 2012/13 Q1: Finalise institutional arrangements, including with IDC, HR and IT systems. Gazette new rules and regulations.
- 2012/13: Continuous impact assessment leading to adjustments where appropriate and required.

**Lead departments/agencies: the dti**

**Supporting departments/agencies: the dti, National Treasury (NT), IDC**

## **6. LEVERAGING PROCUREMENT**

The public procurement lever is a critical instrument for the success of the IPAP across a range of sectors. Much public procurement is currently conducted on an ad hoc rather than strategic basis and does not deliver adequately on either value-for-money or key industrial policy objectives.

### **Amended Regulations to the Preferential Procurement Policy Framework Act (PPPFA)**

The amended Regulations came into effect in December 2011. The amendments align preferential points with B-BBEE and strengthen local procurement provisions by enabling **the dti** to designate strategic sectors/sub-sectors and products to defined thresholds. The amendments also enable pro-active promotion of local procurement in non-designated sectors.

The first wave of designations, following extensive research, became effective in December 2011. They are binding on all government departments and SOEs. Further waves will follow, in keeping with the priorities set out in each annual IPAP. The SABS and SANAS have developed principles, standards and methodologies for declaration and verification of local content.

The National Treasury, in consultation with **the dti**, is embarking on a comprehensive review of the existing procurement legislative, institutional and programme framework. One of the aims of the review process is to eradicate the ad-hoc nature of procurement practices in favour of strategic, well-planned procurement to better deliver on value for money, minimise leakage from the domestic economy and secure key industrial objectives.

A policy review of the National Industrial Participation Policy (NIPP) has been completed and proposals are before the Cabinet. The new and strengthened NIPP allows for both direct and indirect offset commitments and is aligned with the new regulations of the PPPFA and the Competitive Supplier Development Programme (CSDP). A review of all major NIPP projects to date will be undertaken.

The DST-funded Technology Localisation Programme is already operating in collaboration with the Department of Public Enterprises (DPE) for CSDP commitments, which are the subject of oversight by Eskom and Transnet. This work on technology assistance to qualifying manufacturing companies will also support the new NIPP. Increasingly, provincial governments, metro councils and municipalities will be brought into processes in which integrated local procurement levers will be applied.

Further work to align and strengthen the link between B-BBEE and industrial policy objectives is also under way and forms part of the of the current B-BBEE review.

DFIs such as the IDC and the DBSA are important providers of industrial and infrastructural finance in the South African and regional economies. It is important that these institutions build local and regional localisation requirements and conditions into the range of financial products and arrangements, including for large infrastructure projects. Given South Africa's commitments to regional integration this implies a focus on domestic localisation as well as with respect to other African countries.

## **6.1 Key Action Programmes**

### **Nature of the Intervention**

To strengthen and integrate public procurement policy, programmes and regulatory levers in support of local manufacturing in key value-added manufacturing sectors of the economy.

### **Economic Rationale**

Utilisation of the public procurement levers to strengthen local manufacturing capacity and build supply chains in strategic sectors; enhance manufacturing capacity; productivity and competitiveness; provide support for the retention and creation of employment and skills; and positively impact upon the balance of trade.

### **Outcomes**

Value-for-money public procurement; job retention and creation; increased manufacturing capacity; and a positive impact on the balance of trade.

#### **6.1.1 Identification of strategic sectors for procurement, development of long-term procurement and local content plans and development of monitoring tool for designation**

Designate further strategic sectors and develop a monitoring tool to strengthen procurement accountability, transparency and procurement performance.

### **Key Milestones**

- 2012/13 ongoing: Designation of further sectors/sub-sectors and industries for public procurement to the requisite thresholds and after the required research and process.
- 2012/13 Q1 – Q4: Develop a medium- to long-term monitoring and evaluation tool for designated sectors that will monitor year-to-date expenditure and trends and provide indicators of progress.
- 2012/13 ongoing: Work with departments that are finalising agreements with relevant procuring entities to strengthen and deepen local procurement and supplier development for a range of fleets:
  - Key elements of the coal-fired electricity building programme procured by Eskom;
  - Key elements of the nuclear electricity building programme procured by Eskom;
  - Key elements in the aerospace industry; and work with procuring entities to identify local procurement plus supplier development requirements;
  - Components and materials for aircraft procured by South African Airways and the defence sector to introduce Fleet, Indirect and Direct procurement provisions;
  - Key elements of the Transnet National Ports Authority and PetroSA procurement programmes.

**Lead departments/agencies: the dti**

**Supporting departments/agencies:** EDD, DPE, Department of Transport (DoT), Department of Communications (DoC), Department of Health (DoH), DST/Transnet, PRASA, Metros and Eskom

### **6.1.2 Revision and strengthening of the National Industrial Participation Programme (NIPP)**

#### **Key Milestones**

- 2012/13 Q1: Cabinet Memorandum to strengthen and deepen NIPP and align it with other Government procurement policies presented to the Cabinet;
- 2012/13 Q2: Develop new NIPP guidelines to align programme with other public procurement instruments and strengthen its effectiveness; and
- 2012/13 Q1 – Q4: Undertake a NIPP project review.

**Lead departments/agencies: the dti**

**Supporting departments/agencies:** NT

### **6.1.3 Alignment between B-BBEE and industrial policy**

#### **Key milestone**

- 2012/13 Q1: Review selected aspects of the B-BBEE codes and propose amendments to align the codes with industrial policy considerations, particularly with respect to procurement and ownership to eliminate 'import fronting'.

**Lead departments/agencies: EDD division of the dti**

**Supporting departments/agencies:** B-BBEE Advisory Council

### **6.1.4 Review of the procurement legislation**

#### **Key milestone**

- 2012/13 ongoing: NT led review of the public procurement legislative, institutional and programme environment.

**Lead departments/agencies: NT**

**Supporting departments/agencies: the dti, EDD, DPE, DoE, DoT, provincial governments, municipal councils and SOEs**

### **6.1.5 Strengthening the role of DFIs in locking in domestic and regional procurement**

#### **Key milestone**

- 2012/13: Development and communication of guidelines to DFIs for promotion of local and regional content in relation to their financing, particularly for large projects in South Africa and Southern Africa.

**Lead departments/agencies: EDD**

**Supporting departments/agencies: the dti, NT and DFIs**

## 7. DEVELOPMENTAL TRADE POLICIES

The NIPF identifies tariffs as a critical instrument of industrial policy with implications for value-addition, employment, investment, technology and productivity growth. Tariff policy should be decided primarily on a sector-by-sector basis dictated by the imperatives of sector strategies.

Successive iterations of IPAP have re-emphasised the need to lower tariffs on intermediate inputs into manufacturing and other productive sectors and identified scope for the selective use of tariffs under the following circumstances:

- Potential for the retention and creation of sustainable jobs;
- Potential for significant import replacement; and
- Formalising and strengthening conditionalities related to tariff increases.

Multilateral, regional and bilateral trade agreements are all creating long-term downward pressure on tariffs as an instrument of strategic trade policy. The role of Technical Barriers to Trade (TBTs) and Non-Tariff Barriers (NTBs) is increasing the relative importance of technical infrastructure policies and institutions. Developed countries and advanced developing countries are increasingly using TBTs and NTBs to protect their markets.

SQAM issues – supported by Technical Infrastructure policies and institutions – are set to play an increasing role in global trade, including with regard to TBTs and NTBs.

The technical infrastructure institutions will continue to reprioritise their activities to support the development, accreditation and enforcement of standards that can create, scale up and resuscitate certain industries, while simultaneously contributing to broader social benefits. For instance, strengthening standards in relation to energy and water efficiency can contribute fundamentally to the growth of domestic industries in areas such as the production and installation of solar water heaters, energy-efficient industrial motors and domestic rainwater tanks. They will also have to support export market access more actively by assisting exporting firms to meet the increasingly demanding standards of advanced developed and developing countries. Moreover, technical infrastructure will need to play an increasing role in addressing energy and water-efficiency imperatives, at the household and industry levels.

The key institutions involved are:

- South African National Accreditation System (SANAS);
- National Regulator for Compulsory Specifications (NRCS);
- South African Bureau of Standards (SABS); and
- National Metrology Institute of South Africa (NMISA).

This re-orientation will have two broad strategic thrusts:

- 'Locking out' unsafe and poor quality imports; and
- 'Locking in' access to increasingly demanding export markets.

Municipalities are faced with multiple service delivery demands and the enforcement of those standards for which they are responsible may not always be prioritised. A stronger working relationship with municipalities will be developed to support their work.

Various forms of customs fraud and illegal imports, including smuggling and under-invoicing, are undermining productive capacity and employment across a range of sectors. Therefore, South Africa will need to enforce its trade laws more effectively. Measures to deal with this include:

- **the dti** in conjunction with industry will work with SARS to strengthen a sector-by-sector list of reference prices to ensure that, in its Customs Modernisation Project, SARS ramps up the deployment of its electronic real-time reference pricing system to alert customs officials to under-invoicing and other types of customs fraud;
- SARS has established dedicated capacity, with 3 000 additional staff in all ports of entry, to deal with fraudulent and illegal imports, particularly for vulnerable sectors;
- SARS will step up inspections, raids and seizure of illegal and fraudulent imports as well as the disposal of seized goods, which will be done in a manner that does not disrupt the domestic market;
- SARS will pursue criminal prosecutions instead of fines in sensitive sectors and above certain thresholds; and
- Loopholes will be identified and closed, for example neighbouring countries being used as conduits for illegal/fraudulent imports as well as the misuse of 'trade fairs' to avoid the payment of customs duty. Better use of the country of origin clauses of the Consumer Act should be prioritised, particularly for key sectors.

### **Key opportunities**

The key opportunities that technical infrastructure policies and institutions will exploit over the next three years include:

- Stronger enforcement of existing mandatory standards, with an incremental shift of emphasis to pre- and 'at border' enforcement;
- The introduction of additional mandatory standards;
- The identification of key export markets and products that require stronger SQAM support to unlock significant growth opportunities;
- The strengthening of the capacity of technical-infrastructure institutions and conformity assessment services to be able to better respond to the needs of the industry; and
- Stronger integrated and coordinated programmes, including in relation to work with SARS.

### **Constraints**

Current measures to exclude non-compliant products from the market are not fully effective. Intra-governmental coordination, including with SARS, and budgetary issues constrain the ability of technical infrastructure institutions.

## **7.1 Key Action Programmes**

### **7.1.1 Ongoing developmental tariff reform**

#### **Key milestones**

- 2012/13 – 2014/15 ongoing: scope for industries to apply to the International Trade Administration Commission (ITAC) for selective tariff increases on products.
- 2012/13 – 2014/15 ongoing: scope for further selected decreases in tariffs on intermediate inputs into manufacturing and other productive sectors.

- 2012/13 – 2014/15 ongoing: scope for selective creation of rebates for manufacturing products that attract duties particularly where these are intermediate products in manufacturing.

**Lead departments/agencies:** the dti and ITAC

**Supporting departments/agencies:** EDD.

### **7.1.2 Strengthen market standards**

#### **Key milestones**

##### **SABS to develop South African National Standards (SANS) for a variety of strategic products**

- 2012/13 Q1: SANS 941 for energy efficiency (EE) in electrical and electronic apparatus;
- 2012/13 Q4: SANS 1103 for electric vehicle propulsion systems; SANS 1104 for gas vehicle propulsion systems approved as projects and SANS 1598 for unleaded petrol;
- 5 SANS for wind turbines on design requirements, acoustic noise measurement techniques, measurement and assessment of power quality, conformity testing and certification, lightning protection and power performance measurements of electricity-producing wind turbine;
- 2013/14 Q4: New SANS for olive oil finalised;
- 2014/15 Q1: Continue to update standards that deal with the transport of dangerous goods, fuel standards;
- 2014/15 Q1: Development of standards for fuel cells, smart grids, electric vehicle energy usage;
- 2014/15 Q1: Development of standards for municipal waste management and recycling on electronic waste;
- 2014/15 Q1: Development of standards for consumer warranties and customer contact centres to support the Consumer Protection Act; and
- 2014/15 Q1: New set of (6) standards to support SANS/ISO 50001 Energy.

##### **SABS to introduce and strengthen testing capacity to support industries**

- 2012/2013 Q1: Dry cell test capacity;
- 2012/2013 Q2: Super fast switching test circuit for electric vehicles; and
- 2012/2013 Q2: Recapitalise current laboratory for Vehicle Emissions Testing to testing capacity of 1 800 vehicles per annum to Euro 2 specifications and upgrade to also test up to Euro 6.

**Lead departments/agencies:** the dti

**Supporting departments/agencies:** SABS

### **7.1.3 Strengthening enforcement of existing and new mandatory standards of IPAP sectors**

#### **Key milestones**

- 2012/13 Q4: New mandatory standards for processed meats, rock lobster, live aquaculture, energy efficiency for household appliances and lamps;
- 2013/14 Q4: New mandatory standards for plumbing components and water; efficient building regulations published for public comment;
- 2014/15 Q4: New legal metrology technical regulation for measuring instruments for measurement of liquids other than water; Automatic Rail Weighbridges; multi-dimensional measuring instruments and gas meters;
- 2014/15 Q4: Upgrading safety standards for passenger and commercial category vehicles; and
- 2014/15 Q4: New Compulsory Specification for olive oil.

**Lead departments/agencies: the dti**

**Supporting departments/agencies:** NRCS, SARS and SABS

#### **7.1.4 Strengthen the South African technical infrastructure to support industrial development**

**Key milestones**

**Movement from Trade Metrology to Legal Metrology**

- 2012/13 Q1- 2013/14 Q2: Submission of the Bill through Parliamentary process; and
- 2013/14 Q4: Promulgation of the Legal Metrology Act.

**Lead departments/agencies: the dti**

**Supporting departments/agencies:** NRCS

**Updating of the National Building Regulations and Building Standards Act**

- 2012/13 ongoing: Initiate a national communication campaign to promote the new building standards and requirements for solar water heaters (SWHs) in new buildings;
- 2014/15 Q3: Finalise National Building Regulations and Building Standards policy paper for new legislation;
- 2014/15 Q4: Develop new or revised standards in support of the planned revision of the National Building Regulations by **the dti** and the NRCS; and
- 2014/15 Q4: Review and revision of Part A of the National Building Regulations.

**Lead departments/agencies: the dti**

**Supporting departments/agencies:** SABS and NRCS

**Upgrade and development of National Measurement Standards by NMISA**

- 2012/13 Q4: Upgrade the national measurement standards required to perform diagnostic network tests on fibre optics and wireless telecommunication systems in support of improved infrastructure for Business Process Services;
- 2012/13 Q4: Provide reference measurement capability for pesticides in environmental and food matrices, inorganic elements in environmental and food matrices, and fatty acid methyl esters in various biofuel sources to assist industry in identifying the origin of the plant source;
- 2012/13 Q4: Develop traceability for size measurements capabilities for minerals and metal alloys;
- 2012/13 Q4: Procurement, installation and commissioning of an X-ray system in support of the South African nuclear industry;
- 2013/14 Q4: Provide reference measurement capability for contaminants in environmental and food matrices;
- 2014/15 Q3: Second phase upgrade of the electrical power and energy measurement standards by NMISA to support measurements required by Eskom for the maintenance of the national power grid;
- 2014/15 Q4: New upgraded national measurement standards for energy efficient lighting;
- 2014/15 Q4: NMISA to develop facilities for measuring the thermal properties of materials designed for heat management in buildings;
- 2014/15 Q4: Measurement methods and/or facility for measurements on the nanoscale in support of environmental, health and safety matters;
- 2014/15 Q4: Provide reference measurement capability for dioxins and furans and dioxin-like toxic substances in environmental and food matrices; and

- 2014/15 Q4: Recapitalisation of the dimensional, force and torque laboratories in support of the automotive sector.

**Lead departments/agencies: the dti**

**Supporting departments/agencies:** NMISA, Department of Agriculture, Forestry and Fisheries (DAFF), Department of Environmental Affairs (DEA), Water Research Commission (WRC), Department of Mineral Resources (DME), Eskom

#### **7.1.5 Technical infrastructure support for exports**

**Key milestones**

- 2012/13 ongoing: Identify relevant international standards that are required or need to be adapted particularly for the agro-processing, mineral beneficiation, chemical and pharmaceutical sectors; and
- 2012/13 ongoing: Identify and put in place the necessary measurement, testing, certification and accreditation services required for the above.

**Lead departments/agencies: the dti**

**Supporting departments/agencies:** SABS

#### **7.1.6 Conformity assessment support for industrial development**

**Key milestones**

- 2012/13 Q4: **the dti** (International Trade and Economic Development Division - ITED) and SANAS to develop a work plan for an accreditation programme for country of origin certification;
- 2012/13 Q4: Establish an accreditation system for validation and verification bodies for greenhouse gas quantification and reporting and for certification bodies that will certify Responsible Tourism; and
- 2013/14 Q4: Establish an accreditation system for bodies that will certify Medical Devices for registration by the Department of Health (DoH) and bodies that will certify Energy Management.

**Lead departments/agencies: the dti**

**Supporting departments/agencies:** SANAS, Department of Tourism, DEA, DoH

#### **7.1.7 Clampdown on customs fraud**

**Key milestones**

- 2012/13 – 2014/15 ongoing: strengthening of a range of measures including closer collaboration between **the dti**, industry and SARS, in respect of the application of the indicative reference price system to alert customs officials to possible under-invoicing and other types of customs fraud;
- 2012/13 – 2014/15 ongoing: dedicated investigations and prosecutions of fraudulent and illegal imports; and
- 2012/13 – 2014/15 ongoing: disposal of seized goods in a manner that does not disrupt the domestic market.

**Lead departments/agencies:** SARS/NT

**Supporting departments/agencies:** **the dti** and ITAC



## **8. COMPETITION POLICY**

The South African economy continues to experience ongoing problems with regard to low levels of effective competition in sectors dominated by a few entrenched firms. Returns are derived less from effort and innovation than from the historical position inherited by such firms. More specifically, where the anti-competitive conduct concerns important inputs to downstream, labour-absorbing activities, it directly impacts on employment. Also anti-competitive behaviour adversely affects the low-income households through consumer goods that they generally rely upon.

In the case of the monopolistic provision of strategic goods and services that are publicly provided, there is regulation by a legislatively established sector regulator. While there is a clear need to strengthen regulation of public entities, the focus in the IPAP is on the role of the competition authorities in relation to private-sector behaviour.

It is also recognised that competitive outcomes require more than enforcement by the competition authorities. Interventions across institutions must be geared to monitoring the conduct of dominant firms. They must ensure that such firms' strategies, particularly where they receive state support, are based on dynamic, long-term investments in building capabilities and not the short-term exploitation of market power. This must be supplemented by support for the entry and growth of new firms, where practical.

Three areas of activity remain problematic:

- The concentrated supply of certain strategic inputs into manufacturing and other productive processes; such as carbon and stainless steel, aluminium, chemical polymers and fertilisers;
- In addition to the concentrated supply of inputs, there is also frequent concentration in the purchasing of inputs. Thus value-adding and labour-absorbing manufacturers often face both upward cost and downward price pressures; and
- Wage goods and other products purchased largely by poor and working-class households, particularly food, pose a problem.

The focus of the Competition Commission's activities over the IPAP period will continue to be on the three areas identified above. The Commission will also be increasing its engagement with Government and public institutions to play a more active role in following up on the findings of anti-competitive conduct and making policy recommendations to Government.

### **8.1 Key Action Programmes**

#### **8.1.1 Strengthening implementation of competition policy**

##### **Key milestones**

- 2012/13 – 2014/15: Continued active focus of competition authorities on investigation, prosecution and policy advocacy with regard to:
  - Intermediate industrial and energy-intensive products, such as steel, chemicals, coal, fuel and cement;
  - Air transport, information technology;
  - Food and agro-processing;
  - Banking and insurance; and

- Infrastructure and construction.
- 2012/13 – 2014/15: Annual reporting on the impact of competition enforcement in these sectors, and identification of appropriate complementary measures to be taken by Government and public institutions to improve competitive outcomes.
- 2012/13 – 2014/15: Small number (at least one per year) of strategically identified market enquiries initiated by the Competition Commission into priority areas identified in consultation with Government.

**Lead departments/agencies:** EDD and Competition Commission

**Supporting departments/agencies:** the dti

### **8.1.2 Ensuring competitive outcomes**

#### **Key milestones**

- 2012/13 – 2014/15: Stronger conditionalities to be established on state support for large firms, including development finance, linked to competitive conduct;
- 2012/13 – 2014/15: Monitoring of compliance with conditions, in consultation with the Competition Commission;
- 2012/13 – 2014/15: Evaluation of trade policy measures for sectors in light of the conduct of firms to ensure that dynamic comparative advantages are developed, in consultation with the Competition Commission;
- 2012/13 – 2014/15: Wider actions to be identified, including possible regulatory measures, against dominant firms engaging in anti-competitive conduct, especially with regard to key inputs into labour-absorbing sectors and the pricing of wage goods; and
- 2012/13 – 2014/15: Increased support for entrants and smaller rivals relative to entrenched dominant firms.

**Lead departments/agencies:** EDD

**Supporting departments/agencies:** the dti, Competition Commission, IDC, ITAC, the Small Enterprise Development Agency (seda)

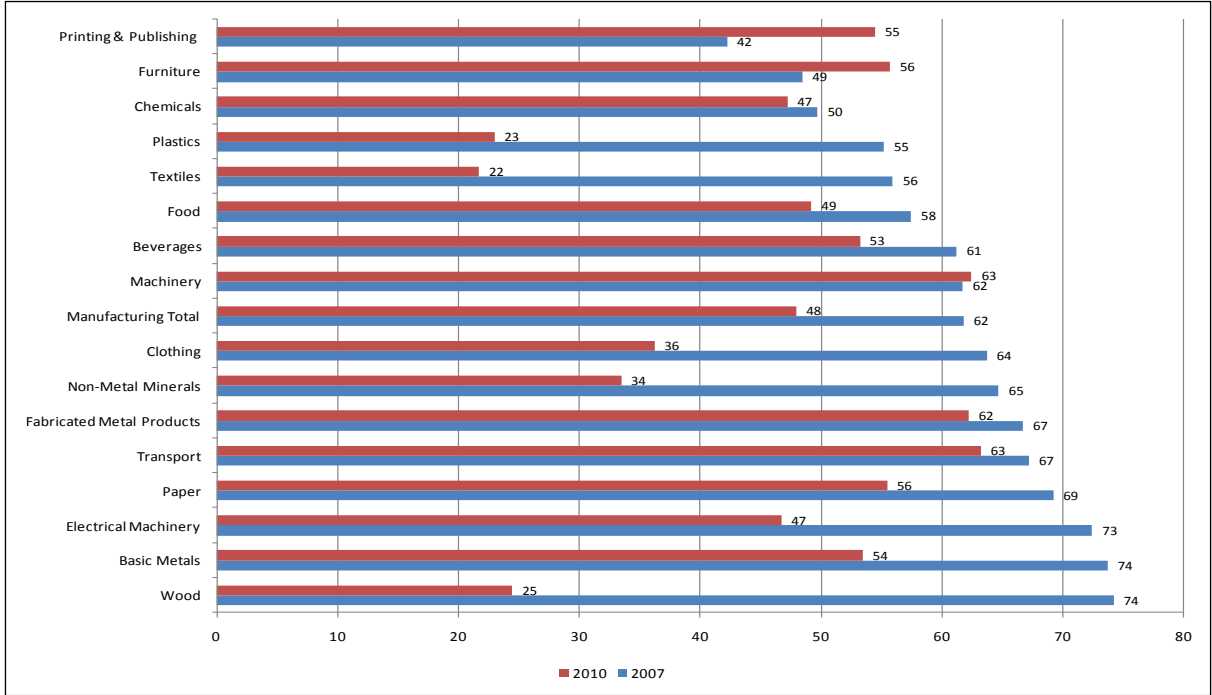
## **9. DEVELOPING DEMAND-SIDE SKILLS STRATEGIES FOR INDUSTRIAL DEVELOPMENT**

A key structural constraint to sustainable industrialisation in South Africa has been the absence of demand-driven, sector-specific skills strategies and programmes, and a poor interpretation and measurement of medium-to-long term skills demand. The problem has persisted under the National Skills Development Strategy for 2005 – 2011. The decentralised skills delivery system embodied in the Skills Education and Training Authorities (SETAs) and the education and skills development pipeline has not provided a sufficient base to support growth opportunities in the manufacturing sector and new and emerging sectors.

There has been an over-supply of lower-skill qualifications (NQF levels 1-3) and an under-supply of intermediate and high skill qualifications or 'deep' capabilities (NQF levels 4 and higher). This is combined with slow progress in effective co-ordination and articulation, across the entire education and skills development pipeline. There has been slow progress with regard to skills development curricula, building lecturer capacity, and the acquisition of equipment, machinery and training facilities.

Figure 12 demonstrates that shortages of skilled labour remain an important constraint on manufacturing, particularly at higher levels of sector demand largely affecting metals fabrication, machinery, chemicals and transport equipment.

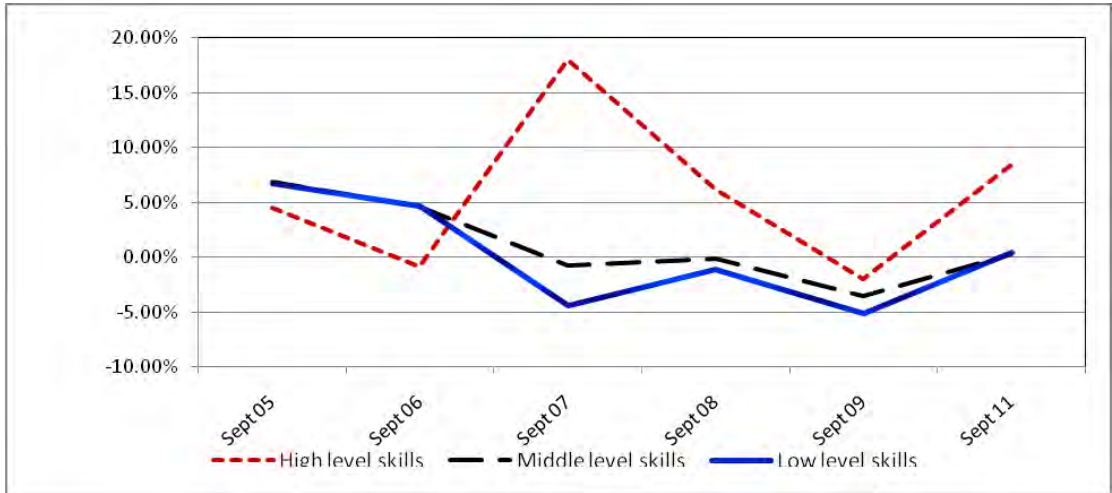
**Figure 12: Proportion of firms reporting shortages of skilled labour as a constraint to manufacturing (2007-2010) (%)**



Source: BER Manufacturing Survey

Figure 13 shows that the universal decline in employment across all skill levels has been stemmed since 2009. Positive growth is mostly concentrated among high-skill employment. The negative growth rate for employment of mid-level and low skills has slowed down and is now similar to levels in 2008.

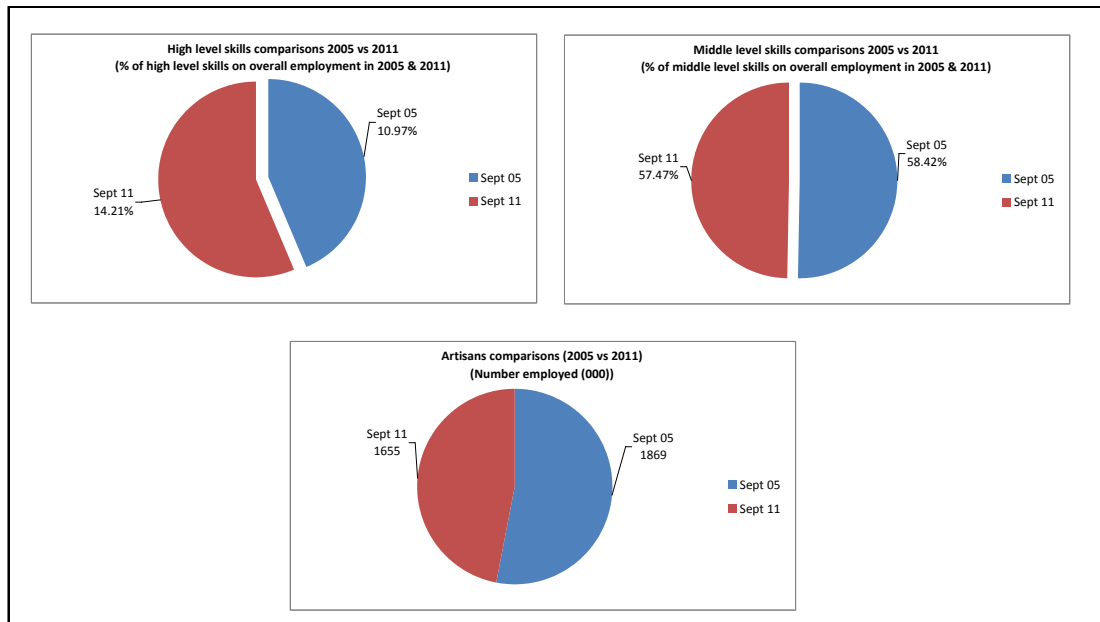
**Figure 13: Annual growth trends by high, middle and low level skills (Sept 2005-Sept 2011) (%)**



Source: Statistics SA, Labour Force Survey (2005-2011); own calculations

Figure 14 shows that while there has been an increase in the share of high skills to overall employment, the share of intermediate skills has remained static and there has been a decline in the share of artisanal employment. This implies that the current size and trends in the skills profile of the labour force does not support growth and technological opportunities arising from IPAP 2 in the foreseeable future.

**Figure 14: Changes in employment of high, intermediate and artisanal skills (Sept 2005 – Sept 2011) ('000)**



Source: Statistics SA, Labour Force Survey (2005-2011); own calculations

### Key opportunities

The Human Resource Development (HRD) Strategy for South Africa seeks to secure planning and delivery alignment across the entire education and skills development pipeline to address mid-to-long-term social and economic objectives.

The third phase of the NSDS commits to more responsive skills planning to secure alignment between the SETA planning and delivery system and national development priorities, including IPAP. The conclusion of the National Skills Accord provides for clearer commitments by Government, business and labour to deliver on specific skills targets. The HRD Council established a national Artisan and Technician Development Technical Task Team. Key outcomes include a process to deliver on the target of 10 000 certified artisans per annum until 2015, proposals on a centralised funding formula and disbursement mechanism, a draft Recognition of Learning (RPL) framework and a monitoring mechanism to assess progress on the artisan targets. The role of state-owned entities (SOEs) in producing skills beyond their operational needs has been resuscitated through the establishment of the State-Owned Companies artisan development task team (SOC-ATD TTT).

### Constraints

There is slow progress on demand-side planning on the part of SETAs, private training providers, FET colleges and universities. As a result of engagement with **the dti**, some of the key manufacturing SETAs have referred to IPAP priorities in their respective five-year Sector Skills Plans (SSP), but hardly any of these have been translated into strategic programmes or received funding in their five-year Strategic Plans. Alignment with IPAP priorities is therefore still far from achievement, as SETAs have yet to develop a more medium- to long-term perspective on training for future employment and skills.

A key challenge relates to the quality and relevance of training delivered across all qualifications, with undue emphasis on theory and certification and less on competence and skills acquisition for employability. Interventions for skills formation for the future have to address the following market failures:

- Lack of information and predictability of skills requirements given the economic cycle;
- Lack of coordination and collective action plans due to inadequate inter-firm interaction and collaboration; and
- Deficient institutional capacity to coordinate and develop specialised competencies and capabilities to support the industrialisation path.

Experience has shown that the design and implementation of specialised and industry-led training interventions has brought to foreground the role of IPAP sector development and investment strategies and plans. The nascent moves towards coordination on artisan development should be strengthened and implemented on a scale beyond artisans.

## **9.1 Key Action Programmes**

### **9.1.1 Strengthen demand-side skills planning through the development of a dedicated IPAP National Artisan Development Programme (NADP) for priority sectors**

The purpose of a dedicated NADP for IPAP is to centralise and streamline the planning and quality assurance of artisanal qualifications to IPAP priority sectors. It will require investment in dedicated research capacity to: measure and project skills demand and supply; fast-track the design and accreditation of occupational appropriate curricula and qualifications through the QCTO; identify appropriate training facilities (skills centres, trade test centres, work experience placement opportunities); and an agreement on appropriate funding of capital requirements (equipment and machinery) at public FET colleges. A centralised plan for artisan development with medium- to long-term targets, action and funding plans will be developed for specific artisanal occupations and sectors.

#### **Key milestones**

- 2012/13: Q1-Q2: Industry working groups in five sectors to develop a draft IPAP artisan concept proposal, based on skills value chain analysis.
- 2012/13: Q3: Concept proposal and recommendations on priority artisan trades and new occupations for IPAP to be discussed and approved in **the dti**.
- 2012/13: Q3-Q4: Consultations and agreement with the Department of Higher Education and Training (DHET), key SETAs and the national artisan and technician technical task team (ATD TTT) on final artisan plan for IPAP.
- 2013/14 Q1-2: Industry working groups in selected five sectors to draw up an IPAP artisan plan, based on skills value chain analysis.
- 2013/14 Q3: Concept proposal on priority artisan trades and new occupations to be finalised.
- 2013/14 Q4: Discussions and agreement with DHET, key SETAs and NSF on final artisan plan.
- 2014/15: Finalisation of framework for governance, funding and roll-out of IPAP artisan plan.

**Lead departments/agencies:** DHET and **the dti**

**Supporting departments/agencies:** EDD, Manufacturing, Engineering and Related Services SETA (MerSETA), Chieta, FoodBev SETA, Clothing, Textile and Leather SETA, Service SETA and HRD Council, National Skills Fund (NSF)

### **9.1.2 Streamline the skills delivery system through piloting dedicated industry skills hubs in growth, new or 'emerging' sectors**

The purpose of dedicated skills hubs as a delivery system for IPAP priorities is to ensure that there is greater coherence in the delivery of specialised intermediate and high-level skills and the growth, technological and investment trajectories in key IPAP sectors. It is proposed that strategic delivery partnership agreements be reached between **the dti**, the DHET, industry stakeholders, selected universities and FET colleges in specific regions, industrial centres or manufacturing supply parks. Pooling of existing infrastructure within specified industrial or geographical regions or areas will optimise skills delivery in being more responsive to both short- and long-term skills requirements. Subject to the implementation of a successful pilot, the initial model may be rolled out in full and replicated to other sectors as appropriate.

#### **Key milestones**

- 2012/13 Q1-2: Develop one concept proposal for a Skills Hub model based on recommendations from the five industry working groups investigating skills value chains.
- 2012/13 Q3-Q4: In partnership with industry working group and DHET, develop a business case to utilise existing training infrastructure, including relevant FETs, universities, relevant SETAs, industry bodies etc.
- 2014/15 Q1-Q2: Approval of business case, funding framework and commitments in partnership with DHET and industry stakeholders.
- 2014/15 Q3-Q4: Delivery agreements with partners signed and delivery model approved.

**Lead departments/agencies:** DHET, NSF, **the dti** and Treasury.

**Supporting departments/agencies:** EDD, selected SETAs

### **9.1.3 Support of the National Centres of Excellence to integrate sector competitiveness and skills needs**

**The dti** is currently supporting Centres of Excellence in priority sectors (advanced manufacturing, clothing and leather, aerospace) to support best practice in terms of sector competitiveness as well as skills support. It is proposed that a range of options be considered to ensure the financial and operational sustainability of the Centres of Excellence within the existing SETA system.

#### **Key milestones**

- 2012/13 Q2: Complete proposals for the appropriate institutional and funding model for the Centres of Excellence.
- 2012/13 Q4: Complete the transfer where appropriate, subject to the new institutional and funding arrangements.

**Lead departments/agencies:** DHET, **the dti** and Centres of Excellence

**Supporting departments/agencies:** Selected SETAs and the NSF

## 10. INNOVATION AND TECHNOLOGY

As a middle-income developing country, South Africa needs to increasingly invest in its innovation and technology capabilities. It is widely recognised that investment in innovation and technology is under-provided by the market due to the risks involved and long-time horizons for return on investment. South Africa has pockets of technology and capabilities that can be leveraged to narrow the gap with technologically sophisticated developed and developing countries. Although it is difficult, costly and carries risks, there is a long-term need to develop domestic technologies and bring them to the market.

Government has set a target of increasing and sustaining research and development expenditure to at least 1% of GDP to secure development objectives, including industrial development and job creation. The Department of Science and Technology's National Research and Development Strategy sets the overarching framework for technological interventions, particularly on the research side of the overall process. The focus of **the dti's** efforts should be to increase support for companies that commercialise new production capacity and systems and in the periods in which such innovation has to be applied and learnt. Outside of the broader support measures set out under the industrial financing section of the IPAP, this requires intervention at three distinct levels:

- Emphasis should be directed to provide increased support to Small and Medium Enterprises (SMEs) to develop and commercialise high technology products and processes that will lead to an increased impact on their global and local competitiveness;
- Ensure that research work previously carried out on certain cutting-edge technologies be further developed, commercialised and applied in production processes and systems; and  
Ensure that skills development be in line with the rapid technological development in industry to ensure the correct deployment of appropriate skills to support these new technologies in industrial processes.

### 10.1 Key Action Programmes

#### 10.1.1 Increase the support to develop new process and product technologies through public interventions

##### **Nature of the intervention**

Strengthen and deepen existing financing support instruments, particularly the Support Programme for Industrial Innovation (SPII) and the Technology Venture Capital Fund, in collaboration with the IDC as part of the broader package of measures.

##### **Economic rationale**

To build South Africa's manufacturing capacity and capability into higher levels of competitiveness, particularly in the value-added, tradable IPAP sectors and to reduce the burgeoning trade deficit in a wide range of manufactured goods.

##### **Outcomes**

The creation of more successful and innovative SMEs that will use new systems and innovations to produce new products for global and local markets.

### **Key milestones**

- 2012/13 ongoing: Strengthen the database of all newly developed publicly funded and other technologies, particularly those in the short-term pipeline, and continue the process of appraisal and adjudication and monitoring and evaluation of the unfolding support programme.
- 2012/13 ongoing: Strengthen the time-based action plan for the commercialisation of these projects in order of maturity and greatest potential and report on progress achieved.
- 2012/13 Q2: Implement the new amendments to the Research and Development Incentive, including improvements to approval process and impact monitoring.
- 2012/13 Q3: Increase the Technology Venture Capital fund to contribute to increase research and development spending for IPAP-aligned priority areas.
- 2012/13 Q4: Develop an investment strategy with a technology development focus to strengthen and deepen the reach of the Technology Venture Capital fund contribution to industrial development.
- 2012/13 ongoing: Increase the number of projects supported by the Technology Venture Capital (TVC) programme and monitor, evaluate and report on the efficacy of the programme.

**Lead departments/agencies: the dti**

**Supporting departments/Agencies: IDC, TIA and DST**

## **11. SPECIAL ECONOMIC ZONES (SEZ) AND INDUSTRIAL DEVELOPMENT**

SEZs are important instruments to support long-term industrial and economic development. They are one of a number of pillars that make up an appropriate environment for foreign direct and domestic investment and the development of strategic industrial capabilities. SEZs enable the development of new industrial regions and the strengthening of existing ones.

The new SEZ programme will be specifically used to promote the creation of a regionally diversified industrial economy by establishing new industrial hubs in underdeveloped regions of the country. SEZs are therefore central to Government's strategic objectives of industrialisation, regional development and employment creation. SEZs lay the foundation for a broader range of industrial parks and infrastructure to enable effective clustering of value-adding and employment-enhancing manufacturers.

To ensure that the SEZ programme is effective, a dedicated and integrated legislative framework for SEZs is being established. This will enable Government to effectively regulate all SEZs, including the Industrial Development Zones (IDZs) as one category of SEZs. This is in contrast to the existing situation in which IDZs are regulated in terms of the Manufacturing Development Act.

It is the intention that industrial production in the SEZs will focus on support for the manufacture of value-added goods. Once designated, the SEZs should create backward and forward linkages between companies in and outside of the SEZs and build and strengthen localisation and supplier development programmes.

### **Key Opportunities**

SEZs will facilitate increased foreign and domestic investment, a rise in production output, increased exports of value-added manufactured goods, employment creation and regional industrial development.



## **Constraints**

The roll-out of the SEZ programme could be constrained by: skills shortages in strategic manufacturing sectors as well as expertise required to develop and manage SEZs; high costs, inefficiencies and capacity constraints in the ports; under-developed infrastructure including rail branch-lines, road, electricity and water supply; and the complex regulatory and intergovernmental integration.

## **11.1 Key Action Programmes**

### **11.1.1 SEZ Policy and Programme**

#### **Nature of intervention**

Policy to provide a clear framework with regard to the development, operations and management of SEZs. The policy will cover diverse regional development needs and improve the design deficiencies of the IDZ programme; provide a clear, predictable and systematic planning framework for the development of a wider range of SEZs to support implementation of the IPAP, regional industrial development strategies and the NGP; clarify and strengthen governance arrangements for the management of SEZs; expand the range and quality of support measures beyond the provision of infrastructure, including both in-zone and out-of-zone support measures; develop and implement a predictable financing framework to enable long-term planning; and develop and implement a comprehensive programme to support the development of SEZs.

#### **Economic rationale**

Provide a framework for the economics of agglomeration; the creation of regional specialisation; the establishment and building of hubs and clusters; and build up and downstream linkages in strategic value chains.

#### **Key milestone**

- 2012/13 Q1 – Q4: Finalisation and implementation of the SEZ Policy.
- 2012/13 - 2013/14 ongoing: Completion of feasibility studies for new SEZ sites.
- 2012/13 Q3: Designation of the Saldanha Bay IDZ.
- 2012/13 Q3: Roll-out of the OR Tambo IDZ's Jewellery Manufacturing Precinct.
- 2012/13 Q4. Roll-out of the Saldanha Bay IDZ.

#### **Lead departments/agencies: the dti**

**Supporting departments / agencies:** NT, NPC, EDD, DoE, DPE, DHA, DMR, DEA, Eskom, Transnet, SARS, and the DFIs

### **11.1.2 SEZ Bill**

#### **Nature of intervention**

The Bill seeks to provide for the designation, development, promotion, operation and management of SEZs.

#### **Economic rationale**

To provide for the establishment of the SEZ Board; to regulate the application and issuing of SEZ operator permits; and to provide for the establishment of the SEZ Fund. The Bill will further support the acceleration of industrial development and the creation of a regionally diverse industrial economy through the establishment of new industrial hubs in underdeveloped regions of the country.

## **Outcomes**

The concurrent and incremental establishment of SEZs within the appropriate legislative, regulatory, institutional and governance framework. This will lead to the sustainable strengthening and development of these SEZs. Thereby to achieve: increased foreign and domestic investment; increased beneficiation of mineral and agricultural resources; increased export of beneficiated products; increased job opportunities and regional industrial development.

## **Key milestones**

- 2012/13 Q3: Draft SEZ Funding Guidelines.
- 2012/13 Q3: Draft SEZ Regulations and Guidelines.
- 2012/13 Q4: Establishment of the SEZ Board.
- 2012/13 Q1-Q4: Finalisation and implementation of SEZ Bill.
- 2012/13 – 14/15: Ongoing establishment of SEZs.

## **12. REGIONAL INTEGRATION**

The South African economy is inextricably linked to those of other African countries and has a strong interest in promoting higher levels of industrialisation and economic integration on the continent. South Africa should use its existing capacities and strengths, its first-mover, geographic proximity and experience advantages to play a leading role in supporting regional economic development and integration.

Hitherto much emphasis aimed at promoting African economic development has centred on issues of trade, particularly those related to market access. However, closer examination of a range of factors suggests that the major constraint is the supply side of African economies, both in terms of productive capabilities and infrastructure. The global demand for commodities, the continent's natural resource endowment and increased political stability has unlocked rapid growth in many African economies. This creates a stronger base for the development of diversified economies beyond commodity exploitation and export. Steady growth in other production sectors of the economy, particularly in manufacturing, can create a more sustainable basis for growth and regional economic integration. South Africa's policy approach towards integration on the African continent combines market integration, infrastructure development and coordination with respect to industrial development and diversification.

South Africa is committed to working with fellow African states on a bilateral and multilateral basis to strengthen existing agreements and programmes to deepen industrial development. To this end, South Africa will continue to work with partner countries on the continent to identify concrete areas for cooperation, including the establishment of joint infrastructure development projects, the development of regional value chains, and the provision of technical assistance for policy and institutional development.

### **12.1 Industrial Financing**

Industrial financing is an extremely important component of industrial development. It helps correct some of the built-in constraints of industrialisation, such as inadequate infrastructure, skills and technology acquisition. Because industrialisation is inherently a risky process, more so at a regional level where various countries with varying operating environments are involved, finance is typically under-provided and may not be made available

for a sufficient duration. The level of Africa's success in industrialising will, in part, be determined by its ability to mobilise the required resources to channel into the productive sectors of its economies.

Experience from countries that have industrialised rapidly bear witness to the fact that DFIs are extremely important in allocating capital to the productive sectors of the economy, where the private sector can be leveraged in. Some DFIs in the region are already engaged in a range of activities in a number of countries. Their experience and expertise are key to taking forward the coordinated effort to promote development of regional value chains based on each country's comparative advantage in various sectors.

Official Development Assistance (ODA) has a key role to play as some African countries are aid dependent. Their ability to direct significant funds towards industrial development is a constraint. Furthermore, these governments are compelled to spend aid money on foreign technical consultants, experts and products rather than utilising and building local capacity and expertise. In such cases, the significant role that ODA could play in making its finance constraint less binding, such that funds can be directed to industrial development, is diluted.

The global economic crisis has led to a reversal of recent improvements in levels of overseas direct assistance to Africa, which is now estimated to receive only US\$11 billion of the \$25 billion envisaged by the Gleneagles Agreement. This represents a staggering shortfall of about 56%.

The financial crisis has also served to increase the debt of African countries, with the average debt-to-GDP ratio rising from 22,4% in 2008 to 25,4% in 2009. In some instances, repayments exceed the amount of aid received. Significant progress has been made in the last five years to reduce Africa's external debt, which stands at more than \$200 billion. South Africa's strategy is geared towards promoting the implementation of the aid effectiveness agenda outlined in the Paris Declaration on Aid Effectiveness and the Accra Agenda for Action.

In addition, South Africa is working to support African countries that seek to extricate themselves from an over-reliance on aid by ensuring that conditionalities placed on development assistance do not stifle development, capacity building and governance.

## **Key Action Programmes**

### **12.1.1 Strengthen the role of Development Finance Institutions to channel funding towards productive sectors of the economy**

- 2013 / 2014 Q2: Work with IDC and DBSA in implementing their expanded role of investing in productive sectors of economies in the region.
- 2013 / 2014 Q2: Explore how South Africa can work with regional banks to assist in securing funding lines and ensuring that funding lines don't restrict local procurement preference.

### **12.1.2 Exploit new opportunities created by South – South cooperation**

- 2013 / 2014 Q2: Explore how South Africa can work with large developing countries that have large financial and other resources which African countries could benefit from through strengthened partnerships.

### **12.1.3 Support effective use of ODA to promote industrial development**

- 2013/2014 Q3: The 85th plenary meeting of the United Nations General Assembly held in December 1989 adopted resolution 44/237 proclaiming 20 November as African Industrialisation Day. Every year UNIDO coordinates celebrations of this event, which aims to mobilise support and commitment of the international community to the industrialisation of Africa. Work with countries in the region and UNIDO towards a focused session themed 'Aid for industrial development'. This session should also be used to evaluate challenges, progress achieved and chart a way forward.

**Lead department: the dti**

**Supporting agencies/departments:** DFIs, DIRCO, EDD

## **12.2 Cooperation on Standards, Quality Assurance, Metrology and Accreditation (Technical Infrastructure)**

The capacity to comply with international standards, norms and technical regulations underpins the potential for economic and industrial growth. The strengthening of technical infrastructure capacity in African countries is a precondition of industrialisation efforts, including with respect to metrology, standards, accreditation and conformity assessment and compliance.

The dumping of cheap, sub-standard manufactured goods on African markets has sometimes led to the collapse of local industries and served as a major barrier to industrial development. Therefore, standards and conformity assessment is required to prevent the influx of sub-standard and injurious products into African markets and to improve the quality and enhance potential access of African products to export markets.

South Africa will work with countries in the region to strengthen coordination of technical infrastructure activities including standards, metrology, accreditation and conformity assessment services, mindful of the fact that the development of such capacity has a long lead time.

### **Key Action Programmes**

#### **12.2.1 Work in collaboration with African countries to strengthen technical infrastructure capacity**

- 2013 / 2014 Q4: Identify relevant international and regional standards that need to be adopted or adapted for use by the agro-processing, mineral beneficiation and pharmaceutical sectors – singled out as priority sectors by the 19th Conference of African Ministers of Trade and Industry.
- 2013/2014 Q4: Identify and establish the measurement capabilities that will support the development of the agro-processing, mineral beneficiation and pharmaceutical sectors.
- 2013/2014 Q4: Develop and provide accreditation support for the agro-processing, mineral beneficiation and pharmaceutical sectors, including an arrangement that will facilitate the acceptance of accredited certification, inspection and testing in many African markets based on single accreditation.
- 2013/2014 Q4: Identify and establish accredited testing, certification and inspection services that will be required by the agro-processing, mineral beneficiation and pharmaceutical sectors.

**Lead department: the dti**

**Supporting departments/agencies:** SQAM institutions, DIRCO, EDD

### **12.3 Cross-border infrastructure and sector development**

A critical constraint to regional industrial development and integration is cross-border infrastructure. In 1996, the Government of South Africa launched its Spatial Development Initiatives (SDI) Programme to provide support measures to attract investors into selected, viable projects in regions with growth potential and overcome existing constraints. This approach heralded a shift from a narrow focus on transport corridors to a broader focus on regional development linked to strategic investments. By the end of 2001, the focus shifted to the Regional SDI Programme (RSDIP) within the Southern African Development Community (SADC) region. The RSDIP has recently been reconfigured in consultations with Angola, the Democratic Republic of Congo (DRC), Mozambique, Namibia and Tanzania, resulting in a range of proposed SDIs earmarked for support over the three-year period from June 2010 to August 2013.

#### **Key Action Programmes**

##### **12.3.1 Promote the North – South corridor, with principal road and rail routes linking the port of Durban to DRC**

- 2012/13 - 2014/2015: Scope and roll-out road and rail links in partnership with regional economic communities

##### **12.3.2 Roll out of in-country spatial development initiatives within the continent**

- 2012/13 – 2014/2015: Leveraging trade and investment in oil and gas sectors based on synergies between South Africa and Angola.
- 2012/13 – 2014/2015: Finalise and implement recommendations of the SDI scoping study on the Trans – Caprivi and Trans Cunene Corridors.
- 2012/13 – 2014/2015: Scoping study on Bas-Congo Development Corridor.
- 2012/13 – 2014/2015: Set up iTSCi minerals traceability scheme in North Kivu, South Kivu, and Katanga provinces of the DRC.
- 2012/13 Q3: Update SDI programme business plan with Mozambique.
- 2012/13 Q3: Scoping Study on Agro-Processing and Minerals/Energy Beneficiation Opportunities and pre-feasibility study for development of regional value chains.
- 2012/13 Q2: Initiate pre-feasibility study for the Malawi-Tanzania Industrial Development Cluster (MTIDC) Project.
- 2012/13 Q4: Set up and Implementation of the High-Impact iTRCi Scheme in Rwanda and Burundi.
- 2012/13 – 2014/15: Partner with countries in the region to scope possible areas of cooperation to fast-track infrastructure development in order to support industrialisation through bilateral and established multilateral arrangements.

**Lead department: the dti**

**Supporting agencies/departments:** DIRCO, EDD, DBSA and Regional Economic Communities

## **12.4 Cooperation on development of skills to support industrial development**

Two major challenges have impacted on the ability to effectively formulate and implement a regional industrial development framework over the last decade. First, there has been insufficient coordination around industrial initiatives at regional level. Second, capacity to formulate and implement high-quality industrial policy interventions is uneven across various countries.

### **Key Action Programmes**

#### **12.4.1 Expansion of the Capacity-Building programme for countries within the region**

- 2012/13 Q1: Costed proposal on expansion of Economic Development Capacity-Building programme to be tabled for ministerial consideration.
- 2012/13 Q4: Proposal on development of centres of excellence and regional incubators to support regional industrial development to be tabled for ministerial consideration.

**Lead: the dti**

**Supporting agencies/departments:** DIRCO, EDD, DBSA and Regional Economic Communities

## **13. SECTOR CLUSTERS**

The key sectors that the 2012/13 – 2014/15 IPAP will focus on are clustered into three groups:

- **Cluster 1 – Qualitatively new areas of focus**
  - Realising the potential of the metal fabrication, capital and transport equipment sectors, particularly arising from large public investments;
  - Upstream Oil and Gas;
  - 'Green' and energy-saving industries;
  - Agro-processing, linked to food security and food pricing imperatives; and
  - Boatbuilding.
- **Cluster 2 – Scaled-up and broadened interventions in existing IPAP sectors**
  - Automotive products and components, and medium and heavy commercial vehicles;
  - Plastics, pharmaceuticals and chemicals;
  - Clothing, textiles, footwear and leather;
  - Biofuels;
  - Forestry, paper, pulp and furniture;
  - Creative and cultural industries; and
  - Business process services.

- **Cluster 3 – Sectors with potential for long-term advanced capabilities**

- Nuclear;
- Advanced materials;
- Aerospace, Defence; and
- Eletrotechnical and ICT.

## 14. SECTORS

### Cluster 1 – Qualitatively new areas of focus

#### 14.1 Metal fabrication, capital equipment and transport equipment

##### Sector profile

The metal fabrication, capital and transport equipment cluster of sectors includes:

- Basic iron and steel and basic non-ferrous metals (these sub-sectors are not part of the metal fabrication, capital equipment and transport equipment sector, but underpin supply with associated challenges, particularly with regard to pricing);
- Metal products, excluding machinery;
- Machinery and equipment;
- Other transport equipment; and
- Electrical machinery and apparatus.

These industries are at the centre of economic development because they produce products, applications and services used across the entire economy. This includes infrastructure programmes, construction, general engineering, mining, automotives and packaging. Therefore, metal fabrication, capital and transport equipment as a cluster of industries forms an important component of any industrialisation path and is a key driver of the manufacturing sector’s competitiveness.

These industries have different characteristics. For example, South Africa has well-developed niche capabilities in areas such as mining equipment and structural steel, which can effectively compete in global markets. Other sub-sectors are in decline or stagnant, such as the casting and tooling industries.

Variable	Contribution in 2010
Manufacturing value-add (% of GDP)	R60,6 billion (3,7%)
Manufacturing employment (% of Manufacturing)	308 210 (26%)
Trade balance:	
<ul style="list-style-type: none"> <li>• Metal fabrication, capital equipment and transport equipment, and</li> <li>• Iron, steel and non-ferrous metals.</li> </ul>	-R86 billion
	R191 billion

##### Key opportunities

Key areas of opportunity for growing the sector or achieving higher impact include:

- Boosting the public infrastructure programme presents the single largest opportunity to stimulate the industry. This can be strengthened via a reduction of import leakage of the capital and operational expenditure programmes of SOCs and all spheres of Government;

- Export opportunities exist in relation to infrastructure and mining turnkey projects, especially in the rest of Africa and South America;
- Lack of maturity in South African beneficiation chains presents opportunities to extend value chains through further downstream manufacturing; and
- The new Automotive Production and Development Programme (APDP) offers additional opportunities for metal-component manufacturing.

### **Constraints**

Current procurement practices by SOCs and government departments in relation to large contracts are not optimal:

- Lumpy, ad hoc procurement and unrealistic, short delivery times often demanded by SOCs and government departments undermine local manufacturing and associated investments. This in turn points to the urgent need for long-term procurement planning; and
- A lack of competitive financing impedes the ability of South African companies – particularly lower-tier suppliers – to compete on an equal footing with foreign companies. Foreign companies often receive highly concessional export financing from their home country's export banks or agencies.

Inadequate capital investment due to three decades of low demand has led to plants, machinery and equipment not being continuously upgraded or replaced. The import parity pricing of major material inputs such as steel and aluminium remains a major impediment to the further development of these sectors.

Variable and often out-of-date production and technological capabilities have resulted in the industry losing ground in maintaining local content and being unable to best capture new opportunities offered by both private and public capex programmes.

In addition, there are intense and increasing global cost-competitive pressures, particularly from low-cost imports. This is exacerbated by downward tariff pressures on a number of value-added products. It is therefore imperative to enhance the manufacturing competitiveness of South African suppliers to increase local content and exports. Increased research and development (R&D) levels are key requirements for competitiveness and the development of competencies.

### **Key Action Programmes**

#### **14.1.1 Identification of fleet programmes/products to make investments in associated supply chains viable and thereby promote local manufacturing**

##### **Nature of the intervention**

Identification and designation of strategic fleets via Cabinet Memoranda and in terms of the PPPFA, where relevant. This incorporates a strategic assessment of the current and future Government capital and operational expenditure programmes, which will facilitate the standardisation and designation of fleets. Fleet refers to any ongoing and repetitive procurement requiring fabricated products or equipment of a similar function that is essential to build or maintain an operation or service.

Two areas have already been designated: rolling stock (including locomotives; passenger coaches and EMUs) and steel power pylons related to Transnet, PRASA and Eskom programmes. Two sub-sectors, namely Fabric Filter Bag and Rail Signalling Equipment, have been identified for localisation. During 2012/13, sector analysis will



be undertaken to demonstrate adequate demand from capex requirements and/or long-term opex opportunities to justify an investment by a supplier in a relevant industrial capability and, therefore, the prioritisation of the fleet.

### **Economic rationale**

Lumpy procurement, often with short delivery times, creates uncertainty in supplier industries as suppliers are not able to adequately plan and phase-in investments to meet the requirements of these contracts. This Key Action Programme (KAP) aims to facilitate smoother and more predictable demand in relation to strategic fleets to allow significant scaling up of production.

### **Outcomes**

Reduce import leakage, increase investments in key manufacturing processes and activities to supply into the domestic market and capture after-market opportunities, revive lost manufacturing capacity, and increase employment and exports.

### **Key milestones**

- 2012/13Q1: DPE to finalise the next generation of Supplier Development Plans (SDPs) for both Eskom and Transnet with a clear description of focus areas over the next three to five years.
- 2012/13 Q1: DPE, in collaboration with the SOCs, to host a summit to share the details of the SDPs with their customers and key suppliers.
- 2012/13 Q1: DoT and PRASA to commence with the new rolling stock acquisition programme: Request for Proposals (RFPs) issued with a minimum local content of 65% and list of designated components in accordance with PPPFA regulations.
- 2012/13 Q2: Transnet to commence with the locomotive fleet procurement – RFPs issued with the minimum local content and components designated under PPPFA.
- 2012/13 Q2: Eskom to finalise the fabric filter bag fleet procurement and the localisation programme thereof.
- 2012/13 Q4: DoT and PRASA to finalise the bids adjudication process and commence with contract negotiations.
- 2013/14Q1: Obtain financial/commercial closure on PRASA first contract.
- 2013/14 Q2: **the dti** to submit the designation of rail signalling components for internal approval in Q2 and subsequently submit to National Treasury.
- 2013/14 Q3: **the dti** to review the rail rolling stock designated under PPPFA and make adjustments to the levels of local content and components.
- 2014/15 Q1: DoT and PRASA to table the first localisation report to Cabinet processes.
- 2014/15 Q4: First train batch delivered for PRASA operations.

**Lead department:** DPE and DoT

**Supporting departments/agencies:** **the dti**, EDD, NT, DST, SOEs and IDC

## **14.1.2 Profiling, Benchmarking and ISO Certification Programme**

### **Nature of the intervention**

In collaboration with UNIDO and SABS, **the dti** will implement benchmarking and ISO certification programmes to assist the second and third tier suppliers, as well as facilitate the matchmaking process between the suppliers and OEMs in specific value chains.

### **Economic rationale**

This KAP aims to close the information gap between SOCs demand and supply capabilities, improve SA suppliers' quality management systems and obtain quality and/or product certification to increase their level of competitiveness.

### **Outcomes**

Reduce import leakage, increase investments in key manufacturing processes and activities to supply into the demanding home market and capture the after-market opportunities, and increase employment and exports.

### **Key milestones**

- 2012/13 Q3 - Q4: 200 companies profiled and registered on the database; 60 companies benchmarked with development plans.
- 2012/13 Q2: business plan for the next three years and administration of the profiling and benchmarking programme finalised and funding request submitted to National Treasury through the MTEF.
- 2012/13 Q1 - Q4: Conduct ISO 9001 gap analysis on 60 manufacturers.
- 2012/13 Q3 - Q4: Enrol 20 workers for ISO management system training.
- 2013/14 Q1 - Q2: 250 companies profiled and registered on the database; 60 companies benchmarked with development plans.
- 2013/14 Q1 - Q4: Enrol 40 workers for ISO management system training.
- 2013/14 Q1 - Q4: Roll out the ISO certification programme to 20 manufacturers and move them from baseline to certification readiness.
- 2014/15: Q1 - Q4: Roll out programme to 40 manufacturers and move them from baseline to certification readiness.

**Lead department: the dti**

**Supporting departments/agencies:** SABS, UNIDO, DST, EDD and SOCs

### **14.1.3 National Tooling Initiative**

#### **Nature of the intervention**

The National Tooling Initiative (NTI) is a joint programme between **the dti** and the tooling industry. The initiative comprises programmes aimed at rehabilitating the South African Tool, Die and Mould Making industry. The NTI aims to increase and strengthen the human capacity and competitiveness of the tooling industry in South Africa to improve the competitiveness of the overall manufacturing sector. In 2010, a new competency-based apprenticeship programme was introduced in partnership with FET colleges. To date, the foundation and level 1 apprenticeship programme has been completed. This has created a pipeline of 600 students. Other interventions in place include the DST-funded Advanced Institute for Tooling, which will be strengthened to develop high-end design capabilities.

#### **Economic rationale**

The erosion of the tooling industry over the past 20 years has led to underperformance of the manufacturing sector and contributed significantly to the trade deficit as South Africa is a net importer of tools. In the immediate term, there will be prioritisation of skills development and training programmes to address the dire skills shortage.

## **Outcomes**

The KAP will reduce reliance on imported tooling, particularly in the more advanced tooling segments, capture after-market opportunities, increase investments in tooling manufacturing, increase local content, enhance capacity in South Africa's tooling industry skills upgrading, increase employment and exports as well as manufacturing competitiveness.

## **Key milestones**

- 2012/13 Q1: 400 students on level 2 apprenticeship programme to complete phase 1.
- 2012/13 Q2: students to complete phase 2.
- 2012/13 Q3: On-the-job training completed.
- 2012/13 Q3: Learning modules and curriculum for level 3 developed.
- 2012/13 Q4: 350 students enrolled on level 3.
- 2013/14 Q1: 350 students on level 3 apprenticeship programme to complete phase 1.
- 2013/14 Q2: students to complete phase 2.
- 2013/14 Q3: On-the-job training completed.
- 2013/14 Q3: Learning modules and curriculum for the Master Artisan programme developed.
- 2013/14 Q4: 150 students enrolled on Master Artisan programme level 1.
- 2014/15 Q3: Accreditation and certification of the apprenticeship programme (level 1 – 3) finalised with Merseta and QCTO.
- 2014/15 Q4: 120 students completed the level 1 master artisan programme and deployed at companies for in-service training.

## **Lead department: the dti**

**Supporting departments/agencies:** NT, DST, DHET and E, NTI, QCTO, MERSETA and National Artisan Moderating Board (NAMB)

### **14.1.4 National Foundry Technology Network**

#### **Nature of the intervention**

National Foundry Technology Network (NFTN) is a foundry industry support initiative with the key objective of facilitating the development of a South African foundry industry through appropriate skills training, technology transfer and diffusion of state-of-the-art technologies. The erosion of the foundry industry negatively impacts the competitiveness of manufacturing.

#### **Economic rationale**

A significant decline of the foundry industry over the past two decades as well as the important linkages that this industry has with the entire manufacturing sector has led to the development of the National Foundry Technology Network initiative.

## **Outcomes**

Reduced import leakage, increased human skills capacity, investments in key manufacturing processes and activities, and employment.

### **Key milestones**

- 2012/13 Q1: 150 foundries profiled on the database.
- 2012/13 Q2: Recapitalise the Western Cape training centre.
- 2012/13 Q3: Recapitalise the Gauteng training centres.
- 2012/13 Q1 – Q4: train 200 workers on the formal foundry qualifications (NQF 2 – 4).
- 2012/13 Q1 – Q4: 25 foundries assisted under the competitiveness improvement programme.
- 2012/13 Q3: 16 pupils to complete the pilot learnership programme.
- 2013/14 Q1 – Q4: train 230 workers on the formal foundry qualifications (NQF 2 – 4).
- 2013/14 Q1 – Q4: 25 foundries assisted under the competitiveness improvement programme.
- 2013/14 Q4: NTFN to conduct the feasibility study for the establishment of the training centre in KwaZulu-Natal.
- 2014/15 Q1 – Q4: train 250 workers on the formal foundry qualifications (NQF 2 – 4).
- 2014/15 Q1 – Q4: 40 foundries assisted under the competitiveness improvement programme.
- 2014/15 Q4: NTFN to implement the recommendation of the feasibility study for the KZN training centre.

**Lead department: the dti**

**Supporting departments/agencies:** NT, DST, DHET and E, NTFN, Merseta

### **14.1.5 White Goods Industry Development**

#### **Sector profile**

The domestic White Goods Industry is segmented between large and small appliances. The large appliance manufacturers account for 80% of the domestic market share. Until recently, the major manufactures were Defy Appliances and Whirlpool. Defy Appliances has been taken over by Arcelik, Europe's third-largest home appliance maker following the granting of approval for the merger by the Competition Commission in November 2011 and subject to conditions set out for the merger.

Domestic manufacturing has been focusing on refrigeration and cooking appliances, which represent 63% of sales. The industry value chain is made up of three tiers of firms, with manufacturers of large and small appliances at the top. Component suppliers that provide niche components, standardised items and fabricated part supplies and suppliers of the raw materials, complete the value chain. A fundamental characteristic of the domestic industry is the importation of specific product lines to supplement product range, which local producers cannot manufacture at competitive prices.

Employment in household appliances has dropped drastically from about 10 000 in 2001 to 4 340 employees in 2008. However, there has been a slight improvement, with increases registered in 2009 and 2010. Currently, employment is estimated to be at about 3 000 employees between the two major manufactures. Overall, there has been growth in this sector, driven predominantly by middle-income households and the public electrification programme for low-cost households. It is predicted that potential future growth lies with low-income household purchases of stoves, microwaves and hotplates to satisfy demand at the lower end of the product range. Both components and finished products are imported and then distributed to other African countries. Exports currently account for about 5% of goods produced by South African companies. Some industry players supply large retailers, which have international operations throughout Africa. As a result, products are often shipped directly to retail outlets in these areas.

Foreign direct investment in the form of the merger bodes well for the development of the South African white goods industry. The envisaged spin-offs include increased productive capacity and strengthened technological infrastructure with energy efficiencies, lower production costs and competitive South African-produced goods. The merger is an indication of confidence in the South African industry as it provides a platform for growth and expansion into Africa. It also provides an opportunity for South African components manufacturers to enter global supply chains.

### **Key opportunities**

Increasing exports particularly in the SADC region and the rest of Africa presents an opportunity to grow the local manufacturing sector, given the small size of the domestic market. This will require:

- Manufacturing lower end products for Africa where electricity and transport is a challenge, e.g. production of dual (gas and electricity) appliances;
- Skills development and technology transfer for upgrading and retooling;
- Regional branch network providing sales support, distribution and after-sales service;
- Ensuring full capacity in the maintenance and repair segment; and
- Duties on components and products and the rebate scheme for manufacturers and their local suppliers.

### **Constraints**

Constraints affecting the competitiveness and, therefore, the growth of the industry include:

- High volume of imports;
- Input costs, specifically import parity prices of steel and aluminium;
- Outdated manufacturing technology compared to global standards;
- Small size of the local market; and
- Cost of capital to finance technology and capital upgrade.

### **Key Action Programmes**

#### **14.1.5.1 Facilitate the upgrade of manufacturing facilities and capabilities to increase domestic production and growth of exports**

##### **Nature of the intervention**

The programme aims to encourage capital investment into the industry to meet technological requirements. Therefore, the programme will help to increase productivity, volumes and efficiencies. Additional interventions will be explored to reduce input costs.

##### **Economic rationale**

The initiative aims to increase competitiveness within the industry; increase export volumes and find new markets for South African products; identify new and more cost-efficient appliances that could be manufactured by local manufacturers; design and manufacture energy-efficient appliances; maintain the brand value of domestic White Goods manufacturers; realise the growth potential presented by the emerging middle- and lower-income household segment of the market; and prevent the potential for significant job losses due to increasingly lower margins experienced in this industry.

## **Outcomes**

This initiative will be primarily aimed at expanding the domestic manufacturing base to meet the increasing demands of both local and export markets. Both technological and capital upgrades will result in increased productivity and overall efficiencies along the supply chain. With growth, the support industries will benefit from additional spin-offs and product development. Skills transfer will take place with the adoption and incorporation of new technologies along the production line. Increases in export volumes will result in improved economies of scale, resulting in lower product costs over the medium to long term.

## **Key milestones**

- 2012/13 Q1-Q4: Implementation of the Technology Upgrading Incentives, administered by TEO, including the MECP to improve competitiveness.
- 2012/13 Q3-Q4: Implementation of an Energy Efficiency Programme (MEP) through a combination of compulsory minimum energy performance requirements and compulsory labelling requirements for appliances.
- 2013/14 Q1: Develop a programme in consultation with SABS and NRCS aimed at enforcing mandatory standards for imports, compulsory EE and environmental compliance.
- 2013/14 Q2: Review of tariffs for the White Goods industry and industry applications to ITAC.

**Lead Departments/agencies: the dti**

**Supporting departments/agencies:** DoE, Electro technical Export Council, Electro technical Association, SABS, NRCS, IDC, Customs and Excise (SARS)

## **14.2 Upstream Oil and Gas Services and Equipment**

### **Sector profile**

Growth prospects for oil and gas exploration and exploitation in the sub-Saharan Africa region have remained largely unscathed in the prolonged global recession. The region remains one of the fastest growing and highest potential oil and gas areas in the world. Recent discoveries on the East African Coast, including offshore gas deposits on the Mozambique coast, have consolidated this potential. Estimations of the percentage of sub-Saharan reserves vary from between 10% and 15% of total global reserves.

It was pointed out in the IPAP 2011/12 that the entire region, both on- and offshore shallow and deep-water exploration and exploitation, is still in the relatively early stages of development, as is the concomitant huge build-up of infrastructure, upstream support activities, technical and skills and supporting service-sector development, which will follow in the wake of this expansion.

The overwhelming bulk of these exploration and exploitation activities lie outside of South Africa's borders. This to some extent limits the policy levers that can be applied to support the upstream industrial development opportunities of the type that have been used by Brazil, for example, such as the 80% mandatory localisation requirements.

There is nevertheless a significant opportunity for South Africa to become a major player in the logistics, repair and maintenance supply side activities to support the expected anticipated burgeoning growth, which is likely to span many decades, aside from the localisation opportunities arising from the exploration and exploitation of domestic reserves.

Within our own borders, upstream oil and gas activity is poised for strong growth over the next decade, with significant opportunities in Mossel Bay, the Orange River Basin off South Africa's northwest coast and the possible exploration of onshore shale gas opportunities. With respect to this domestic activity, much stronger policy levers, including stronger localisation requirements, can be applied and in keeping with the general direction of Governments integrated procurement framework.

In any event, both the domestic and sub-Saharan exploration and exploitation growth represents an enormous opportunity for South Africa to utilise and expand its existing infrastructure, engineering capacities and capabilities, logistics supply chains, service industries and relatively favourable location and experience to become a major hub for the entire region, which currently imports the bulk of its requirements from Europe, North America and Asia.

### **Key Opportunities**

These opportunities lie in the following broad categories:

- Upstream Ship Repair Hub: The repair, maintenance and upgrade of various kinds of oil and gas marine vessels such as drilling rigs, pipe-laying vessels and various kinds of work barges.
- Oil and gas logistics and distribution: South Africa has the potential to build major logistics points for the burgeoning growth across the Sub-Saharan region.
- Engineering services that design, fabricate or construct specialised modules or facilities for the oilfields, e.g. storage tanks, processing modules for offshore platform or onshore facilities, docking facilities, tugs/barges, civil structures and platforms etc.
- Equipment and materials suppliers providing a wide range of pumps, valves, pipes, motors, instrumentation, process equipment etc for the specialised needs of the upstream industry.
- General and technical support services for the upstream industry. General services include legal, financial, IT, medical, hospitality, recruitment and many other services competitively supplied from South Africa. More technical services include a significant cluster of firms doing inspection and maintenance, training, diving services, remotely operated undersea vehicles (ROV) operation and repair, health and safety services etc.

However, this potential is predicated on South Africa moving decisively and speedily towards putting in place the necessary policy and regulatory framework, institutional architecture and programme management to secure growth of the sector. This in turn rests on the solution of existing constraints at South Africa's ports, where the identification and resolution of existing infrastructure and operational problems in the context of a close working relationship between Government and the private sector has to take place.

The strong mandate from Government in the form of the IPAP has not found expression in clear resolution of existing port constraints and programmes on the part of the National Ports Authority (TNPA). This is not uncommon in other countries that struggle to mediate competing interests and priorities in their ports, including with regard to infrastructure investment, space and operations. This may arise from a failure to recognise the critical importance of the sector for broader industrial development, given the significant economic and employment multipliers inherent in the sector.

However, the existing potential is time-bound and the window of opportunity will close as other countries take the necessary steps to secure investment, ramp up infrastructure and build their supply side capabilities. Until such time as the port constraints are resolved and the necessary regulatory and institutional and programme

implementation architecture is in place, the necessary global marketing and investment promotion is severely constrained and can even be counterproductive in circumstances where these remain unresolved.

### **Key opportunities**

- Removing constraints and scaling up the Upstream Ship Repair Hub. The Saldanha Bay IDZ is the largest single short- to medium-term opportunity to create significant employment and foreign direct investment in the sector. An upstream oil and gas hub can be one of the anchor projects for the IDZ. A similar opportunity exists in KwaZulu-Natal as oil and gas activity grows on the east coast of Africa.
- Marketing South African companies and capabilities in the region. A focused marketing and trade development programme to position and raise the profile of South African capabilities and companies with key regional buyers (many of whom are based in Europe and North America) is a substantial opportunity for growing business volumes, albeit predicated on the resolution of existing port constraints.
- Growth of the oil and gas logistics industry is a substantial opportunity that also opens up further procurement opportunities into the regional oil and gas supply chain.

### **Constraints**

Key constraints in the ports with regard to integrated operations in support of the sector by the TNPA remain unresolved. These apply to infrastructure, availability of port space, inconsistent and high pricing of facilities, poor scheduling of facilities, availability of dedicated personnel to liaise with and make timeous decisions in relation to the industry, availability and functionality of equipment, and identification and resolution of problems as they arise.

### **Key action programmes**

#### **14.2.1 Resolution of key port constraints for the sector**

##### **Nature of the intervention**

The establishment of a high-level joint task team, including the dti, the DPE, the TNPA and the industry, to resolve short-term constraints and put in place the necessary long-term framework and mechanisms for growing the sector, agreed but not optimally functional, is of paramount importance.

##### **Economic rationale**

Resolving the key pricing and scheduling constraints in the ports will strengthen the industry's competitive position and allow South Africa to market itself uniquely in Africa and as a favourable alternative to Europe, Dubai and the Far East for major upstream ship and rig projects and investment.

##### **Outcomes**

Registering South Africa as one of the key destinations from which to develop the huge oil and gas reserves on the African continent. This would enable increased maintenance and repair work in South Africa's ports, particularly in larger and more profitable upgrade projects; establishing a position as the preferred fleet service hub for one or more of the major global rig and vessel operators in the region; R2 - R4 billion (three to five times the current levels) additional annual foreign direct investment; full-time employment of an estimated 2 500 – 3 000 contractors, who currently work only when projects are available, and the addition of a further 1 000 – 2 000 direct jobs to this pool.



**Key milestone**

- 2012/13 Q1: The DPE/**the dti**/TNPA and South African Oil and Gas Alliance (SAOGA) joint task team to address short-term constraints and solutions and put in place a framework for the longer-term development of the sector.

**Lead departments/agencies:** DPE and **the dti**

**Supporting departments/agencies:** EDD, Transnet/TNPA, SAOGA, provincial governments and local councils

**14.2.2 Resolution of the customs issues related to the payment of import duties for intermediate inputs and machinery****Nature of the intervention**

Resolution of the VAT and import duty problems, which act as a constraint for the development of the sector.

**Economic Rationale**

The resolution of critical customs and excise issues related to the import, storage and export of intermediate inputs and equipment by the industry will lessen the administrative burden and ensure that South Africa's product offering is globally competitive. This should include the resolution of the problems in relation to the IDZs declared by **the dti**.

**Outcomes**

Greater volumes of oil and gas materials and equipment being handled through South Africa, more distribution centres established by global upstream companies, and ease of import and use of intermediate products by industry.

**Key Milestone**

- 2012/13: Establishment of **the dti**/SARS/ITAC and industry task team to identify existing problems as set out in the DeLoitte Study and secure solutions as well as create the necessary liaison and problem-solving mechanism for the long term.

**14.2.3 National Marketing Initiative for the South African upstream clusters****Nature of the intervention**

Considerable marketing activities for the sector have taken place and a scaled-up strategic marketing and investment promotion strategy is constrained by unresolved issues set out above. A two-pronged programme to market South African upstream capability in the region is required: on the one hand, a generalised marketing and publicity initiative to raise awareness of the cluster through trade media placements, direct visits to key buyers, publicity campaign and conference or exhibition presentations; on the other hand, a trade matching and networking programme to directly link South African companies with upstream buyers and/or potential partners.

**Economic rationale**

Raising awareness of South African upstream capabilities and matching companies to specific buyers or partner companies will have a direct impact on export sales by the sector.

## **Outcomes**

Greater export sales for South African-based companies in the sector; productive partnerships between South African and foreign companies resulting in more export revenue and/or South African-based activity and creation of high-quality jobs as the sector expands.

## **Key milestones**

- 2012/13-2014/15: SAOGA, **the dti** Foreign Economic representatives and regional trade associations to scale up the existing targeted programme to raise the profile of the South African upstream sector with sub-Saharan buyers based on the existing prepared material. Scaling up of market initiatives contingent upon resolution of the port constraints.
- 2012/13 Q2: SAOGA to initiate an export-readiness training programme to assist companies to acquire skills required to develop international trade opportunities.
- 2012/13: SAOGA and **the dti** to work with international trade agencies and associations to scale up the existing trade matchmaking programme focused on helping upstream companies to find specific sales and partnering opportunities in the region, contingent on resolution of the port constraints.

**Lead departments/agencies: the dti**

**Supporting departments/agencies:** SAOGA, provincial trade and investment agencies, international industry associations and trade development agencies

## **14.3 Green Industries**

Issues of climate change have increasingly moved to the centre of the global stage in a wide range of multilateral and bilateral fora, agreements, policy perspectives and programmes. These processes include:

- Complex interaction between current and future demand for energy and the rising cost of existing fossil fuel energy;
- Future cost of renewable energy and the economic and social benefits that accrue;
- Associated new wave of industrial development; and
- Appropriate financing and industrial finance support mechanisms.

Successive Government documents, including the NGP and the National Planning Commission Draft Vision, have pointed to the consideration that an ambitious programme of renewable energy generation should serve to catalyse a significant wave of economic benefits and industrial development. A critical mass of renewable energy-generation projects, with accompanying localisation of component manufacture, can achieve a range of objectives, including job creation, improved export competitiveness, contribute to South Africa's carbon mitigation commitments, safeguard exports from possible punitive carbon tariffs or taxes in increasingly sensitive export destinations and build energy security. These factors are particularly important since South Africa has committed to reduce its contribution to greenhouse gas emissions by 34% by 2020. The electricity industry is the biggest emitter of greenhouse gases since more than 90% of the country's electricity is produced by coal-fired power stations.

Research suggests that success in the large-scale development of renewables could create upwards of 50 000 jobs and realise \$55 billion in green investment over the next 15 years. The localisation of elements of the global value chain for wind and solar power could establish South Africa as a regional renewables manufacturer and service hub.

An integrated and coherent strategy is required to combine a renewable energy generation plan with an appropriate financial and industrial development localisation strategy.

## **1. Solar and Wind Energy**

Large parts of South Africa's western and southern coasts and inland areas have economically viable wind energy prospects. The scale and maturity of the global wind industry have made this a cost-competitive energy option compared not only to other renewable technologies, but also to many fuel-based technologies. While unpredictable, wind does not use water and can be installed relatively quickly. Like solar photovoltaic (PV) it is complemented by electric energy storage.

PV is a solar technology, which turns sunlight directly into electricity. It is growing in importance worldwide and is the subject of constant innovation, which is rapidly driving down costs. While PV does not consume water and can be installed rapidly, in the absence of a back-up electricity source it requires an electric energy storage source (a battery) to ensure supply at night or when the sun does not shine.

Solar power is particularly attractive for South Africa, given the country's high solar resource. Concentrated Solar Thermal (CST) power is a promising renewable energy generation option in South Africa, but is relatively small on a global scale. This presents the country with an opportunity for developing competitive local manufacturing. The IDC has a significant pipeline of renewable energy projects, which include CST projects, in respect of which there is a need not only to scale up the industry through reliable long-term demand, but also to overcome initial technology barriers by demonstrating the viability of the technology at scale and with high levels of performance.

## **2. Renewable Energy Independent Power Producer Procurement Programme**

The Government first announced its intention to develop a Renewable Energy Feed in Tariff (REFIT) in 2008. The proposed tariffs were announced with different types of renewable energy. The REFIT meant that Independent Power Producers would be able to sell renewable energy into the national power grid at a prescribed REFIT rate. However, this process did not materialise as it was found to be inconsistent with the country's preferential procurement policy rules. The REFIT was, therefore, replaced with a competitive bidding process termed the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP), which meant that the preset tariff would only apply as a ceiling and that the bidders who had the lowest price and met other requirements would be preferred. The first request for proposals was issued in August 2011 and the preferred bidders were announced in December 2011 during the COP17.

The REIPPPP is a continuous process in which renewable energy will be procured during consecutive bi-annual bidding windows. Twenty-eight bidders were awarded 'preferred bidder' status for the first bid window and the amount of renewable energy procured for this window is 1438MW, mainly wind and solar.

### **3. Energy efficiency**

Energy efficiency, of which electricity efficiency is one component, is incorporated as an important objective in many pieces of legislation in South Africa and the focus of the National Energy Efficiency Strategy. While research on the specific theme of energy efficiency is still generally lacking, in spite of its strategic importance, electricity efficiency has become highly topical.

Currently, new energy efficient machinery, equipment, software and control systems are by and large imported into the country and employment-creation potential exists mainly in relation to the operation, maintenance and installation of equipment. Additional employment prospects exist in the retro-fitting space.

Against this backdrop, the question is of the extent and nature of adjustments already undertaken or that are planned to be implemented by firms to save energy in the form of electricity. Such interventions can take three forms: (i) the introduction of new electricity efficient savings technologies; (ii) adjustments within existing technologies; and (iii) energy conservation approaches that reduce demand for electricity provided through the grid. More research is required in South Africa to determine the industrialisation opportunities of energy-efficient technologies and services.

### **4. Waste Management**

The waste management industry is one of the main contributors to the 'green economy'. The industry comprises industrial waste management and recycling. A South African industrial recycling strategy aims to explore and enable industrial development opportunities in the recycling sector, which involves the collection and processing of used waste materials into new or secondary products and/or the recovery of energy with the aim of preventing wastage of potentially useful materials, and reducing the consumption of fresh raw materials, energy usage, air pollution (from incineration) and water pollution (from land filling) by minimising the need for 'conventional' waste disposal and lowering greenhouse gas emissions from landfill sites.

### **5. Solar Water Heaters**

The Department of Energy's planned installation of one million solar water heaters (SWH) by 2014 presents a significant opportunity to reduce energy usage on the electricity grid, providing communities with access to hot water and supporting the further development of a local SWH manufacturing industry. Approximately 215 000 SWH's systems have been installed nationally to date as part of the South African National SWH Strategy and Implementation Plan of 2009.

The current funding systems are, however, unlikely to result in the achievement of the installation target. The roll-out to date has helped create jobs in installation and some component manufacturing, but not to the extent possible and steps are required to accelerate the roll-out and improve the uptake of locally manufactured components.

There are a number of local geyser tank manufacturers in South Africa that manufacture both solar and conventional geyser units for both the low and high pressure markets. The estimated combined output of these manufacturers is currently underutilised. There are also a number of flat plate collector manufacturers, but imports

remain high. This is a labour-intensive process and should demand grow, this segment of the industry is considered viable for further investment.

A programme steering committee, under the guidance of the EDD, has been established to develop guidelines for SWH roll-out in South Africa, including in relation to issues of funding, market development, localisation and job creation. The strategic leveraging of public procurement can potentially play an important role in the successful development of a local SWH industry. The target number of SWHs in the roll-out plan, as indicated in the Renewable Energy White Paper, makes the SWH industry a potential candidate for designation in terms of the amended Regulations of the PPPFA. The necessary research work for this to take place is currently under way.

### **Sector profile**

The Green Industries sector is wide and overlaps with other sectors. In some cases specific industries are not considered under this section, not because they are not green, but because they are covered under other sectors. These include organic agriculture (Agro-Processing), biofuels, buses and electric vehicles (Automotives) and nuclear energy (Advanced Manufacturing). In selecting focal sub-sectors or segments of the Green Industries, the Sector Strategy considers their overall impact on the economy, the environment and society.

### **Key Action Programmes**

#### **14.3.1 Development of local wind and solar industry through the REIPPP procurement programme**

##### **Nature of the intervention**

Increased local content of renewable energy projects linked to the REIPPP; continuous roll-out of renewable energy to sustain the industry 1 000MW per annum; strengthened industrial financing programmes to promote the local components industry, inclusive of IDC funding, the 12I tax rebate and the dti incentives.

##### **Economic rationale**

The IRP 2010 spells out the need to support the development of a local industry for renewable technologies, in particular wind and solar. The plan is to maintain a stable roll-out programme that provides an opportunity for localisation, not only in the construction of the equipment, but in the development of skills to support the renewable programme. The possibility of local manufacture is seen as a window of opportunity for creation of local employment opportunities. The Government plans to increase the local content targets with every bidding round of the REIPPP procurement programme.

The IRP 2010 makes provision for 8 400MW solar PV capacity, 1 000MW of Solar CSP capacity and 8 400MW of wind energy capacity by 2030. The first round of bidding was announced on 1 August 2011 and the first 28 preferred bidders were announced in December 2011. The programme represents a significant opportunity for the development of the local solar and wind industry. A second window in March will be followed by a third in August and will require a roll out of approximately 1 000 MW per annum to sustain a local industrial base.

##### **Outcome**

Increased local content threshold for renewable energy projects in line with the development of a competitive local industry.

**Key Milestones**

- 2012/13: Ongoing gradual increment of local content requirements with every successive REIPPPP bidding round.
- 2012/13 Q1: Input into the tender and Public Private Partnership (PPP) specifications to ensure localisation in renewable energy bids.
- 2012/13 Q4: Support the development of local capacity to produce and enhance relevant technologies through the MCEP.
- 2012/13 Q4: A review of technological options to maximise industry development and employment creation.
- 2012/13 – 14/15: Ongoing review of the local content targets on an annual basis.

**Lead Departments/ Agencies: the dti**

**Supporting departments/agencies:** DoE, EDD, DST and National Treasury

**14.3.2 Designation of Solar Water Heaters****Nature of intervention**

To designate the manufacturing of SWH components and support the roll-out to create a sustainable industry. The supply of components promotes local industry competitiveness and improves quality control and services. Influence regulation on imported solar water heaters for both high and low pressure system. This will lead to a competitive local SWH markets and will discourage imports of fully assembled products.

**Economic rationale**

To increase demand and develop local supply through regulation and development of local manufacturing thus creating more employment and technical skills on installation, maintenance and services. The overall objectives are to increase energy security and develop domestic markets, allowing expansion of the economy by decreasing base-load requirements and increasing off-grid supply and also to improve balance of payments by promoting local exports.

**Outcomes**

Develop the SWH and components industry, and improve customer confidence in local products through awareness campaigns in combination with the development of standards, training of service providers and honoured guarantees. Increased export opportunities for local manufacturers to African and other markets.

**Key Milestones**

- 2012/13 Q2: Finalise research on SWHs.
- 2012/13 Q3: Designation of SWHs to the recommended threshold.

**Lead Departments/ Agencies: the dti**

**Supporting departments/agencies:** DoE, EDD and DST

## 14.4 Boatbuilding and Associated Services Industry

### Sector profile

The boatbuilding industry, exclusive of the broader ship building and repair industry is divided into five main categories, namely:

- Building of boats (comprises the core boatbuilding industry, sub-classified by type of vessel across a wide range of craft);
- The manufacture and trade in engines and engine systems (e.g. outboard, inboard, cooling and hydraulic systems, mounting equipment, stern gear and propellers etc);
- The manufacture and trade in marine equipment and accessories (e.g. boatbuilding materials and equipment, boat care products such as paint and resins, boat covers, deck hardware, electrical and electronic equipment, personal gear, hardware etc);
- Consumer goods and services (e.g. charter/rentals, repairs, maintenance, retail, events management, yacht clubs); and
- Business goods and services (e.g. consulting, design, surveying, training, government agencies etc).

The last four categories could be considered the support or auxiliary industry to the core boatbuilding industry.

In turn, the South African boatbuilding sector can be divided as follows, with the contributions per sub-sector:

- The building of sailboats, comprising multi hulls (21 or 35%) as well as mono hulls (13 or 22%);
- Building of Inflatable's accounts for (11 or 18%) – this incorporates the manufacture of inflatable, semi-rigid as well as rigid inflatable boats (RIBs);
- Motorboat manufacturers account for (6 or 10%), followed by manufacturers of commercial crafts such as fishing vessels, military craft, offshore oil and gas and diamond vessels (5 or 8%); and
- Activity crafts – mostly kayaks and canoes account for (3 or 5%).

The total South African boatbuilding and support industry employs about 4 500 people and produces goods and service valued at R1,2 billion. With the exception of five firms in the sector, all others are SMEs. The sector is heavily export dependant, with more than 80% of the industry involved directly or indirectly with exports. Small craft less than 10m in length are predominantly manufactured for the local market, while multi-hulls catamarans are almost exclusively for export. The sector is globally competitive, having won numerous international 'Boat of the Year' awards and has major growth potential. However, significant growth and development constraints exist that require collective action to support the sector in realising this potential.

Variable	Contribution in 2009
Manufacturing value-add	R1,2 billion
Manufacturing employment	4 500

### Key opportunities

- Export opportunities into Africa and the Indian Ocean Islands, with specific emphasis on light commercial vessels, such as RIBS and Patrol Vessels.
- Opportunity to leverage on world-class reputation as catamaran manufacturers and expand into the developing markets, and markets new to the boating culture.

- Clustering of the industry on a national basis will bring together critical mass to implement industry development programmes to upgrade machinery and business processes within SMMEs.
- The international markets for catamarans remains largely untapped and growth in the export market could become a real driver for job creation.
- The sector shares many skill sets and some technologies with the renewable energy, aeronautical and automotive sector. Therefore, for example, the development of a broad base of skills and application of technologies in composite manufacturing could translate into other sectors.

### **Constraints**

The boatbuilding sub-sector is largely focused on manufacturing for the leisure boat market and the recent global recession has had a knock-on effect similar to other sectors producing luxury and lifestyle products. The international market is starting to grow, albeit very slowly, and competition is fierce, even in niche products.

- Inadequate investment at firm level in acquiring new technologies and machineries to stay abreast of international innovation trends could start to impact on domestic manufacture.
- The lack of industry-specific skills with a clear link between academic learning and the workplace results in a technical skills deficit for boatbuilding as well as a managerial knowledge deficit. These constraints are compounded by the high level of tacit knowledge required by a boat builder. The high level of import duties on input materials is a constraint.

Urgent steps also need to be taken to scale up other sub-sectors in the broader boat- and ship-building sector.

### **Key Action Programmes**

#### **14.4.1 Trade Policy: Import duties on input products**

##### **Nature of the intervention**

The boatbuilding sector in South Africa is export intensive. However, there is considerable potential to increase the share of the domestic market and expand it. Duties on the intermediate goods used in local manufacturing contribute to making domestic manufacturers uncompetitive in our own market. Duties on imports of completed products are 10% compared to duties on inputs that vary between 10 and 20% duties. Furthermore, as of 1 January 2012, as per the EU/SA Trade Agreement, there is no longer import duty on yachts and powerboats imported into South Africa from the EU. Countries such as France, Turkey and the United Kingdom are South Africa's biggest competitors in this sub-sector. It is proposed that a review of the applicability of the current tariff structure for the boatbuilding industry be conducted.

##### **Economic rationale**

A reduction in imported duties on intermediate and manufactured inputs for the boatbuilding sector to increase competitiveness in export markets.

##### **Outcomes**

Increased production at lower costs and greater exports of value-added products in this sector.

##### **Key milestones**

- 2012/13 Q1: Industry to identify products that should be considered for a reduction in duties.
- 2012/13 Q2: Finalise list of input products to be considered for duty reduction.



- 2012/13 Q3: Finalise applications for duty reduction and tariff investigations by ITAC.
- 2012/13 Q4: Introduce new tariff structure for input cost.

**Lead departments/agencies: the dti**

**Supporting departments/agencies: ITAC, SARS**

#### **14.4.2 Industrial Financing**

##### **Nature of the intervention**

Finalise sector-specific financial support measure.

##### **Economic rationale**

The boatbuilding industry has unique features and challenges and many of the incentives available through **the dti** and IDC do not meet specialised industry requirements. Customers need to see and experience a yacht prior to purchase and, therefore, enabling a manufacturer to have a demonstration vessel on hand at a show will directly translate into sales. Matching commitments for companies to invest in new upgraded plant and machinery and new businesses processes should be secured.

##### **Outcomes**

Direct increase in export sales; export sales to new markets; new product development; and an improved South African boatbuilding footprint globally.

##### **Key milestones**

- 2012/13 Q1: Finalise sector-specific financial support measure for the boatbuilding industry.
- 2012/13 Q2: Conduct a road show to the industry as a whole on the new incentive and the financial and institutional architecture arrangements thereof.
- 2012/13 Q3: Commence implementation of the support measures for the industry.

**Lead departments/agencies: TEO**

**Supporting departments/agencies: IDC**

#### **14.4.3 Infrastructure requirements of the sector**

##### **Nature of the intervention**

South Africa's ports are critical to the development of the boat- and ship-building, repair and supply side industries. A shared understanding of the needs of the industry on the part of government departments and institutions, particularly TNPA, will contribute to mutually beneficial interventions to remove constraints and improve South Africa's product offering for foreign direct investment into the sector. This applies to a range of issues, including access to water and berthing for launching, testing and repair of vessels.

##### **Economic rationale**

Removal of existing constraints and building stronger processes and institutions for communication and decision-making will have significant mutual benefits for the industry, TNPA and government departments involved.

## Outcomes

Growth of the boat- and ship-building industry with associated employment gains given improved operational conditions.

## Key milestones

- 2012/13 Q3: Full analysis of existing constraints, opportunities and presentation of a value proposition and cost-benefit analysis of the industry for presentation, discussion and agreement with **the dti/DPE** and TNPA Task Team.
- 2012/13 Q4: Engagement with provincial and municipal governments to inform them about the boating industry and its unique requirements, and economic possibilities/impact.
- 2012/13 Q4: Finalisation of countrywide strategy and value proposition with process and institutional architecture finalised as part of the broader boat- and ship-building, repair and oil and gas Industry Strategy.

## Lead department: the dti

**Supporting departments/agencies:** NPA, SAMSA, DoT, MASA, provincial governments of Western Cape, Eastern Cape and KwaZulu-Natal

## 14.5 Agro-processing

### Sector profile

The agro-processing sector comprises a highly diverse group of sub-sectors and industries. The major sub-sectors include:

- Food processing;
- Beverages;
- Aquaculture;
- Horticulture; and
- Medicinal, aromatics and flavourants.

The agro-processing sector has particularly strong linkages both up and down-stream. Up-stream, the sector links to agriculture across a variety of farming models and products. Down-stream, the sector's products are marketed across both wholesale and retail chains, as well as through a diverse array of restaurants, pubs, shebeens and fast-food franchises.

Moreover, the food processing sector is the largest manufacturing sector in employment terms, with about 178 000 employees. This increases to more than a million jobs if up-stream (primary) agriculture is included. For the purposes of data continuity, the agro-processing sector is defined in statistical terms by the food processing and beverage manufacturing sub-sectors only. This narrowly defined agro-processing sector's contribution to the economy is summarised in the table below.

Variable	Contribution in 2010
Manufacturing value-add	R43 billion (2,7%)
Manufacturing employment	210 651 (18%)
Trade balance	-R1,7 billion

### **Key opportunities**

Agro-processing is strongly linked to consumer preferences and changes in the level of consumer demand, which in turn are linked to South and Southern Africa's economic growth rate. The domestic market, therefore, represents an attractive prospect for the agro-processing sector in general. On the non-food side, there are opportunities that are being exploited for high-value products for the medicinal, aromatics and flavourants markets.

Moreover, South Africa possesses competitive advantage in a number of fruit and beverage sub-sectors that, if fully exploited, would place the country among the top 10 export producers in high-value agricultural products. The products from sub-sectors such as high quality wines, indigenous Rooibos and Honeybush tea, and certain fruits are highly sought after in export markets.

The global market has also seen substantial growth in trade of 'farmed' fish and related products. As natural fish resources continue to decline and demand grows, the viability of farming a range of fish species has increased. Although fish farming is relatively capital intensive, South Africa has the potential to create significant numbers of jobs in meeting local demand for fish, for example trout, as well as international demand for, *inter alia*, abalone and mussels.

Parts of South Africa's agro-processing sector have an unfortunate history of engaging in anti-competitive conduct, thereby contributing to the high prices of basic food products. The competition authorities have been aggressively pursuing a number of cases in the agro-processing sector and it is expected that firms will become increasingly wary of engaging in such conduct. This is likely to lead to potentially profound changes in a number of key sub-sectors. In particular, the creation of a small-scale milling sector would appear to be viable with moderate assistance from Government. Such an initiative may not create vast numbers of jobs, but could play an important role in reducing the cost of basic food products, thereby alleviating poverty, reducing hunger and contributing to a competitively priced milling and baking sub-sector.

### **Constraints**

The agro-processing sector can be categorised into three broad product groups:

- A. High-quality, high-value, competitive sub-sectors, e.g. fresh fruit, wine and fish products.
- B. Moderately competitive and uncompetitive, mature sub-sectors that are 'stuck' in low-value streams, e.g. tea, canning, food processing and cotton.
- C. 'New' sub-sectors with niche market potential but small-scale production, e.g. ostrich meat, indigenous flowers, essential and olive oils, and medicinal extracts.

Producers in Group A typically face constraints that are related to developed-country trade policy, including subsidies, tariffs, and sanitary and phyto-sanitary standards (SPS). Moreover, as developed countries have tended to grow more slowly than developing countries, the potential to grow exports and employment without penetrating new markets is relatively low. South Africa will continue to pursue better trade policy outcomes through multilateral and bilateral trade forums. However, there is a clear need to support South African exporters to position their products better in fast-growing, developing countries. This may require focused export intelligence and marketing support as well as inter-government assistance to ensure that South African products are not unfairly subject to non-tariff barriers.

Producers in Group B currently face significant constraints in both the export and domestic markets. In the export market, trade policies hamper South African products from trading competitively as a result of the use of agricultural subsidies by the EU and the US in particular. In addition, in the case of both the black and indigenous tea sectors, market arrangements by multinational corporations (MNCs) prohibit South African producers from moving up the value chain. Currently, South Africa produces relatively high-quality tea that is exported in bulk, blended and marketed through MNC brands. These branded products represent the high-value, high-margin market. There is little incentive for these MNCs to change the current market configuration. Therefore, a movement of South African products into these branded categories will require a significant and extended period of brand development and marketing support to allow these sectors to break into these lucrative markets. There would appear to be a *prima facie* case for Government to assist these sectors to position their products as having intangible brand attributes. Countries that have been successful at this include Egypt (cotton), Sri Lanka (tea) and Ethiopia (coffee). In these cases, the branding of the countries' products positions them as high-quality, high-value goods, even if the quality of the product varies widely across producers within the country and is largely intangible.

Producers in Group B would also benefit from an enhanced focus on productivity and competitiveness as some of these sub-sectors may have underinvested in new plant and machinery. This group remains important for South Africa, because it comprises the largest group and is likely to remain the mainstay of the sector in production and employment terms.

Producers in Group C face significant regulatory barriers for a number of reasons. These include a mismatch between industry and public sector knowledge, lack of lobbying and organisational power of new sectors that do not yet have a manufacturing base, and the difficulty of launching new products in formal retail markets, particularly for Small, Medium and Micro Enterprises (SMMEs).

## **Key Action Programmes**

### **14.5.1 Development of a Food-Processing Strategy and Action Plan**

#### **Nature of the intervention**

the dti and IDC will develop an institutional structure for engaging the food-processing sector. This structure will include the CEOs of the 15 largest food-processing companies and will develop a rolling agenda of cross-cutting and company-specific initiatives to accelerate growth, transformation and job creation.

#### **Economic rationale**

A number of local food processors are large enough and produce products with sufficient brand power to compete successfully on the world market. In addition, their scale and financial resources provide these companies with the means to enter new markets, which would be difficult for SMMEs to attempt. Assisting these companies to 'internationalise' their brands could have substantial positive benefits for local manufacturing and upstream industries.

#### **Outcome**

Accelerated growth in the food-processing sector.

**Key milestones**

- 2012/13 Q1: **the dti** and IDC to implement company level Action Plans with five food-processing companies.
- 2012/13 Q2: **the dti** and the FoodBev Seta to design targeted skills programme focusing on priority skills shortages.
- 2012/13 Q3: **the dti** and the FoodBev Seta implements targeted skills programmes.
- 2012/13 Q4: **the dti** and IDC to develop company-level Action Plans for three additional food-processing companies.

**Lead department: the dti**

**Supporting departments/agencies:** IDC and FoodBev Seta

**14.5.2 Development of a Soybean Strategy and Action Plan****Nature of the intervention**

Develop a national strategy and action plan to accelerate the development of the soybean value-chain at both the upstream agricultural level and the downstream processors level.

**Economic rationale**

South Africa currently imports large quantities of unprocessed soybeans as well as processed soybean products such as meal and oil. Soybean demand in the country is forecast to increase substantially over the next five years and there is significant potential to increase local production by both commercial and smallholder farmers. In addition, new and upgraded processing facilities will be required to meet the demands of domestic users of soybean meal and oil, thereby creating opportunities for new investment and job creation. This initiative will also assist in rebalancing the maize, wheat, sunflower and soybean agricultural markets, where South African farmers currently oversupply maize and undersupply wheat, sunflower and soybeans.

**Outcome**

Increased local farm production of soya beans as well as processed products.

**Key milestones:**

- 2012/13 Q2: **the dti** and IDC to support two new processing investments in the sector.
- 2012/13 Q2: **the dti** and IDC to support the upgrading of two processing facilities in the sector.
- 2012/13 Q4: **the dti** in collaboration with leading South African Food Science institutions to develop a programme for integrating soybeans into existing food products and to develop new soybean-based food products.

**Lead department: the dti**

**Supporting departments/agencies:** DAFF, IDC, NAMC, universities and Provincial Departments of Economic Development and Agriculture

**14.5.3 Development of the organic food sector****Nature of the intervention**

Implementation of the organic produce strategy.

### **Economic rationale**

The organic food sector represents a high-value niche sub-sector with the potential to create 20 000 jobs over five years in both the primary agriculture and agro-processing stages of the value chain. Moreover, South Africa currently imports a significant proportion of the organic food demanded by consumers, and there are thus both import replacement and export possibilities for the sub-sector.

### **Outcome**

A competitive organic sub-sector producing high-quality food products for both the local and export markets.

### **Key milestones**

- 2012/13 Q1: **the dti** and DAFF to develop the South African Organic Food Standard.
- 2012/13 Q2: **the dti** to facilitate the development of a local organic market supplied by both commercial and smallholder farmers in one province.
- 2012/13 Q3: **the dti** and the FoodBev Seta to develop an organic skills programme.
- 2012/13 Q4: **the dti** and DAFF to facilitate smallholder organic farmers' access to 50 formal retail stores.

**Lead departments:** **the dti** and DAFF

**Supporting departments/agencies:** DRD&LR, Provincial Departments of Agriculture and retailers

## **14.5.4 Implementation of a Water Efficiency Programme for the Sugar Sector**

### **Nature of the intervention**

The intervention entails the development and piloting of a water efficiency programme with the sugar sector.

### **Economic rationale**

South Africa is a water-stressed country. Currently the commercial agriculture sector consumes about 60% of total water consumption. Within commercial agriculture, the sugar sector is a relatively high consumer of water relative to its land under cultivation. The impact of climate change and the continued growth of the population will likely increase the pressure on domestic water resources. This could limit new commercial agricultural opportunities and may also limit agriculture for industrial purposes, for example for biofuel production. The net effect would be to limit the job creation potential of expanding commercial agriculture. Implementing a programme of water efficiency in commercial agriculture could play an important role in freeing up additional water resources for new or the expansion of existing agricultural sectors.

### **Outcomes**

Improvement in the water efficiency of commercial and smallholder farming.

### **Key milestones**

- 2012/13 Q1: **the dti** and DWA to implement a pilot water efficiency project in KwaZulu-Natal and Mpumalanga in the sugar sector.
- 2012/13 Q3: **the dti** and DWA to review the impact of the pilot water efficiency project.
- 2012/13 Q4: **the dti** and DWA to design water efficiency programme for implementation across priority commercial and smallholder farmer agricultural sectors.

**Lead department: the dti** and DWA

**Supporting departments/agencies:** DAFF and the Water Research Commission

#### **14.5.5 Development of a small-scale milling industry**

##### **Nature of the intervention**

The intervention will facilitate the entry of small-scale maize millers into the South African market. They are expected to be particularly competitive in rural areas, where high transport and logistics costs raise the price of basic food products. The intervention consists of the packaging of a range of support measures from IDC and **the dti** to facilitate the market entry of small-scale maize mills.

##### **Economic rationale**

The maize milling sector is highly concentrated and domestic prices appear to be subject to anti-competitive practices. There is significant potential for the development of a class of small-scale millers, which could sustainably reduce the current high cost of basic food products. This would contribute to poverty reduction and would alleviate pressure on real wages, because lower-income workers spend a substantial proportion of their income on basic food products.

##### **Outcomes**

Small-scale maize milling enterprises producing for local markets at competitive prices, thereby creating jobs and contributing to poverty alleviation and enterprise development.

##### **Key milestones**

- 2012/13 Q1: **the dti** and IDC roll out the small-scale maize milling in one additional province.
- 2012/13 Q3: **the dti** and the FoodBev Seta develop a milling skills development programme.
- 2012/13 Q4: **the dti** and IDC roll out the small-scale maize milling in one additional province.

**Lead department: the dti**

**Supporting departments/agencies:** IDC, EDD and Provincial Departments of Economic Development

#### **14.5.6 Enhancement of competition in the fruit and vegetable canning industry**

##### **Nature of the intervention**

Implementation of a PPP fruit canning initiative designed to raise competitiveness for the long-term sustainability of the fruit canning industry.

##### **Economic rationale**

The fruit canning industry employs 11 000 factory workers, more than 500 administrative employees and approximately 17 000 farm workers on 1 200 farm units that supply the fruit to factories. These are situated in an economically depressed area with very limited alternative employment opportunities, making the fruit canning industry a major source of employment in the area.

##### **Outcome**

To create a sustainable platform for the long-term growth and competitiveness of the industry.

**Key milestones**

- 2012/13 Q1: **the dti** and industry to launch the second generic domestic marketing campaign for canned fruit.
- 2012/13 Q1: **the dti** and industry to launch two new products in the fruit or vegetable canning sector.
- 2012/13 Q2: **the dti** and industry to host an 'Eat Safe, Eat SA products' nutrition campaign.
- 2012/13 Q2: **the dti** and industry to develop a monitoring framework for the local content levels of the Government procurement of canned vegetables.
- 2012/13 Q4: **the dti** and Proudly South Africa to roll out the Proudly South Africa campaign in the industry.
- 2012/13 Q4: **the dti** to assist industry to penetrate the India market and achieve sales to the value of R4 million.
- 2013/14 Q3: **the dti** to assist industry to penetrate the China market and achieve sales to the value of R10 million.

**Lead department: the dti**

**Supporting departments/agencies:** IDC, Western Cape Department of Agriculture and SAFVCA

**14.5.7 Promote Exports of Beneficiated Rooibos and Honeybush Products****Nature of the intervention**

Development of domestic Rooibos and Honeybush packaging capacity.

**Economic rationale**

To fully boost export and job-creation opportunities in the Rooibos and Honeybush tea industries. Rooibos and Honeybush grow exclusively in South Africa and are mainly exported in bulk. Estimates suggest that the percentage of retail-packed tea in total exports is less than 5% for Rooibos and less than 10% for Honeybush.

**Outcomes**

Increase the supply of finished Rooibos and Honeybush products by 50% over five years. Retain 5 000 jobs in the Rooibos and Honeybush sub-sector.

**Key milestones**

- 2012/13 Q1: **the dti** to assist the Northern Cape Rooibos Tea sector to begin exporting packaged tea products to targeted export markets.
- 2012/13 Q1-Q4: **the dti** to facilitate exports of packed rooibos tea products and participation of South African companies in specialised international tea exhibitions.
- 2012/13 Q4: The industry to increase exports of packaged tea products by 50%.

**Lead department: the dti**

**Supporting departments/agencies:** Western Cape and Northern Cape Provincial Departments of Agriculture, DAFF and IDC

**14.5.8 Development of a Strategy and Action Plan for the Beverage Industry****Nature of the intervention**

**the dti** will engage the beverage industry and develop an action plan that will increase competitiveness, lock out imports and increase exports. Identify policy interventions and financial instruments that will support the industry,



protect the industry from imports and enable it to use new technologies. Identify indigenous and unique competitive advantages in the industry.

#### **Economic rationale**

Increase manufacturing capacity and reduce imports of beverages into South Africa by supporting manufacturing in the industry.

#### **Outcomes**

Enable the domestic beverage industry to expand its export potential into the Southern African, African and world markets.

#### **Key milestones**

- 2012/13 Q1: Develop a value-chain analysis of the sector.
- 2012/13 Q2: Engage the industry and commission research into high-potential export markets
- 2012/13 Q3: Implement appropriate sector interventions and facilitate market access to SADC markets.
- 2012/13 Q4: Facilitate exports to additional high-potential markets.

**Leading Departments/Agencies: the dti**

**Supporting Departments/agencies: IDC**

### **14.5.9 Aquaculture**

#### **Sector profile**

Aquaculture is the fastest-growing food production sector in the world, growing at an annual rate of 8 to 10% per annum over the last two decades and outstripping livestock three to four fold. The South African sector showed growth of only 3% in 2010. This slow pace can be attributed to lack of integrated plans and Government involvement in driving development of the sector. Albeit the 3% growth, the sector has achieved a constant growth rate of approximately 5% over the past 10 years, and the prospect of achieving 10 to 20% growth in the near future is realistic. During 2010, some sub-sectors, such as mussels, oysters and abalone, registered increases in production.

South Africa's aquaculture sector contributes approximately 4 253 tons (excluding aquatic) to the global aquaculture production. While the global demand for aquatic products is increasing, wild harvest fisheries are under considerable pressure and their growth is either stagnant or declining. It is now internationally accepted that the increased supply of fish products to meet this demand will be sourced through aquaculture. Nations have taken up this challenge and have developed a suite of technologies to farm a range of globally available aquatic organisms to meet their local and international demand. It is against this backdrop that in 2011, Government finalised the National Aquaculture Strategic Framework (NASF) and identified interventions to roll out. Major interventions include the promotion of investment in production and support infrastructure, and the establishment of industry/farmer support and management programmes.

#### **14.5.9.1 Aquaculture plan that promotes access and broadening of participation in the industry**

##### **Nature of intervention**

Aquaculture development plan to promote and broadening of participation in the industry

## **Economic rationale**

It is a reality that aquaculture in South Africa has the potential to supplement the supply of wild stock with cultured fish products. More effort will have to be put towards the development of the marine finfish sub-sector, which is in its infancy stage, and the commercialisation of the freshwater sub-sector. As much as production has increased in the mussels, oysters and abalone sub-sectors, the majority of these products are exported and make a minimal contribution to the replacement of capture fisheries supply to the local markets. The marine finfish and freshwater sub-sectors may be key to alleviating the pressure and fill the void created in the local markets by the declining fish stocks. As a result, the DAFF has made the development of these sub-sectors one of its priorities for the future growth of aquaculture in South Africa.

## **Outcome**

The interventions are expected to lead to substantially increased investment in the aquaculture sector, thereby resulting in increased production, job creation and diversification of the sector.

## **Key milestones**

### **Alignment and harmonisation of the regulatory environment for aquaculture development**

- 212/13 Q1: Finalise and publish guidelines for Aquaculture Better Management Practices.
- 212/13 Q1: Finalise the norms and standards for aquaculture (EIAs).
- 212/13 Q2: Audit existing legislation to identify constraints to development.
- 212/13 Q3: Commission the Biodiversity Risk Assessments for prioritised exotic species to inform Alien and Invasive Species (AIS) regulations.

**Lead departments/agencies:** DAFF, DEA, DWA

**Supporting departments/agencies:** Provincial Agriculture and Environment Departments

### **Establishment of aquaculture development zones (ADZ)**

- 2012/13 Q1: Finalise the ADZ Programme Guidelines.
- 2012/13 Q1: Finalise land negotiations for the Amatikulu ADZ in KwaZulu-Natal.
- 2012/13 Q2: Commence with the EIA for Silverstroom ADZ in the Western Cape.
- 2012/13 Q3: Commence with infrastructure development for Qolora ADZ in the Eastern Cape.
- 2012/13 Q4: Commence with the EIA for Amatikulu ADZ.
- 2013/14 Q1: Finalise land negotiations for the Aquaculture zone in the Coega IDZ in the Eastern Cape.
- 2013/14 Q3: Commence with infrastructure development for Coega ADZ.
- 2014/15 Q1: Finalise agreements with Technical partners for Amatikulu and Silverstroom.
- 2014/15 Q2: Commence with infrastructure development for Amatikulu and Silverstroom ADZs.

**Lead departments/agencies:** DAFF

**Supporting departments/agencies:** the dti, DEA, EDD, DRDLR, DWA, East London and Coega IDZ, Provincial Agriculture, Economic Development and Environment Departments, Municipalities

### **Establishment and revitalisation of state-owned hatcheries**

- 2012/13 Q1: Finalise the appointment of service provider to establish Abalone Hatchery in Overberg, Western Cape.
- 2012/13 Q2: Optimise operations at a revitalised Turfloop Hatchery in Limpopo.
- 2013/14 Q1: Commence with operations at Gariiep Demonstration Centre in the Free State.

- 2013/14 Q3: Conclude assessments of Pierie, Umtata (Eastern Cape) and Makhathini (KwaZulu-Natal) Hatcheries.
- 2013/14 Q4: Recommissioning of Jonkershoek Hatchery as a Technology Station.

**Lead departments/agencies:** DAFF, DST, TIA

**Supporting departments/agencies:** Provincial Departments of Agriculture and Environment

#### **Finalise the Aquaculture Development and Enhancement Programme (ADEP)**

- 2012/13 Q4: Finalise the incentives programme with inputs from stakeholders.
- 2013/14 Q2: Launch and implement the programme.

**Lead departments/agencies:** DAFF

**Supporting departments/agencies:** the dti, IDC, NEF, TIA, Land Bank, DBSA

#### **Development and implementation of the Certification Plan for Aquatic Animal Products**

- 2012/13 Q1: Expand the implementation of the Shellfish Monitoring and Control Programme.
- 2012/13 Q4: Finalise the Finfish Monitoring and Control Programme.
- 2013/14: Finalise the Aquatic Animal Health Programme.
- 2014/15: Establish the Aquatic Animal Health Regional Fish Node at Rhodes University, Eastern Cape.

**Lead departments/agencies:** DAFF, NRCS

**Supporting departments/agencies:** the dti, DOH, DEA, NEPAD, University of Pretoria, Rhodes University

#### **Implement research, technology development, capacity building, information and awareness programmes**

- 2012/13 Q1: Finalise the Aquaculture Research and Development Programme.
- 2012/13 Q2: Implement the annual technical training courses on aquaculture offered in China.
- 2012/13 Q4: Develop a training programme on Aquatic Animal Health for State Veterinarians.
- 2013/14 Q1: Publish the Annual Aquaculture Report.
- 2013/14 Q2: Sign R&D agreements with Free State, KwaZulu-Natal and Limpopo universities.
- 2014/15: Establish the Rural Fisheries Programme at University of Venda.

**Lead departments/agencies:** DAFF

**Supporting departments/agencies:** DST, DEA, NSTF, FAO, Universities of Rhodes, Venda, KwaZulu-Natal and Free State

### **CLUSTER 2 – SCALED-UP AND BROADENED INTERVENTIONS IN EXISTING IPAP SECTORS**

#### **14.6 Automotive Products, Components, and Medium and Heavy Commercial Vehicles**

##### **Sector profile**

The automotive production sector is a critical segment of many economies, because of its cross-cutting linkages across several industries and services as well as its documented contribution to various economic development imperatives. The production of a vehicle incorporates a wide range of industrial activities and as such the sector is South Africa's leading manufacturing industry, contributing 6,2% of the country's more than R2 660 billion GDP in 2010. About 103 000 people are employed in the manufacture of vehicles and components with a further 200 000

employed in the retail and repair areas. The total vehicle production volume in 2010 was 470 000, with the most recent estimate for 2011 amounting to 560 000. This translates to a growth of close on 19%. There are also a great number of imported automotive products in South Africa, with import levels of more than R100 billion versus exports of just under R70 billion in 2010, leading to a trade deficit of R30,7 billion.

Variable	Contribution in 2010
Manufacturing value-add (% of GDP)	6,2%
Manufacturing employment	103 000
Trade balance	-R30,7 billion

**Key opportunities**

The recent policy shift from the MIDP to APDP serves to unlock various opportunities. On an implementation level, many of these will begin with the final publication of the APDP regulations in 2012.

Two key objectives of the APDP are to raise volumes to 1,2 million vehicles per annum by 2020 and to substantially diversify and deepen the components supply chain. This will require ongoing increases in minimum plant volume thresholds and working with the vehicle assemblers or original equipment manufacturers (OEMs) to identify areas where greater economies of scale in component sourcing and/or value chain development are possible. All of this needs to be done on the back of South Africa continuously developing itself as a globally competitive destination for automotive production and investment.

The medium and heavy commercial vehicle (MHCV) sector is also deserving of increased policy attention. There are opportunities to resuscitate bus production in South Africa as well as other MHCV sectors, boosting the roll-out of the Bus Rapid Transport Systems in Metros and the recently revised state preferential procurement framework. There is also a growing demand for other MHCVs in areas such as infrastructure, construction, mining and possibly agriculture. This includes a stronger focus on so-called ‘yellow metals’ manufacturers of products such as articulated dump trucks.

Like all industries globally, the sector is impacted by the imperatives of climate change with heightened demands for products with lower emission levels. A strong focus will be on ensuring that these technological developments are embodied through the South African production landscape, in particular with the opportunities afforded by Electric Vehicle (EV) production.

**Constraints**

Notwithstanding the successes achieved since 1995, the industry faces a number of challenges. Economies of scale in assembly and the depth of domestic component manufacturing are not yet internationally optimal. A relatively small number of automotive components dominate the export basket and local content has stagnated. Several studies indicate gaps in the manufacturing competitiveness levels of automotive component suppliers. Various supplier initiatives have been implemented over the years with a most recent iteration being the dti-driven Supplier Development Programme, delivered in conjunction with the AIDC and UNIDO. While there have been documented improvements over the years, the country would be well served by a heightened, well co-ordinated and ramped-up effort to improve manufacturing competitiveness across the value chain.

The rapid liberalisation of the MHCV sector as well as the apparent lack of co-ordination between various government agencies has in the recent past diminished Government’s ability to increase state procurement of

buses or bus services in support of the sector. The procurement processes at the various agencies have also been marred by delays, leading to minimal local build of buses as timelines have become too compressed.

## **Key Action Programmes**

### **14.6.1 Policy Development and Implementation**

#### **Nature of the intervention**

Regulatory amendments and implementation of the tariff regime, production incentive and volume assembly allowance elements of the APDP.

#### **Economic rationale**

The automotive industry works with long forward timelines and, therefore, a stable and transparent policy environment is required to enable investment decision-making.

#### **Outcomes**

Policy certainty through publication of clear implementation guidelines, procedures and associated administrative framework, including a stronger monitoring and evaluation framework with strengthened conditionalities.

#### **Key Milestones**

- 2012/13 Q1: Publication of APDP Regulations by ITAC.
- 2012/13 Q1: **the dti** draft EV Strategy document.
- 2012/13 Q1: Policy statement on MHCV support.
- 2012/13 Q2: Publication of APDP implementation guidelines.
- 2012/13Q3: EV strategy completed and submitted for final approval.

### **14.6.2 Competitiveness Improvement Initiatives**

#### **Nature of the intervention**

Consolidation and ramp-up of initiatives aimed at improving firm level manufacturing competitiveness through activities such as benchmarking, gap identification and assistance to close competitiveness gaps by engineers or advisers and post-intervention assessment.

#### **Economic rationale**

Increased manufacturing competitiveness to drive further localisation and exploit value chain opportunities.

#### **Outcomes**

Improvements in the levels of manufacturing competitiveness in the South African automotive value chain.

#### **Key milestones**

- 2012/13 Q1: Progress report on interventions (50 plants involved).
- 2012/13 Q1: Draft proposal for a new manufacturing competitiveness improvement programme.
- 2012/13 Q2: Bid for new competitiveness improvement programme resourcing.
- 2012/13 Q3: Progress report on interventions (50 plants sites involved).
- 2012/13 Q4: Final Report on Supplier Development project: Project closure.

- 2013/14 Q2: Approved new Competitiveness Improvement Programme.

**Lead departments/agencies:** the dti in conjunction with automotive industry stakeholders.

**Supporting departments/agencies:** Provincial and local government.

### **Economic impact**

An estimated 160 000 direct jobs can be created in the industry in the next 10 years. Investment levels exceeding R20 billion are projected for the period between 2009 and 2013, with the potential for a further annual R3 billion up until 2020. All of this needs to be supported by and maximised through the South African industry continuously developing its levels of manufacturing competitiveness.

## **14.7 Downstream Minerals Beneficiation**

### **Sector profile**

The South African economy has been built on the back of mining and electricity-intensive resource-processing activities. Mining and semi-processed raw materials continue to make up a large part of South Africa's export basket. Less than 10% – or R40 billion – of gross revenue for sales of all minerals in South Africa, amounting to R225 billion, is generated from the processing of base metals, precious metals and minerals. However, this economic structure is not sustainable. Minerals are a non-renewable 'wasting asset' that needs to be exploited during its lifespan to build a more diversified labour-intensive and value-adding economy.

### **Key opportunities**

Significant opportunities already exist or are being operationalised, including the use of Platinum Group metals (PGM) in emissions control (catalytic converters) in the auto industry. Other significant opportunities depend on a clear plan and programme.

### **Constraints**

- Monopolistic pricing of certain minerals and most semi-processed raw materials, such as steel and chemicals, occurs in the form of import parity pricing.
- Many producers are 'locked in' to long-term supply targets of basic commodities.
- The security and cost of energy supply poses a constraint.
- There is limited research and development and insufficient skills.
- Existing trade barriers in some prospective target markets for beneficiated products limit potential access to these markets.
- The location of mining operations relative to established manufacturing centres and the lack of infrastructure linking the two are problematic.

### **Key Action Programmes**

#### **14.7.1 Setting minimum beneficiation levels for key commodity chains**

### **Nature of the intervention**

The DMR to work closely with the dti to upscale a strategy and programme for mineral beneficiation.

### Economic rationale

This will lay the foundation for creating specific value chains – in five cases, up to the fourth level of minerals value addition.

### Key milestones

- 2012/13 Q1 – Q4: The DMR and **the dti** Task Team, which has been established to jointly upscale the mineral beneficiation strategy and programme, including the identification of downstream beneficiation ‘offset opportunities’ arising from the Mining Charter.

**Lead departments/agencies:** DMR

**Supporting departments/agencies:** the dti, EDD, DST

## 14.8 Plastics and Pharmaceuticals

### Plastics sector profile

Plastics manufacturing contributes approximately 0,6% to South Africa’s GDP and 3,3% to the manufacturing sector’s GDP. Value added in the plastics sector was R8,8 billion in 2010, and the sector employed 39 552 people in 2010. The export value of plastic products in 2010 was R2,4 billion compared with the import value of R7 billion, leading to a trade deficit of R4,6 billion.

Variable	Contribution in 2010
Manufacturing value-add (% of GDP)	R8,8 billion
Manufacturing employment (% of Manufacturing)	39 552
Trade balance	-R4,6 billion

### Key opportunities

Key areas of opportunity for growing the sector include:

- Automotive interior products such as carpets and dashboards and exteriors: products such as bumpers and mirror casings;
- Packaging;
- Medical syringes, HIV and diagnostic test toolkits;
- Buildings – pipes, flooring, building sheet, sanitation and woven/netted polypropylene;
- Electrical and electronics cables, appliances and casing components; and
- Green industries wind turbine blades.

The recent lowering of import tariffs on polymers and other inputs will contribute towards more competitive input prices.

### Constraints

Constraints faced by the plastics sector include: import parity pricing of polymers and other key inputs; the relative small local and regional market; insufficient research and development; innovation; South Africa’s geographic position and resultant logistics costs.

### Pharmaceuticals sector profile

South Africa's total pharmaceutical market was estimated at R27,9 billion (\$3,85 billion) in 2010, of which the private sector accounts for R22,9 billion and the public (Government) sector R5,01 billion (data at the Ex factory price level, including VAT). The total pharmaceutical market is forecast to grow at a compounded annual growth rate (CAGR) of 22% by volume between 2010 and 2013.

The public sector component grew 29,5% between 2009 and 2010 by value, much faster than the private market (8,4%), the key factors determining its growth being the increased spending on antiretrovirals (ARVs) and vaccines. This trend will continue in the short-to-medium term, expecting that the number of patients receiving ARVs, after a rapid growth between 2008 and 2016, will stabilise at between 3,5 and 3,7 million patients as from 2017. This growth illustrates the effect of the new criteria for commencing ARV treatment and significantly improved coverage of treatment (80% of qualifying patients).

The value of contracts awarded under pharmaceutical tenders between 2009 and 2011 was on average R6 billion per annum. On top of that, the cost of procurement of vaccines under the Extended Programme of Immunisation (EPI) was R1,2 billion in 2010. The National Treasury's medium-term estimates of the cost of procurement of pharmaceuticals are R7,27 billion for the 2011/2012 financial year, growing to R8,16 billion for the 2012/2013 and R8,95 billion for the 2013/2014 financial year.

The medical products sector, which includes pharmaceuticals, medical diagnostics and medical devices, is the fifth largest contributor to South Africa's imports burden. Imports of pharmaceuticals (excluding active pharmaceutical ingredients, APIs) have grown from R6,2 billion in 2002 to R15,1 billion in 2010. Pharmaceuticals in finished-dosage form account for 80% of the sector's total imports, growing at 12,5% per annum over the past four years, from R7,3 billion in 2006 to R11,6 billion in 2010. South Africa imports 95% of APIs, including all APIs for ARVs and antibiotics; a precarious situation, considering the level of AIDS and TB epidemics in South Africa and the region.

Manufacturing employment in the pharmaceutical sector has been unchanged since 2007 at 9 650 jobs (by comparison, the industry employed 16 000 in 1999). Employment in the downstream part of the pharmaceutical sector (specialised logistics, warehousing and dispensing of medicines – retail and hospital pharmacies) remains stable at 25 000.

Variable	Contribution in 2010
Manufacturing value-add (% of GDP) (including nutritional supplements and other fast-moving medicated consumer goods)	R36,1 billion (1,58%)
Manufacturing employment (% of Manufacturing)	9 630 (mid-2010) (10,3%)
Trade balance (excluding active pharmaceutical ingredients, APIs)	- R15,070 million

### Key opportunities

- Designation of procurement of pharmaceuticals for domestic manufacturers (target: 70% to 80% of Government's procurement, i.e. R6 billion in 2012);
- Anticipated introduction of the National Health Insurance, which will increase demand for generic medicines;
- Domestic production of active pharmaceutical ingredients for key ARVs;
- Local production of reagents for medical diagnostics (AIDS/HIV, diabetes etc.) under licence;



- Domestic production of vaccines under licence;
- Domestic production of biological medicines such as insulin, erythropoietin and monoclonal antibodies, under licence; and
- Removing regulatory barriers and constraints to (i) clinical research in South Africa (current market R2 billion per year, potential market R4 billion to R5 billion per year) and (ii) exports of South African pharmaceuticals to the rest of Africa (through harmonisation of medicines regulatory authorities).

#### **Constraints**

- Small size of the South African market (0,4% of global) – the only segment that attracts the attention of foreign investors is the South African ARV market;
- Downward pressure on prices, reducing the attractiveness of South Africa to existing and potential investors; and
- Lack of skills in the synthesis of active pharmaceutical ingredients (APIs), new drug design, pharmaceutical formulation and pharmaceutical biotech set against an excessive supply of graduates with conventional skills and knowledge (suitable for pharmaceutical marketing and sales).

#### **Key Action Programmes**

##### **14.8.1 Polypropylene and Polyvinylchloride beneficiation**

**Nature of the intervention:** South Africa enjoys a supply of polypropylene and polyvinylchloride in excess of local demand. The bulk of the raw materials are exported as raw and the beneficiation thereof has substantial potential to create growth and employment downstream.

**Economic rationale:** To manufacture high value-added and fast-growing products for the local and export market. Advantages are both a high return on investment and foreign currency savings.

**Outcomes:** To achieve local production of at least half of the total domestic demand. This will lead to increased export, investment and employment opportunities.

#### **Key milestones**

- 2012/13 Q2: Approval and implementation of Key Action Plans based on the Plastics Strategy.
- 2012/2013 Q2: Conduct research to establish the possibility of designating medical devices, such as diagnostic testing tool kits and catheters.
- 2012/13 Q4: To develop an artisan skills programme for the plastics sector.
- 2012/13 Q3 – Q4: **the dti** to facilitate investment by polypropylene converters.

**Lead departments/agencies: the dti**

**Supporting departments/agencies: DST, DoE/CSIR and IDC**

#### **Economic impact**

Given full implementation, the polypropylene conversion project will result in about 40 000 tonnes per annum (TPA) of new plastic products being fabricated, made from polypropylene feedstock that is currently exported. The project will add approximately R600 million in revenue per annum, replacing existing imports as well as adding new exports of approximately R300 million. Capital expenditure of approximately R1 billion is expected once the

plan has been fully implemented and up to 22 754 new manufacturing jobs will be created through the utilisation of technologies such as blow and injection moulding, as they require low capital expenditure and have high employment potential.

#### **14.8.2 Domestic production of ARV APIs**

**Nature of the intervention:** Appropriate sequencing – in consultation with DoH, DST and National Treasury – of the production of selected ARV APIs domestically to enable local production amounting to 500 tons per annum (40% of domestic needs) by 2016.

**Economic rationale:** The intervention will reduce the current trade deficit and risk to the security of supply by reducing the dependence on imports of ARV APIs. South Africa's demand for ARV APIs will exceed 1 000 tons in 2014, costing R 3.3 billion (rising to 1,450 tons, costing R 4.7 billion in 2016). In addition, the structural gap in API production capacity will be addressed by injecting advanced technology into the local industry through technology and investment partnership with leading foreign companies.

**Outcomes:** Agreement with DoH on appropriate sequencing of domestic production of ARV APIs. Agreement with DoH and Treasury on the type, duration and level of incentives needed to make the project(s) feasible (including long-term designation and procurement contracts).

#### **Key milestone**

- 2012/13 Q1: Second (final) Cabinet Memorandum including recommendations of a joint task team established "to negotiate the modalities and incentives necessary to ensure the financial viability of the project and at the same time the lowest-possible cost of ARVs for the DoH".

**Lead departments/agencies:** the dti and the DST

**Supporting departments/agencies:** DoH, NT, EDD, IDC

#### **14.8.3 Domestic production of vaccines**

##### **Nature of the intervention**

To restart production of vaccines to supply the domestic market, estimated at R1,2 billion.

##### **Economic rationale**

To achieve security of supply and upgrading of technology. Advantages are both a high return on investment and foreign currency savings.

##### **Outcome**

To achieve local production of at least half of total domestic demand under licence.

##### **Key milestones**

- 2012/13 Q4: To begin production of sterile filling of vaccines.
- 2012/13 Q4: Production of antigens.

**Lead department/agencies:** DST

**Supporting departments/agencies:** the dti, DoH and NT

#### **14.8.4 Skills development to meet the pharmaceutical and the public and private healthcare sector demand for qualified staff**

##### **Economic rationale**

Providing the required skills for the South African pharmaceutical industry (from R&D to manufacturing) and for the broader public and private health-care sector. Adjusting training programmes to meet demand for specific scarce skills, by rationalising programmes funded by Skills' Levies.

##### **Outcome**

Completion of a study to verify and validate the demand for skills within the pharmaceutical sector; conduct gap analysis on the adequacy of the education and training provision in the area of the current critical sector skills requirements; and conducting international benchmarking with the aim of recommending the successful models in designing and implementing the training programmes.

##### **Key milestones**

- 2012/13 Q1: Draft recommendations as to the changes to the curricula and training programme of medical/pharmaceutical faculties of South African medical schools.
- 2012/13 Q2: Facilitate in changing the CHIETA training programme to better align it with the existing and future needs of the South African pharmaceutical industry.

**Lead departments/agencies:** the dti

**Supporting department/agencies:** DST, DoH, HSRC, CHIETA

#### **14.8.5 Designation of Water Treatment Chemicals**

##### **Nature of the intervention**

Research to enable the designation of water treatment chemicals.

##### **Economic rationale**

To achieve security of supply of quality water, which plays a fundamental role in economic growth and food and energy security.

##### **Outcomes**

To achieve local production and institutional capabilities that utilise water treatment technologies and chemical requirements to galvanise water security without the need to outsource services related to water and waste water treatment.

##### **Key milestones**

- 2012/2013 Q1: Gather information from DWA, ERWAT, Metros and municipalities on water treatment chemicals procurement.
- 2012/2013 Q2: Gather information from companies producing and supplying water treatment chemicals to Government entities.

- 2012/2013 Q3: Organise workshops with producers and suppliers and Government procurers of water treatment chemicals to solicit commitment.
- 2012/2013 Q4: Seek approval on designation of water treatment chemicals into IPAP 2013/2014.

**Lead departments/agencies: the dti**

**Supporting departments/agencies:** DWA, Water Boards, Municipalities,

### **Economic impact**

The project will assist in security of supply of quality water, which plays a fundamental role in economic growth, food and energy security.

## **14.9 Clothing, Textiles, Footwear and Leather**

### **Sector profile**

The clothing, textiles, footwear and leather industries have been in distress for some time. This is due to a range of factors, including: currency strength and volatility; under-invoicing and illegal imports; competitiveness challenges; skills deficits and limited economies of scale in parts of textiles. These industries are labour-intensive and often used by developing countries as a platform for sustained economic growth and job creation. In South Africa, the employment trend has been downward across the sector. However, from the period after the CTCP was launched in 2010, the decline has been slowed and reversed.

The CTCP includes two main programmes, the Production Incentive (PI) and the Clothing Textiles Competitiveness Improvement Programme (CTCIP), and both are inclusive of textiles, clothing, leather and footwear sectors. Since the introduction of the CTCP, the employment decline has been halted and more than 1 000 new, decent permanent jobs have been created in the sectors. The programmes have been instrumental in assisting more than 245 companies under the PI and 105 companies under the CTCIP. A combined approval of more than R700 million has been achieved and just over R400 million has been disbursed. The local retailers who are participating in the CTCIP cluster programmes have significantly reduced their imported merchandise and are supporting local manufacturers, who are becoming globally competitive through the cluster interventions. These retailers are now taking advantage of flexibility, low stock holdings and quick fashion change response, which local manufacturers are now offering. These developments lay the basis for reducing the trade balance deficit, which has been recorded since 2000 in all the industries across the sector, with the clothing industry being the worst affected.

Variable	Contribution in 2010
Manufacturing value-add (% of GDP)	R12,4 billion (0,7%)
Manufacturing formal employment (% of Manufacturing informal employment)	108 000 (9,1%) 59 700 (FPM SETA information)
Trade balance	-R20,7 billion

### **Key opportunities**

The key opportunity is to recapture a bigger share of the domestic market share by improving competitiveness through a range of interventions. These include a focus on product, process and delivery efficiencies and harnessing proximity to local retailers. Ongoing clampdowns on under-invoicing and other illegal activities will help to level the playing field. The industry has seized the opportunity of a coherent and comprehensive set of support

instruments to fundamentally transform its competitiveness. In future, the commercialisation of new technologies should give the textile industry an added advantage. This will include the beneficiation of new fibres now being grown in South Africa.

### **Constraints**

The constraints facing the industry are well-documented and include:

- The currency strength and volatility;
- The ongoing surge of global imports that has been under way since the expiry of the Multi-fibre Agreement;
- Illegal imports and fraudulent under-invoicing;
- Inadequate compliance of 'country of origin' labelling legislation;
- Lack of skilled personnel to take over from ageing industrial executives and senior management, who generally did not have succession plans;
- A historical failure to develop and implement skills development plans, particularly for critical areas of operations and in production;
- Outdated capital equipment and technology resulting from inadequate capital investment and technology upgrading; and
- An historical deficit with respect to innovation, research and development.

### **Key Action Programmes**

#### **14.9.1 Clothing, Textiles, Footwear and Leather Competitiveness Programme**

##### **Nature of the intervention**

The programme will enable the sector to compete sustainably and effectively against international competitors in both the domestic and the export markets. In addition, company-level competitiveness will be improved substantially.

##### **Economic rationale**

The sector lags behind its international competitors in terms of conversion efficiencies and other key indicators of world-class manufacturing principles of which quality, cost and delivery are the main drivers.

##### **Outcomes**

Stability and competitiveness of the sector. The roll-out of the CTCP will be extended to new companies in the textiles, clothing, and leather and footwear industries.

##### **Key milestone**

- 2012/13 Q1-Q4: Ongoing roll-out of the PI and CTCIP programmes.

**Lead departments/agencies:** the dti and IDC

**Supporting department/agencies:** National Treasury

### **14.9.2 Illegal imports programme**

#### **Nature of the intervention**

The programme is designed to clamp down on illegal imports that are flooding the country. The illegal imports are brought in by using either documents that under-invoice the consignments or the wrong tariffs. The programme will also scale up the policing of country-of-origin labelling and the SADC rules of origin.

#### **Economic rationale**

Cheap or illegal imports landing in the country are the main threat to textiles, clothing, leather and footwear companies in the country. The elimination of illegal imports will help level the playing field for local manufacturers.

#### **Outcome**

Reduction and the elimination of illegal imports over the next three years.

#### **Key milestone**

- 2012/13 – 2014/15: Ongoing and targeted campaigns against under-invoicing and other illegal activities in the sector.

**Lead departments/agencies:** SARS and National Treasury

**Supporting departments/agencies:** the dti, EDD and ITAC

### **14.9.3 Skills development**

#### **Nature of the intervention**

The programme is involved with the upgrading of skills in the sector. The programme will facilitate the finalisation of funding arrangements with the National Skills Fund (NSF). The skills strategy will be rolled out through the Textiles and Clothing Centre of Excellence established at the CSIR in Port Elizabeth. This will speed up the implementation of programmes, instead of establishing another implementing organisation.

#### **Economic rationale**

A lack of succession plans in the sector has resulted in very few young graduates joining the industry. Most of the leaders of the industry are beyond retirement age, but there are no skilled personnel to take over. Most of the training that has taken place in the sector has been at the operator level.

#### **Outcomes**

The programme outcomes will include the graduation of technicians, technologists, engineers, production managers and scientists for the textiles, clothing, leather and footwear industries.

#### **Key milestone**

- 2012/13 Q1: Ongoing roll-out of skills development programme by NSF and Fibre Processing and Manufacturing (FPM) SETA.

**Lead departments/agencies:** the dti, NSF, CSIR

**Supporting departments/agencies:** DHET, DST and FPM SETA

#### **14.9.4 Audit of textiles capabilities**

##### **Nature of the intervention**

The programme will cover the audit of the capacity and the technology currently in the textile industry. Through the intelligence gathered, the programme will then explore the possibility of consolidating the textile industry. The aim is that companies will focus on different products, thereby assisting them to gain a mindset that looks at specialisation instead of the 'shotgun' approach currently being followed by some companies.

##### **Economic rationale**

Enable specialisation and sustainability through diversification into products that garment manufacturers and retailers demand and that are currently being imported.

##### **Outcomes**

Greater competitiveness of the industry.

##### **Key milestones**

- 2012/13 Q2: Review preliminary findings.
- 2012/13 Q4: Final report and recommendations reviewed and initiate review of textile tariff structure by ITAC in light of the findings.

**Lead departments/agencies:** the dti/IDC

**Supporting departments/agencies:** Competition Commission

#### **14.9.5 Innovation and technology**

##### **Nature of the intervention**

Distinct technologies will be identified and where commercialisation is possible, this will be undertaken with relevant partners. The technologies to be pursued will include the establishment of a South African garment-sizing database using three-dimensional (3-D) body-scanner technology, computer-aided design using 3-D scanner data and the processing of new natural fibres such as flax, wild silk, cashmere and kenaf. New technologies such as non-woven products and fibre-reinforced composites will be commercialised in South Africa. Technologies in garment designing and servicing the fashion industries will also be pursued.

##### **Economic rationale**

South Africa cannot compete globally in commodity textiles. It has to focus on niche markets and not those sectors of the textile trade in which developing economies are better positioned to compete.

##### **Outcomes**

The main outcome of the programme will be a transformed textiles industry, which will be in a position to compete globally with home-grown garment technologies.

##### **Key milestones**

- 2012/13 Q1: **the dti** to appoint a service provider to assist with data collection for the sizing database.
- 2012/13 Q4 - 2013/14: Final report on the database submitted.

**Lead departments/agencies: the dti**

**Supporting departments/agencies:** CSIR and IDC

#### **14.9.6 Skins and Hides Sub-Sector Development Programme**

##### **Nature of intervention**

the dti will develop a raw skins and hides strategy and policy document utilising the skins and hides research report that was commissioned in 2011.

##### **Economic rationale**

Raw skins and hides from South Africa are in high demand internationally due to the feedlots programmes, which ensure that high-quality skins and hides are produced at abattoirs. Local tanneries compete with international tanneries for the acquisition of raw hides and skins. This means that the locally manufactured leather for automotive and footwear applications is expensive and the competitiveness that can be derived from buying local hides is lost. Leather is the main cost for the manufacturing of footwear, leather goods and leather car seats, and securing competitive costs of leather will enhance the growth in these sectors.

##### **Outcome**

The main outcome will be a skins and hides strategy, which will improve the competitiveness of locally tanned leather for the automotive, leather goods and footwear.

##### **Key milestones**

- 2012/13 Q1: Commence strategy development process.
- 2012/13 Q2: Draft skins and hides strategy.
- 2012/13 Q4: Final strategy and key action plan approved.

#### **14.9.7 A pilot commercial fibre beneficiation project**

##### **Nature of intervention**

The commercial pilot production of flax (linen) and flax blends fabrics and garments will be undertaken. The unique South African technology developed to manufacture yarns from cottonised flax on short staple spinning systems will be used. The fabrics and garments developed during research and development stages were far superior to the current imported goods.

##### **Economic rationale**

South Africa currently imports linen garments and fabrics valued at more than R200 million. This intervention will create employment both in agriculture and manufacturing of the flax products. Experimental trials on the growing of flax throughout South Africa yielded very positive results. Being a winter crop, flax can be grown on land which can be used for other crops in the summer season.

##### **Outcome**

Locally manufactured linen garments from locally grown flax.



### **Economic impact**

Creation of niche sub-sector within the broader sector. A reduction of imports, a contribution to improvement of the trade balance and a positive contribution to GDP and employment creation.

### **Key milestones**

- 2012/13 Q1: Finalise the approval process.
- 2012/13 Q2: Yarn manufacturing at CSIR and Standerton Mills.
- 2012/13 Q3: Weaving of fabric at Da Gama.
- 2012/13 Q4: Finished Fabric and sample garments.

## **14.10 Biofuels**

### **Sector profile**

The biofuel sector has grown rapidly internationally. However, up to now, South Africa has remained only a peripheral participant in the sector's growth. There are a number of reasons for this. First, because it is a relatively new sector there are a variety of complex regulatory barriers that need to be finalised. Second, the global economic crisis and the resultant reduction in oil prices have reduced the commercial viability of some investments and, more generally, have negatively affected investor sentiment. Third, national debates have tended to focus on food-versus-fuel arguments while taking relatively little cognisance of the dynamic nature of agriculture and the potential to create biofuels using current crop surpluses.

Nonetheless, a (then) Department of Minerals and Energy's National Biofuels Study in 2006 found that South Africa had significant potential to develop a commercially viable biofuels sector, notwithstanding the country's water-poor status. At present, the IDC and the Central Energy Fund (CEF) are the main investors in the sector in South Africa. The IDC in particular is involved in all four of South Africa's current biofuel projects.

The biofuels sector has strong linkages to agriculture, manufacturing and distribution and has the potential to create substantial numbers of labour-intensive jobs in the agriculture sector in particular. In addition, second-generation biofuel technology will also contribute to South Africa meeting its renewable energy targets in a sustainable manner.

### **Key opportunities**

Government is already committed to a 2% blend target for biofuels inclusion into the national fuel supply. However, the details of the regulatory processes have not yet been finalised. A number of other developing countries have set blending targets of 10% for biofuels without any need for significant engine adjustment. Were South Africa to increase its blending target to 10%, about 125 000 direct jobs could be created, many of which would be based in rural areas, where the deepest pockets of poverty occur.

## **Key Action Programmes**

### **14.10.1 Accelerated development in the biofuels sector**

#### **Nature of the intervention**

Developments in the biofuels sector have been slow. This intervention is designed to accelerate development in the biofuels supply side at farm and manufacturing levels. To do so requires an improved regulatory environment and greater certainty around the demand for biofuels. The intervention entails high-level co-ordination with relevant government departments, investors and DFIs to ensure that a coherent and co-ordinated approach to the development of the sector is followed.

#### **Economic rationale**

The regulatory environment for the sector is still in the process of being developed and it will be essential to ensure that this is supportive of accelerated production of biofuel crops. The best available data suggests that a successful biofuels sector requires mandatory blending to provide investors with demand certainty in the medium term. South Africa has the potential to create significant numbers of jobs through the development of a large-scale biofuels sector. This will have additional benefits in terms of import replacement, improved security of fuel supply and expansion of the farming sector.

#### **Outcome**

Accelerated development of an up- and down-stream biofuels sector operating in a supportive regulatory environment.

#### **Key milestones**

- 2012/13 Q1: Amend fuel specifications to allow for requisite waivers.
- 2012/13 Q2: Conclude and sanction price support/incentive mechanism for biofuel producers.
- 2012/13 Q2: Develop water tariff policy for biofuel feedstock producers.
- 2012/13 Q1-Q4: The IDC to provide industrial financing options to investors, thereby leading to the commissioning of biofuel processing facilities.

**Lead department:** DoE

**Supporting departments/agencies:** the dti, NT, DWA, SABS and SARS

## **14.11 Forestry, Timber, Paper and Pulp, and Furniture**

#### **Sector profile**

The forestry sector has the potential to contribute significantly to rural and economic development by contributing to GDP and creating job opportunities and income in poor rural communities.

The forestry sector is worth R40 billion a year and accounted for a total employment of 96 500 jobs in 2009. Forestry's contribution to GDP was 1,1% in 2009. Forestry product exports in 2009 came to R12,5 billion, with total imports of R9,6 billion.

### **Key opportunities**

In a joint study, completed in 2005 by the industry and **the dti**, KwaZulu-Natal and the Eastern Cape were identified as the provinces offering the best potential for new forestry. Conservative estimates identified 100 000ha in the Eastern Cape, 6 000ha in Limpopo, 10 000ha in Mpumalanga and 39 000ha in KwaZulu-Natal. Limpopo and Mpumalanga have estimated opportunities of 6 000ha and 10 000ha respectively. In both instances, these figures are reached when the results of water trading negotiations with irrigators are successful. An estimated expansion area of 100 000ha will result in the creation of an additional 15 600 jobs. There is also potential to improve the yields of the existing plantations and to convert existing wattle jungles into commercial plantations.

Most of the forests exist on communal land where a number of value-added opportunities can be explored for small growers, who are currently supplying their timber to big companies for pulp and paper mills. Opportunities exist to expand the small-scale saw milling industry, since most of the saw millers are located close to forests in rural areas. Consequently, this is an important sector from the perspective of rural development.

### **Constraints**

Key economic constraints that are holding back development in the forestry and processing sectors are as follows:

#### **Forestry**

- **Afforestation licences:** The issuing of afforestation licences has become a serious obstacle for forestry development. Communities are sometimes unable to afford the cost of undertaking the mandatory EIA to apply for water-use licences. It is for this reason that the DAFF and **the dti** are engaged in the process of appointing Environmental Assessment Practitioners (EAPs) to conduct EIA on behalf of the poor communities. It is noted that although there are delays in the processing of licence requests as a result of many challenges encountered by the authorising departments, these delays are attended to resulting in afforestation licences being issued in shorter times.
- **Skills development and technology transfer:** The new forest growers and beneficiaries of land reform do not necessarily have the skills and relevant technology to grow the trees optimally. The communities also require business skills to manage their operations effectively.
- **Investment finance:** Tree planting cannot take place without securing investment finance. Long rotations in forestry require long-term capital for establishment, maintenance and harvesting operations. Consequently, income streams only appear a relatively long time after the investment has taken place. As a result, there is some reluctance to invest in the forestry business.
- **Land tenure:** Most of the land that has been identified as suitable for new afforestation is tribal land or land belonging to communities where land-claims settlement issues still need to be resolved before tree planting can take place. There is often a lack of proper consultation and mobilisation within communities in line with forestry development protocols.
- **Demand for raw material exceeds supply:** The demand for raw material far exceeds supply and this has resulted in the closure of some downstream processing industries. Timber volumes declined to 15,2 million tons in 2010 from 19 million tons in 2008. The small players in the industry are most affected by this because of the vertically integrated nature of the industry, where big companies own plantations and small businesses rely on supply from DAFF plantations.

## **Key Action Programmes**

### **14.11.1 Integrated approach to fast-tracking the issuance of afforestation licences and accelerate forestry development.**

#### **Nature of the intervention**

Supporting rural communities owning land with potential for forestry development and where communities demonstrate an interest in afforestation. Support will be in the form of:

- Providing capacity to apply for an afforestation licence,
- Funding the EIA:
- Assisting in crafting business plans to apply for investment capital; and
- Providing skills and technology for forest development and business management.

This approach will be targeted to specific catchments in both the Eastern Cape and KwaZulu-Natal.

#### **Economic rationale**

To increase the supply of raw material and thus stimulate downstream processing activities. This has the potential to create a total of 15 600 jobs at both plantation and value-adding levels.

#### **Outcomes**

Accelerated forestry development and well-maintained plantations.

#### **Key milestones**

- 2012/13 Q1: **the dti** and DAFF to appoint environmental impact assessment practitioners to undertake EIAs on behalf of rural communities and provide capacity for them to apply for afforestation licenses issued by DWA, DEA and the Agricultural branch of DAFF.
- 2012/13 Q1-Q4: IDC to support forestry expansion of 5 000 ha in KwaZulu-Natal and 25 000 ha in the Eastern Cape.
- 2012/13 Q1-Q3: IDC to provide continuous assistance to communities on project preparation and management to ensure that a pre-feasibility study for at least one project is completed in KwaZulu-Natal and the Eastern Cape.

**Lead departments/agencies:** DWEA/DWA Agricultural branch of DAFF

**Supporting departments/agencies:** **the dti**, DAFF, Forestry South Africa (FSA), AsgiSA-EC and IDC

#### **Sawmilling Sector Profile**

The small-scale sawmilling industry supplies timber and timber products to processing industries such as furniture manufacturing. There are about 200 sawmills countrywide, although these are concentrated largely in KwaZulu-Natal, the Eastern Cape, Mpumalanga and Limpopo. The industry is labour-intensive and employs about 30 000 people in deep rural areas. The sector is a major source of employment for rural women and has high multiplier effects in rural areas.

#### **Key constraints**

- **Non-availability of sufficient volumes and higher quality logs:** Small- and medium-scale sawmills obtain

the bulk of their saw log supplies from either Safcol or DAFF. Most of the timber is provided in terms of ad hoc or short-term (one-year contracts), which makes it impossible for these enterprises to plan effectively. Most of the sawmills have the capacity to process 5 000m<sup>3</sup> of saw logs per annum, however, they are currently running at a processing capacity of less than 4 000m<sup>3</sup> per annum owing to the shortage of timber. Research and development is needed in the industry to shorten the rotations without compromising the quality and yields of timber.

- **Few opportunities for value-added products:** The bulk of the timber produced by small-scale sawmills is 'wet-off-saw' and mostly ungraded. These include ungraded building materials such as purlins, rafters, roof truss materials and other construction materials. The other output from small-scale sawmills is in the form of industrial (ungraded) timber, which is supplied to downstream manufacturers such as pallet producers, manufacturers of doors and doorframes and laminated products. The major reasons for not developing value-added opportunities include insufficient raw material supply at appropriate quality levels, poor productivity levels and old equipment and technology.
- **Importation of structural and industrial lumber:** There is a threat to the local sawmilling industry that is posed by large-scale importation of structural and industrial sawn lumber. The importation of this lumber holds the potential to damage and restrict the sawmilling sector in the future.

#### **Key opportunities**

- Forward integration into the production of value-added products such as furniture components, low-cost housing components, doors, windows, window frames and similar building products.
- The possibility to enter the export market. This, however, will only be successful if small-scale sawmills cooperate to penetrate export markets.
- Small-scale sawmills have the opportunity of organising themselves into an association that will act on their behalf with regard to securing log supplies, assist with marketing and even exports.

The sector has a potential to create job opportunities in the rural communities.

#### **14.11.2 Productivity improvement and sustainable supply of raw material**

##### **Nature of the intervention**

This programme is intended to assist small- and medium-scale sawmills to improve their productivity through technology upgrading, market access, transfer of skills and securing long-term supply contracts.

##### **Economic rationale**

Small to medium sawmills use old technology and also have short-term contracts, which make their businesses uncompetitive and unsustainable.

##### **Outcome**

Improved recovery rate and competitiveness of the sawmilling industry.

### Key milestones

- 2012/13 Q1-Q3: DAFF and DPE to review the current saw log supply allocations to small enterprises to ensure continued supply of raw material.
- 2012/13 Q2: **the dti** to appoint a service provider to conduct a study on the type and scale of sawn lumber imported into the country.
- 2012/13 Q4: **the dti** to consult industry on the findings of the study and propose action plans to address the current high levels of imports.

**Lead departments/agencies:** DAFF and DPE

**Supporting departments/agencies:** **the dti, seda**, Fibre Processing and Manufacturing SETA

### Furniture Sector Profile

The furniture industry is labour-intensive and contributes 0,95% to manufacturing GDP and 1,6% to manufacturing employment. The industry currently has 2 104 registered employers and in January 2011 employed 33 850 people. Between 2008 and 2011, about 883 companies have closed, resulting in 9 482 jobs losses.

Variable	Contribution in 2010
Manufacturing value-add (% of GDP)	0,95%
Manufacturing employment (% of Manufacturing)	1,6%
Trade balance	R3,5 billion

### Opportunities

The furniture sector has the potential to create employment, especially in rural areas. There is also opportunity to improve productivity and competitiveness by improving the skills and enhancing innovation in the sector.

### Constraints

Key economic constraints that are holding back development in the furniture sector include:

- Wood raw material supply, especially for small enterprises;
- Influx of cheap imports and the challenge of getting retailers to buy locally produced products. The survival of the industry will largely depend on interventions to deal with the escalation of imports, and increased procurement of locally manufactured products;
- Skills constraints, especially high-level skills such as design; and  
Difficulties in enforcing quality and standards measures to protect the domestic sector from low-quality imports. Although some quality standards exist, they are currently not enforceable. There is also a need to align the standards with public procurement.

### Key Action Programmes

#### 14.11.3 Furniture Skills Development Programme

##### Nature of the intervention

The programme seeks to support skills development in the sector, particularly high-level skills such as design to address the current undersupply of design skills at both teaching and student levels.

### **Economic rationale**

South Africa lacks sufficient design tuition geared towards the furniture sector. The industry lags behind most major furniture manufacturers in the supply of design skills. This limits South African furniture manufacturers' capacity to supply world-class products in line with both domestic and global market demand. At present, there is a mismatch between the skills required by the industry and what is being offered by tertiary educational institutes and private sector educational institutes.

### **Outcomes**

Improved competitiveness of the industry through higher design content in domestically produced furniture.

### **Key milestones**

- 2012/13 Q1: F, P and M Seta to develop skills programme including artisans and apprenticeship.
- 2012/13 Q2-4: F, P and M Seta to roll out the programme with the industry.
- 2012/13 Q1: **the dti** and industry to develop an intervention to increase the supply of furniture design skills.
- 2012/13 Q4: Furniture Design Skills Programme implementation commences.

**Lead departments/departments:** **the dti**, F, P & M SETA and industry

## **14.11.4 Furniture Trade Policy Measures**

### **Nature of the intervention**

The programme seeks to reaffirm and promulgate the current furniture standards by industry and the SABS. In addition, the intervention seeks to identify furniture inputs that are not produced in South Africa and where import duties are cost-raising. These inputs will be considered by ITAC for rebate of import duties.

### **Economic rationale**

The implementation of the proposed programmes will assist in reducing the influx of low-quality imports, and thereby level the playing ground for domestic and international manufacturers. The rebate of import duties on imported inputs not produced locally will boost the sector's capacity to compete with imports.

### **Outcome**

Reduced levels of low-quality furniture imports and improved quality levels of designated furniture products procured by Government through the PPPFA.

### **Key milestones**

- 2012/13 Q1: **the dti**, in consultation with SABS and NRCS, to identify compulsory standards.
- 2012/13 Q2: **the dti** and SABS to conduct industry awareness workshops about compulsory standards.
- 2012/13 Q2: **the dti** and industry to identify imported inputs to be considered for rebate applications by ITAC.

**Lead departments/departments:** **the dti/ SABS/NRCS**

**Supporting departments/agencies:** ITAC

## 14.12 Creative Industries: Crafts and Music

### Crafts sector profile

The lack of historical data on the craft sector makes it difficult to accurately and properly account for the sector's economic contribution, including the fact that the sector is not defined in terms of statistical classifications. It is estimated that the South African craft sector contributes R3,32 billion to GDP (0,14%) and it provides income and employment to about 273 495 people through the economic activity of about 31 802 micro and small enterprises operating across the value chain. South Africa contributes slightly less than 1% of the global trade in crafts, said to be \$35 billion.

The sector is divided into informal and formal or registered craft enterprises, and it is further divided into business operating from home as well as small emerging exporters and export-ready enterprises with production facilities, office and warehouse space with a small number of people employed permanently and seasonal workers.

Production in this sector is often small scale, with hand processing being the main contributor to the end product. Production is classified in terms of material (textile, clay, glass etc), product type (home ware, giftware etc), technique (beading, weaving) and design style (traditional, contemporary etc).

The crafts sector has the potential to contribute to economic growth and to have a positive impact on the local economy, particularly on rural economies through the development of small businesses development and by stimulating innovation and design skills, which will assist with market access.

Variable	Contribution in 2010
Manufacturing value-add (% of GDP)	R3,32 billion (0,14%)
Manufacturing employment	273 495

### Key opportunities

The global market for craft is significant and growing. The National Craft Sector Development Programme Guidelines (NCSDPG) seeks to address the needs of craft enterprises and entrepreneurs. The NCSD looks at immediate and long-term policy interventions required to address market access challenges facing the sector. To increase market confidence in buying South African Crafts, **the dti** developed the South African Handmade Collection brand (SAHC).

### Constraints

Significant competition from imported goods as well as production and quality standards compliance.

### Key Action Programmes

#### 14.12.1 Craft Sector Development Strategy

##### Nature of the intervention

Development of a craft strategy to address a number of challenges such as design and innovation, intellectual property rights, poor coordination, quality assurance and market access.



**Economic rationale**

Build the commercial sustainability of the sector and scale up its contribution to GDP and employment creation.

**Outcomes**

Improvements in the competitiveness of craft enterprises, penetration of new exports markets and sustaining domestic market share.

**Key Milestones**

- 2012/13 Q1- Q4: Rollout of the South African Handmade Collection.
- 2012/13 Q2: Review of the Craft Sector Development Strategy and Action Plan.
- 2012/2013 Q4: Craft Sector Strategy and Action Plan.

**Lead department: the dti**

**Supporting departments/agencies:** DAC, Provincial Departments of Economic Development, PIPAs

**14.12.2 Sector Standards and Accreditation****Nature of the intervention**

Develop safe, good quality environmentally friendly standards for basket weaving, traditional craft, ceramics, wood carving, hand crochet and telephone wire products.

**Economic rationale**

Increase the quality and standards of products by craft enterprises to enable them to compete in both domestic and global markets.

**Outcomes**

Craft Standard Policy Statement and Certification Mark.

**Key milestones**

- 2012/13 Q1: Research on best practice model.
- 2012/13 Q1: **the dti**, SABS and PSA lead stakeholder consultations to discuss most suitable model for the sector.
- 2012/13 Q2: Technical Committee formed.
- 2012/13 Q3 – 2013/2014 Q3: **the dti**, SABS and PSA leads phased process towards the development of standards and certification mark.
- 2013/2014 Q4: Implementation of craft standard policy statement and certification mark.

**Lead Departments/Agencies:** **the dti**, SABS, and PSA

**Supporting Departments/Agencies:** DAC, PIPAs, Provincial Departments (Economic Development and Arts and Culture) as well as Provincial Craft Hubs

## **14.13 The Music Industry**

### **Sector profile**

The music industry has the potential to make a significant contribution to economic growth and employment. South Africa has a competitive capability in musical production. The music industry is labour-intensive, has many economic multipliers and the potential to generate more employment.

Despite the global recession, sales data demonstrates that the recording industry in South Africa was worth about R1,7 billion and ranked 17th in the world in 2007. Indigenous South African repertoire sells more units domestically than international recordings, which can be attributed to a growth in spending on music as well as the development of a home-grown repertoire.

### **Key opportunities**

The South African music industry is innovative with numerous small and medium-sized entrepreneurs. Aggregate growth of the music industry and increased popularity and exposure of local genres is important. Music is relatively easily distributed and is an export product that is not constrained by the high transport costs associated with the export of physical products. A substantial proportion of the music industry's revenue is derived from intellectual property rights. New digital and information and communication technologies have revolutionised the industry's production processes, distribution channels and consumption modes. Mass-production technologies have been replaced by niche production and mass customisation of ringtones, movies-on-demand, interactive media and social networking sites such as MySpace and YouTube, and the convergence of telecommunications and the Internet.

### **Constraints**

Constraints include problems of intellectual property protection, shortcomings with respect to skills development and technical, recording and performing industry skills, and difficulties of financing.

#### **14.13.1 Develop a music industry strategy**

##### **Nature of the intervention**

Development of a strategy for the music industry.

##### **Economic rationale**

Music is an important cultural heritage that has untapped potential for economic development both in its own right and in terms of strengthening economic activity in other sectors such as tourism.

##### **Outcome**

A music sector strategy in support of the industry, with key action plans to address market and institutional failures, including financing.

##### **Key milestone**

- 2012/13 Q1: **the dti** to work with DAC and the IDC to finalise a Music Industry Strategy and action plan.

**Lead departments/agencies:** IDC and **the dti**

**Supporting departments/agencies:** DAC

## **14.14 Business Process Services (also known as Business Process Outsourcing)**

### **Sector profile**

South Africa was named among the top three emerging offshoring destinations in the world, in terms of the investors' plans for locating their Offshored Business Process Services<sup>1</sup>. In 2010, the estimated value of South Africa's Business Process Services and Offshoring industry is estimated at R131 million and the estimated growth rate is approximately 8% per annum. Contact centre activities remain the dominant BPS activities in South Africa, comprising more than two-thirds of the local market. Contact Centres and Customer Relations Management (CRM) enjoy a cost advantage, in that they cost between 30 and 35% less than those in the UK and US. According to industry reports, the top three principal function performers in 2010/11 in terms of company operations were CRM services/contact centre, finance and accounting services, other specialist services/knowledge process services with 65%, 16,1% and 8,9% respectively.

South Africa provides a compelling option as an offshore services location and its recognition as a key player is indicated by the growing number of global companies operating in the country. Growth in investor activity and large companies moving to South Africa are testimony to the country's value proposition and the potential opportunities it offers. South Africa has already attracted the provision of services for the global operations of companies such as Amazon, Asda, Barclays, British Gas, Hewlett Packard, Lufthansa, Microsoft, SABMiller, Shell, Sun Microsystems and Virgin. Companies are slowly adapting to new technologies such as Cloud computing and Software as a Service (SaaS) and are considering using it in future. The major centres for BPS activity in South Africa are Gauteng, Western Cape, KwaZulu-Natal and the Eastern Cape. Gauteng dominates the market, but the Western Cape has a large number of call centre agents assisting international clients.

### **Key opportunities**

South Africa's ever-increasing popularity as a hub to serve African markets has encouraged a number of international companies to set up their African headquarters in the country and to use it as a base to expand into the rest of Africa. These companies increasingly use South Africa as a shared services hub for their African operations, especially for those in sub-Saharan countries. Examples of the shared services delivered from South Africa include finance, accounting and procurement services.

South Africa's skilled talent pool and improved telecommunications infrastructure positions the country to take advantage of the ever-changing global market. The country offers excellent skills and infrastructure at competitive cost in the Business Process Services (BPS) environment.

The country has a large base of English speakers replete with good diction and accent. While a wide variety of language skills are available, international languages such as Dutch, French and Portuguese are also emerging as opportunities to capture the European market beyond the UK. The large talent pool, improved telecommunications infrastructure and competitive cost advantage means the country is well poised to service international markets.

In a 2010 survey, it has emerged that South Africa has an opportunity to compete in high-end domain areas such as Legal Process Services, Financial Services and the provision of creative services such as desktop publishing. Therefore, there is already a steadily growing market for these domain areas in the country providing services to

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<sup>1</sup>Everest Survey on Off shore locations: Perceptions and Plan Jan- Feb 2011

the offshore market. The new strategy projects the creation of an additional 30 000 offshore jobs by 2015 through an accelerated effort to roll out the Key Action Programmes.

### **Constraints**

Difficulty with regard to finding and placing middle management and a shortage of industry-specific skills arising from attrition and poaching. The non-availability of competitive bandwidth continues to increase operational expenses and profit margins.

### **Key Action Programmes**

#### **14.14.1 Roll-out of Business Process Services (BPS) Incentive Programme**

##### **Nature of the intervention**

Ongoing roll-out of the BPS incentive programme.

##### **Economic rationale**

A new BPS incentive flowing from a review of the sector has contributed to overcoming uncompetitive constraints. The sector can be increasingly globally competitive, secure further investment, contribute to job retention and variation and expand its base and contribution to the GDP.

##### **Outcomes**

A competitive investment environment relative to key competitor countries to scale up South Africa as a BPS destination with concomitant employment creation.

##### **Key milestone**

- 2012/13 Q1 onwards: Ongoing roll-out of BPS incentive programme.

**Lead departments/agencies: the dti**

#### **14.14.2 Skills development for the BPS sector**

##### **Nature of the intervention**

The Monyetla Work-Readiness Programme, a dedicated investor-friendly work readiness programme, provides the industry with requisite skills from entry level to supervisory level to position South Africa as a preferred location for BPS operations.

##### **Economic rationale**

A major determinant for investors wishing to start BPS operations is the availability of labour in the location under consideration. In addition, having a readily available pool of labour will ensure that unemployed youth are trained and absorbed into work.

##### **Outcomes**

A readily available pool of labour for investors to draw from, which includes European language skills. The programme also provides career paths across the industry and provides scope for increasing the proportion of local middle and senior managers.

### **Key milestones**

- 2012/13 Q1: Training of 3 000 unemployed youth takes place with a minimum of 7% targeted for provinces other than Gauteng, Western Cape and KwaZulu-Natal.
- 2012/13 Q2: **the dti** and Services SETA to agree on middle-management programme.
- 2012/13 Q3: 50% of trained learners contracted into employment for minimum of 12-month contract.
- 2012/13 Q4: Contracting of middle-management trainers.
- 2013/14 Q1: Middle-management training (training of 500 supervisors and team leaders) takes place.
- 2013/14 Q3: Contracting of trainers for Dutch language and domain areas.
- 2013/14 Q4: Dutch language and domain areas training takes place.

**Lead departments/agencies:** DHET

**Supporting departments/agencies:** **the dti** /training institutions

## **CLUSTER 3: SECTORS WITH POTENTIAL FOR DEVELOPMENT OF LONG-TERM ADVANCED CAPABILITIES**

### **14.15 Advanced manufacturing**

#### **Sector profile**

Advanced manufacturing is a collection of high value-adding manufacturing processes, management techniques, technologies and knowledge capital that occupy the top tier of manufacturing industries and drive competitiveness in local and global economies. It is associated with mastering highly regulated safety and/or quality requirements and exploitation of intellectual property in the form of world-class processes, products and services.

Advanced manufacturing is an integrator of other advanced technologies such as:

- High-performance computing;
- Automation and control systems;
- High-precision manufacturing linked to intelligent production systems;
- Sustainable and environmentally friendly processes and technologies; and
- The ability to manufacture to custom requirements in high or low volumes.

Therefore, developing the local advanced manufacturing industry is important, as it stimulates innovation and creates skills and technologies that spill over into adjacent industries and helps to create direct and indirect jobs. High-value goods and services require as a minimum advanced manufacturing technologies, the development and exploitation of intellectual property (IP), a sufficient IP protection regime and globally relevant financial and support instruments.

Thus, it contributes significantly to the competitiveness of manufacturing industries through the development of high value-adding goods and services. South Africa has specialist capabilities in Advanced Materials, Nuclear, Chemicals, Mining and Minerals, Automotive and Aerospace and Defence industries.

### **14.16 Advanced Materials**

#### **Sector Profile**

Advanced materials are those with superior properties such as toughness, hardness, light weight, durability and elasticity and can lead to the design of completely new products. The four major growth areas in the South African

advanced-materials industry include titanium, nanotechnology, advanced composites and bio-ceramic applications.

Advanced materials contribute to emerging economies, global competitiveness and innovative productivity. Global competition has led to increased innovation and the use of technologies to produce higher-quality goods and services at lower prices. The ability of companies to remain competitive in this changing global environment requires the integration of new technologies as well as the ability to respond rapidly to economic, social and environmental changes.

### **Key opportunities**

South Africa's advanced-materials industry has pockets of excellence in research situated in universities and science centres and manufacturing industry clusters that are internationally competitive. Commercialisation of advanced materials is important, particularly in the areas of nano-materials; high-performance materials based on advanced bio-composites; composites – intelligent textiles used in the medical, building and construction industries; and continuous fibre-reinforced thermoform composites.

### **Constraints**

Insufficient engineers working on already developed technologies, a small domestic market for the utilisation of advanced materials, and slow commercialisation of innovation.

## **14.16.1 Commercialisation of the Natural Fibre Reinforced Composites**

### **Nature of the intervention**

Advanced materials require equipment to get tested, prototyped and accredited for commercial applications. These composites will be used for aerospace and automotives interiors and building products as well as for bio-degradable packaging material for the export of fruit and other foodstuffs.

### **Economic rationale**

An increasing interest in natural fibre reinforced composites driven by economic and technical considerations as well as increasing environmental sensitivity. The advantages of bio-composites include: cost and weight reduction potential; reduced environmental footprint and energy required in production; health, safety and cosmetic benefits; and new enterprise development, with job-creation potential for rural communities.

### **Outcomes**

The availability of advanced bio-composites prototyped for commercial applications; small-scale production of economical, light, flexible and heat-resistant material; with competitive environmental and safety imperatives.

### **Key milestones**

- 2012/13 Q1: Constitute a bio-composites Interdepartmental task team to drive and coordinate a bio-composites related action plan.
- 2012/13 Q4: Commission the first phase of an integrated manufacturing demonstration plant to produce prototypes to fast-track the commercialisation of new products.
- 2012/13 Q4: Fibre crop cultivation trials and fibre extraction trials towards the establishment of a natural fibre production industry.

- 2012/13 Q4: OEM-level testing and/or technology transfer of at least two prototypes for the construction, aerospace or automotive sectors.
- 2012/13 – 2013/2014: Undertake two techno-economic studies to assess the viability of new bio-composite products.

**Lead departments/agencies:** DST and the CSIR,

**Supporting departments/agencies:** the dti, AISI and TIA, NRF, IDC, DHE, DAFF

## **14.17 Aerospace and Defence**

### **Sector profile**

The South African aerospace and defence industry has followed a development path primarily aimed at developing indigenous products and technologies. This resulted in the establishment of a wide scope of capabilities and associated infrastructure required for complete vertical product integration. Entry into the global market and supply chains has necessitated increased competitiveness and new technologies. Progress has been made by South African firms, which have developed a track record of innovative, technical solutions, strong capabilities at the systems and subsystem integration level and on-time delivery schedules to global original equipment manufacturers (OEMs) such as Airbus and Boeing. The DST is responsible for technology development and the dti is responsible for assisting in commercialisation of technology.

### **Key opportunities**

The establishment a Joint Aerospace Steering Committee (JASC) to coordinate and focus development and support measures; leveraging on Government procurement for commercial and defence purposes, including South African Airways (SAA) and the Department of Defence; using the NIPP direct offsets and revised PPPFA requirements for localisation; and the development of new technologies leading to new products and processes to support integration into global supply chains.

### **Constraints**

An insufficient pipeline of skilled personnel to absorb current knowledge and experience, and an insufficient intra-governmental co-ordination for industry-specific and structured support.

#### **14.17.1 Strengthened coordination for the advancement of the aerospace and defence sectors**

##### **Nature of the intervention**

Strengthen coordination of effort in funding, flagships and support structures among the relevant departments and its institutions.

##### **Economic rationale**

To enable the development of new technologies and skills, increased exports and spill-over effects into related activities and adjacent industries.

##### **Outcomes**

Increase in overall competitiveness and innovative capability in South Africa.

### **Key milestones**

- 2012/13 Q1: Establishment of the Joint Aerospace Steering Committee, consisting of key government departments, industry, R&D institutions, SOCs and universities.
- 2012/13 Q2: First flagship project is approved.
- 2012/13 Q3: Second flagship project is approved.
- 2012/13 Q4: Review and implementation of optimised support mechanisms and instruments to support competitiveness improvement and commercialisation within the local aerospace and defence industry.
- 2012/2013 Q4: Continuous Fibre Reinforced Thermoform Plastics 'CFTRP clip' Manufacturing Tech process Industrialisation completed.
- 2012/2013 Q4: Phase 1 Fibre Metal Laminates Technology for Aerospace Applications finalised.

**Lead departments/agencies:** the dti/ DST, DPE, DOD

**Supporting Departments/agencies:** AISI, CSIR, TIA, NT, EDD, IDC, NAC, CAV, NRF, Tertiary institutions and Industry associations

## **14.18 Set-Top Box (STB)**

### **Sector profile**

There is a global migration to digital terrestrial television, which is expected to significantly boost the digital terrestrial television (DTT) STB market. **The dti** has designated STBs for local procurement. The South African electronics manufacturing sector is characterised by large, middle-sized and small manufacturers with a primary focus on the assembly and manufacture of electronic consumer products such as televisions, telecommunications equipment and STBs for the pay television market. Domestic manufacturers have varying degrees of capacity and expertise, which include strong engineering design capabilities, particularly in software and systems development, a critical element in the manufacturing of STBs. Some manufacturers have already established relationships with the retail market and have distribution networks with easy access to outlets in cities and towns throughout the country.

The manufacturing of STBs consists largely of assembling electronic components in accordance with engineering designs. Maximising the value in the manufacturing process ensures that many local manufacturers participate in the full manufacturing value chain. South Africa is a net importer and continues to record a large trade deficit in this sector. Between 2000 and 2008, the values of both imports and exports have doubled. Employment has halved since 2000, which can most likely be attributed to manufacturers shifting away from completely knocked down (CKD) to semi-knocked down (SKD) operations that require less manual labour. This in turn is reflected in the declining contributions to GDP.

### **Key opportunities**

The approval by Cabinet of the DVBT-2 standard as the applicable standard for South Africa, in line with most SADC countries, creates an opportunity for industry to gear itself for participation in this sector. A new road map with updated deadlines is being developed and consulted with the stakeholders by DOC, and a new 'switch-off' date of December 2013 creates a level of certainty for the Digital Migration process.



**Constraints**

Small-scale firms do not have the intellectual property, capital, technology or capability to manufacture STBs; the opportunity for driving B-BBEE and transformation in the electronics industry may be overlooked due to time constraints and higher priority being afforded to other components of the project.

**14.18.1 Strengthening manufacturing of Set-Top Box (STB)****Nature of intervention**

Encouraging local investment and competitiveness in the industry by the provision of incentives; leveraging procurement and strengthening standards for the STB industry.

**Economic rationale**

Increased production of STBs and components; increasing software engineering capabilities; job retention and creation.

**Outcome**

A competitive and strong STB manufacturing base that will contribute towards growth and job creation.

**Key Milestones**

- 2012/13 Q1: Finalisation of a formal designation, with issuing of an instruction note and appointment of manufacturers according to the criteria.
- 2012/13 Q1 – Q2: Setting up of required national facility for conformance assessment for the newly manufactured STBs.
- 2012/13 Q1 – Q2: Industry Consideration of an application by ITAC for a tariff on a complete STB product finalised.
- 2012/13 Q3 – Q4: Soft launch of the STB and establishment of infrastructure arrangements for new distribution channels and after-sales support.

**Lead department/agencies:** the dti, DOC

**Supporting departments/agencies:** NT, SABS, DST, Electronics Association, ITAC, IDC Retailers, Post Office, USAASA, SABC

**14.19 The Electrical and Telecommunications Cable Industry****Sector profile**

The cable industry is a well-established, competitive, manufacturing sector with 12 manufacturers currently operating in the country. The local cable industry manufactures low, medium, and high voltage cables. The industry manufactures a vast range of engineered telecommunication cables. These include copper telecommunications, industrial and instrumentation cables, and fibre optic telecommunication and industrial cables.

Variable	2010/11
Contribution to GDP	0,285729
Employment	4 780

Source: PWC 2011

According to AECMSA, the local cables market was worth about R8 billion in 2009, with imports worth R1,1 billion of that total. Exports in the sector have shown positive growth. The cable sector contributed R6 billion towards the economy in 2006/07, with a remarkable 17% growth rate registered during the 2007/08 period. Subsequent periods have shown a decline due to the economic crisis of 2008/09. For the 2006/2011 period, average growth has been 1% for the sector. This has been related to growth in mobile communications and large infrastructure projects such as electrification.

Employment within the power cable sector has declined by 11% over the last five years. While these employment figures are low in comparison to many other sectors, the sector is important from an employment perspective in that it supports the development of quality jobs in skilled areas and creates multiplier effects in the economy.

#### **Key opportunities**

The cable manufacturing industry is a key strategic industry for South Africa. During the past three years, up to 15% of all cable sold in South Africa was imported. In most cases, imported cables were procured by public entities such as Telkom, Eskom, Transnet and local councils. Local procurement of these cables would result in the creation of about 1 250 direct and indirect manufacturing jobs.

#### **Constraints**

Insufficient compliance of cable imports to compulsory technical specifications; trade tariff relaxation due to trade agreements; weak customs and regulatory adherence where under invoicing and non-compliance to compulsory specifications and standards occurs.

#### **14.19.1 Conformity Assessment Programme through Integration of AECMSA and NCRS**

##### **Nature of the intervention**

Close cooperation between the NRCS, SARS and the industry association with respect to non-compliance of imported products.

##### **Economic rationale**

Strengthening customs and regulatory controls to protect the domestic industry.

##### **Outcomes**

Lock out substandard products and lock in quality products and build exports.

##### **Key milestones**

- 2012/13 Q2: Establish a forum including NRCS, SARS and SABS to strengthen work on illegal imports and fraud.

**Lead departments/agencies:** the dti, AECMSA, NRCS

**Supporting departments/agencies:** SARS, ITAC, ITED, SABS

#### **14.19.2 Designation of the Cable Industry for local procurement**

##### **Nature of the intervention**

Comprehensive research undertaken to enable the designation of Power and Telecommunication cables for local procurement. Designation will ensure that the industry can maintain its current employment base and grow from a position of strength, while increasing export markets including the African continent. This can be achieved while avoiding the erosion of specific technical expertise.

##### **Outcomes**

This intervention is expected to improve the economies of scale, which will make it viable for certain raw material producers. This will in turn facilitate growth and job creation.

##### **Key milestones**

- 2012/13 Q1-Q3: Comprehensive research, including on the capabilities and capacity of the cable industry to enable designation.
- 2013/14 Q4: Complete designation proposal through the appropriate channel.

**Lead departments/agencies:** the dti, DoE, NT

**Supporting departments/agencies:** ESKOM, TELKOM, NEOTEL, TRANSNET, DoC

#### **14.20 Software Industry**

##### **Sector Profile**

It is estimated that the local industry comprises of about 80 000 professionals/practitioners. The South African software industry is under threat as a result of an increasingly globalised competitive ICT industry, which is acting as an enabler for most sectors of the economy. Many large organisations in sectors such as banking, insurance and telecommunications have started outsourcing software development projects and services to destinations such as India and China. This has the potential to destroy thousands of jobs and to negatively impact on South Africa's ability to develop software locally. This challenge is also compounded by a poor track record of South African software development sector in delivering large applications on time, within budget and of high quality.

##### **Key opportunities**

South Africa's ability to produce computer software is an important strategic priority. There is significant potential to service the local market and grow exports of software products and services to export destinations.

##### **Constraints**

The high cost of funding for certification and time taken to undergo the software process improvement programme; limited awareness in the domestic market of the importance of certification and technical know-how on certification; and limited information on software development companies and their capabilities in both local and international markets.

### **14.20.1 Software Development Process Improvement Programme**

#### **Nature of intervention**

To improve the quality of South African software through process improvement training using Capability Maturity Model Integration (CMMI) and Team Software Process (TSP) methods and alignment of product development with domestic and global requirements. Ensure participation of unemployed graduates as part of skills development and capacity-building for better performance.

#### **Economic rationale**

Raise awareness of the importance of quality systems certification, improve the quality of South African software companies, and support the take-up of internationally recognised quality system certification for software developers in South Africa, with the aim of securing greater competitiveness and market access in both domestic and export markets.

#### **Outcomes**

Enhance the competitiveness of local South African software companies and create a significant breakthrough in market access for South African software developers and result in absorption of highly skilled personnel.

#### **Key Milestones**

- 2012/2013 Q1: Agreement on the selection criteria for participating entities with regional IT clusters. 'Operations manual' and curriculum ready for use for the pilot project.
- 2012/2013 Q2: Four software development entities identified and participating in the process improvement programme.
- 2012/2013 Q4: Agreement on alignment of the South African Electrotechnical Export Council mandate, EMIA and the Joint Action Group for software industry to support export-ready companies.
- 2013/2014 Q1: Performance of first four software development entities reviewed and refinements made to 'operations manual' and training curriculum.
- 2013/2014 Q2: Four additional software development entities identified and participating in the process improvement programme.
- 2013/2014 Q3: Establish an 'Advisory Council', comprising Government and private sector, to oversee the roll out.
- 2013/2014 Q4: Further review of performance of all software development entities and refinements made to 'operations manual' and training curriculum. Commence roll-out.
- Add four software development entities in 2014/2015 as part of the roll-out.

**Lead Department: the dti**

**Supporting department/agencies: JCSE, SAEEC, DOC and MICT SETA**

### **14.21 Nuclear Energy**

#### **Sector Profile**

In terms of the Policy-Adjusted Integrated Resource Planning for electricity (IRP 2010 – 2030), South Africa plans to build additional electricity generation capacity of 9,6GW from nuclear, as part of a balanced energy mix that will ensure supply security and mitigate CO<sup>2</sup> emissions. The strict regulatory environment and high safety and quality standards that are required for the design and operation of nuclear power plants can serve as either a barrier to

new entrants in the industry or a competitive advantage for those countries that have well-developed nuclear capabilities.

South Africa already has a significant level of nuclear expertise covering nuclear policy development, the regulatory environment, research institutions, power plant operation and a pool of skilled personnel. It has a well-developed industrial infrastructure through which nuclear component manufacturing capabilities and supply chains can be upgraded and/or exploited to take advantage of the economic spinoffs of the new capacity expansion programme. However, due to the limited capabilities in the manufacture of nuclear components, the demand for new expertise that will be placed by new generation capacity expansions will outweigh the available resources to achieve desired localisation levels, unless investment in additional skills and industrial infrastructure to support the development of the nuclear industry is expedited.

**the dti** has commissioned work to identify the equipment and services (design engineering, manufacturing, installation, operation, maintenance, etc.) required and the items for localisation for the delivery of the first two units, based on the current capability of the local industry and global trends. A second study will investigate the feasibility of establishing a nuclear heavy component manufacturing industry in South Africa. The manufacturing of heavy components is viewed as a strategic capability as it requires long-term planning and large capital investments. When the manufacture of heavy components is integrated with the manufacture of light and medium-size components, a deeper level of localisation can be achieved.

#### **Key opportunities**

The DoE has indicated that, based on the Integrated Resource Plan (IRP), the following assumptions can be made. A future nuclear programme in South Africa will cost in excess of R400 billion; a fleet approach is planned for the purchasing of nuclear plants; the first unit is planned to start commercial operation in 2023.

#### **Constraints**

Meeting nuclear quality accreditation and regulatory standards, technology and skills transfer from one of the main nuclear vendors and the many global component suppliers; an appropriate combination of global partnerships and access to global supply chains, funding and skills development; the careful phasing in of investments into the programme and into appropriate Government-led programmes to ensure that local procurement is boosted and localisation enforced.

### **14.21.1 Localisation of Nuclear Components**

#### **Nature of intervention**

Promoting procurement for the nuclear building programme to ensure localisation and participation in global nuclear value chains. Initiating and carrying out special projects to systematically assess the realistic levels of localisation through the profiling of the local industry.

**Economic rationale:** Localisation will increase industrial capacity; promote technology and skills transfer from main nuclear vendors and suppliers of nuclear-grade components to the South African industry; promote joint ventures, consortiums and partnerships; enhance exports into the global nuclear supply chain; create high-level direct jobs and intellectual property; and make a significant contribution to GDP growth in the manufacturing sector.

**Outcomes:** The development of policy and measures that support the nuclear industry designation development, which will be followed by a strategy and plan on localisation to support local industry development

**Key Milestones**

- 2012/2013 – Q2: **the dti** will conclude a study to investigate the feasibility of establishing a nuclear heavy component manufacturing industry in South Africa.
- 2012/2013 – Q3: **the dti** will use donor funds to fund the establishment of a radiation protection laboratory at NECSA.
- 2013/2014 – Q1: **the dti** will develop industrial policy support measures to support the localisation in the nuclear industry based on the capability of the local industry.

**Lead Departments: the dti**

**Supporting departments/agencies:** NNR, SANAS, **the dti**, DoE, DoL, Necsa

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