



## TIPS FORUM 2017 INDUSTRIALISATION AND SUSTAINABLE GROWTH



The Annual Forum 2017 was hosted by Trade & Industrial Policy Strategies (TIPS) in partnership with the South African Research Chair in Industrial Development, based at the University of Johannesburg, and in association with the Green Economy Coalition (GEC). It was supported by funding and assistance from the European Union (DCI-ENV/2016/372-84) and the Department of Trade and Industry.



**the dti**

Department:  
Trade and Industry  
REPUBLIC OF SOUTH AFRICA

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## Abbreviations

dti (the)	Department of Trade and Industry
EU	European Union
GDP	Gross Domestic Product
GHG	Greenhouse gas
GEC	Green Economy Coalition
IPAP	Industrial Policy Action Plan
NDP	National Development Plan
REIPPPP	Renewable Energy Independent Power Producer Procurement Programme
SARCID	South African Research Chair in Industrial Development
SDGs	Sustainable Development Goals
TIPS	Trade & Industrial Policy Strategies
WEF	Water, Energy and Food



## About the Forum

Trade & Industrial Policies Strategies (TIPS) is an independent, non-profit, economic research institution based in Pretoria, South Africa. It was established in 1996 to support economic policy development, with an emphasis on industrial policy, in South Africa and the region. Currently, TIPS has three main areas of work: trade and industrial policy; inequality and economic inclusion; and sustainable growth.

TIPS's main objectives are to undertake in-depth economic analyses, especially at the industrial level; to provide quality research as the basis for improving industrial policy as well as broader economic development strategies; and to support an increasingly dynamic and evidence-based discourse on industrial policy and inclusive growth with academics, other researchers and stakeholders.

TIPS offers quantitative and qualitative research, project management, dialogue facilitation, capacity building and knowledge sharing. In line with this mandate, TIPS provides a platform for policymakers to engage in relevant research on industrial and trade policy matters. TIPS has over the years held several TIPS Forums or organised similar type events for partner organisations.

The theme of the 2017 TIPS Annual Forum focused on *Industrialisation and Sustainable Growth*. The Forum was held at the Development Bank of Southern Africa Vulindlela Conference Centre in Midrand, South Africa, on the 13-14 June 2017. Delegates at the Forum included state officials, academics, researchers, business representatives and officials representing labour and civil society organisations. Over the two days, delegates gathered to explore the challenges, trade-offs and pathways associated with transitioning to a more sustainable, notably low-carbon, industrial development path.



The two-day conference was held in partnership with the South African Research Chair in Industrial Development (SARCID), in association with the Green Economy Coalition (GEC), and with support from the Department of Trade and Industry (the dti) and the European Union (EU).<sup>1</sup> In total, the Forum was attended by 176 guests (including speakers), compared to 135 delegates for the 2016 TIPS Annual Forum. The full programme of the Forum as well as presentations can be found at [www.developmentdialogue.co.za](http://www.developmentdialogue.co.za).

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<sup>1</sup> The Annual Forum and this document have been produced with the financial assistance of the European Union (EU). The contents of this document are the sole responsibility of TIPS and can under no circumstances be regarded as reflecting the position of the EU.

## Introduction

In South Africa, the need to respond to sustainability challenges and seek opportunities in the transition to sustainable economic development can be traced back to the 1996 Constitution and the 1998 National Environmental Management Act. Sustainability issues, primarily climate change, have since been progressively integrated into policy. The 2011 National Strategy for Sustainable Development, the 2011 National Climate Change Response White Paper, Chapter 5 of the National Development Plan (NDP) and the Industrial Policy Action Plan (IPAP) outline the need to restructure the economy to promote industrialisation and move towards a low-carbon, climate-resilient and inclusive development path.

Developing strategic and coherent sustainable development strategies that consider the linkages between sustainability, notably climate change, and industrialisation demands significant research and analysis. It requires reflecting on the country's path dependency in terms of economic structure and energy mix, and the existence of highly carbon-emitting and energy-intensive industry.



Tackling sustainability challenges in South Africa relies, among other things, on the increased use of alternative energy sources, improved resource efficiencies, new technologies to reduce greenhouse gas (GHG) emissions and environmental damage, and new socio-economic thinking. A sustainable future depends on financing these

measures (including incentives), procurement procedures, localising technologies, and carbon offset processes. Taxes and penalties imposed on industry and users are also crucial considerations.

Understanding the challenges, trade-offs and pathways associated with implementing industrial policies aligned to sustainable development goals is needed. Furthermore, sustainability policies need to consider their interaction with socio-economic challenges to ensure that the impact of climate change and other environmental issues does not perpetuate and exacerbate inequitable outcomes. For example, local industries, primarily the agriculture sector and associated agro-processing industry, stand to be severely affected by climate change, with ripple effects on food security, jobs and industrial capacity.

## Opening session

The opening session of the Forum acknowledged the complex nature of the conference topic, which requires balancing trade-offs, notably between the decline of traditional economic activities (such as coal mining) and the transition to a low-carbon development pathway, and the effects on those at the Bottom of the Pyramid. Indeed, the transition will be disruptive, so issues of equity and fairness need to be taken into account. Planning is crucial and should include the following people-centred decision-making; not only technical solutions but also economic and social conversations, as South African issues tend to be deeply political; and an assessment of and mitigating actions for the trade-offs. The transition, to be successful, will require various complementary interventions and that policymakers to make tough choices.

The following were among the issues raised during this session for delegates to consider throughout the Forum:

- What is stopping the rapid deployment of the green economy in South Africa and the region?
- Is Southern Africa optimising the use of its natural assets?
- Where are the green jobs? And can the transition address the ramping unemployment problem?
- What training, skills and capabilities are required to facilitate them?
- Are the Sustainable Development Goals (SDGs) being internalised?
- Does the South African government fully understand the opportunities of the green economy?



- What can be done to stimulate demand for and the local development of green goods and technologies?
- How can the transition revitalise under-developed parts of the country, notably townships and other disadvantaged areas?
- What does a regional approach to the transition look like in Southern Africa?

## Session 1: Renewable energy and inclusive growth

The key themes identified in this session were the lack of policy alignment, especially the lack of alignment between industrial and energy policies. This policy misalignment, coupled with uncertainty, is already hindering the success of South Africa's Renewable Energy Independent Power Producer Procurement Programme (REIPPPP), with most manufacturing companies in the sector leaving the country.

In addition, renewable energy initiatives in South Africa are facing a lower skills supply, resulting in and the country focussing on assembly rather than the manufacturing of renewable energy components. This raised questions about the link between industrial policy and human capital development, and whether the skills produced by South Africa are aligned to the needs of the economy.

The role of the private sector was also highlighted. Localisation is an important issue in the renewable energy space, and there is a need to boost small innovative companies that have capacity to develop new value chains, join existing value chains, and compete in global value chains.



## Session 2: Manufacturing and sustainable development – South African experiences

This session looked at the way the transition to a sustainable economy can be leveraged to drive manufacturing development and create jobs. The overarching theme of the session was that neither industrial policy nor sustainable development can be examined in isolation.

Industrial policy initiatives tend to be biased towards capital-intensive industries rather than more labour-intensive manufacturing. Policy interventions supporting labour-intensive manufacturing and boosting employment are required. This could include shifting subsidy support to wages, to both protect workers and back the wage demands of labour-intensive manufacturing.

Possible manufacturing opportunities for South Africa were noted, such as trade opportunities in the manufacture of green goods. Small-scale embedded generation, water conservation, water treatment, biogas, and bio-composites were identified as possible priority green trade opportunities.



Such areas however need to be supported by policies, like import substitution, to develop local capacity, greater support for research and development, and targeted export interventions in areas such as water technologies.

One programme that could be scaled up nationally is the Western Cape Industrial Symbiosis Programme, which surveyed waste generated by a number of firms, and matched that waste with the needs of other firms seeking similar goods as inputs into their production. The programme has already led to economic benefits valued at R5.7 million, creating new jobs, reducing waste build-up and making supply chain more sustainable.

### Session 3: Manufacturing and sustainable development – international experiences

This session focussed on developments in the manufacturing sectors in South Africa, Zambia and Namibia.

A case study of the cosmetics, soaps and detergents value chain in South Africa and Zambia showed that the size and maturity of the industries are different, with South Africa having a more developed industry. However, the penetration of regional markets by some South African and Zambian firms, coupled with the trade deficit in the Southern African region, presents opportunities for harnessing



regional industrialisation and improving intra-regional trade. Cross-cutting challenges include high inputs costs, barriers to accessing supermarkets, lack of production scale, limited access to finance (particularly for advertising), skills shortages, exchange rate movements, and unfavourable regulation and standards.

Highlighting similar issues, Namibia's manufacturing performance is hampered by issues of land, access to finance, utility costs, investment incentives, manufacturing status, unfair trade practices and skills shortages. Growth in exports of manufactured products has been on a downward trend since 1990 with a slowdown in investment in the sector, and the sector's share of gross domestic product (GDP) has been declining. Employment in the sector was 28 706 workers in 2014 down from 32 769 in 2013.

#### Session 4: Sustainability transition and socio-economic considerations

This session focused on the importance of socio-economic considerations in the green economy and sustainability transition.

A number of obstacles hinder a sustainability transition. Vested interests, such as monopolies that strongly influence decisions, hinder progress. The importance of gender equality to improve the diffusion of green energy technology on the continent was also noted. Factors, such as illiteracy and poverty, that continue to keep women disadvantaged need to be addressed. Communication campaigns based on gender parity will help to mobilise stakeholders to ensure wider adoption of clean energy.

Going forward, although it is easy to identify what is lacking, more effort is needed on how to implement. Countries should have measurable targets and data to assess the progress of the green economy. The need to design policy frameworks for a climate-compatible industrial development transition in South Africa was stressed. Institutionally, despite official channels facilitating coordination and alignment, management of the transition remains a challenge. The mix of measures lacks implementation, clarity, coherence and certainty. There is a need to develop toolboxes for decision-making, implementation and monitoring. Tremendous opportunities exist for improving the governance of the transition. Planning should entail co-developing a vision and roadmap for a sustainable economy and society.



## Session 5: Carbon-intensive industries and sustainability

The focus of this session was on the impact of carbon-intensive industries and the implications for policy and the potential development of solutions and alternative technologies.

Lack of planning and regulation in the South African coal sector is one of the greatest threats to the future of the country. There is no actual coal policy and the small coal mines do not abide by environmental regulations. The country can learn a lot from other countries, such as Germany, in regulating the coal industry and plan for an alternative pathway. This however requires government buy-in.

Change is also required at the industrial level. The industrial sector consumes nearly 30% of the final energy demand in the country and, within industry, 66% of energy use is for process heating. The unexplored potential of solar thermal energy for industrial applications was presented as an option. Several solar technologies are mature and their costs relative to conventional energy sources or technologies are declining. South Africa's abundant solar resource, rising energy prices and GHG emission reduction ambitions in the face of a fossil-dominated energy mix strengthen the case for solar-based process heat. Socio-economic benefits include affordable energy for industry and a boost for the domestic manufacturing sector.

South Africa's current GHG emissions trajectory further offers an opportunity. The 2008 economic crisis and electricity crisis contributed significantly to growth being lower than forecast, resulting in a slowdown of GHG emissions. The implementation of energy efficiency efforts across all sectors (particularly energy-intensive industries, such as steel, cement and petrochemicals) would further improve this outlook.



## Session 6: Towards a sustainable transport sector

This session focussed on various strategies for the transition of South Africa's transport sector. If planned and implemented correctly, South Africa can develop a high-capacity, low-priced public transport system that will encourage road users from all parts of society to use the services provided, reduce pollution from GHG emissions, and decrease road fatalities, while also creating employment and providing and social infrastructure.

The role of legislation and regulations to create an enabling environment for private and public vehicle owners to transition towards energy efficient vehicles was also highlighted. Battery electric vehicles, could be significant in providing a private transport solution that is also low carbon. Efficiency improvements in the transport sector and changes in behaviour (decreased mileage, increased occupancy, increased rail use and use of public transport) could significantly reduce the burden on the economy of stringent emissions reductions. This implies that mitigation policy must include energy efficiency improvements and behavioural change in conjunction with a national carbon budget if it is to reduce costs of mitigation.

Another example is the integrated waste tyre management plan of the Department of Environmental Affairs. This supports recycling by providing depots to collect waste tyres, and deliver them to approved recyclers. The plan also assists the development of services needed for waste tyre beneficiation. These functions are funded through a waste management fee charged to producers and importers per kilogramme of tyre produced to ensure that the environmental costs associated with goods throughout their lifecycle are integrated into the market price of the products.



Session 7: Agricultural value chains and sustainability

Globally, agriculture is responsible for about 50% of GHG emissions and, in South Africa, the sector is the second largest emitter. The sector also connects various industries of the economy both upstream and downstream, for example in chemicals, transport, energy, technology, hospitality and finance. As such, the sector requires climate-smart practices to be initiated efficiently and urgently. Interventions proposed to curb GHG emissions included solar heat for agri-processing; solar photovoltaics on pack houses; solar pumps and variable speed drives for irrigation, and biogas from agri-processing wastes and residues.

In addition, because it is a large employer in major rural areas, sustaining and unlocking jobs in this sector is imperative. Agriculture and agro-processing are significant in GDP contribution, highly labour-absorptive, and can make a substantial contribution to household income in rural and marginal communities. The question is whether a sustainable labour-absorbing, but less carbon emitting, agricultural industry can be created.



Different national departments play a role in the agriculture sector, and planning and funding should comprehensively connect these public entities through an integrated and all-encompassing strategy for sustainable agriculture. There is also a regional dimension. Dynamics in the sugar-to-confectionery value chains in Southern Africa, for example, raise questions about the complex interrelationships between national and regional policies, and competition concerns that arise from concentration at different levels of the value chain.

Session 8: Financing the sustainability transition

This session focused on industrial policy strategies and ways to increase carbon financing to mitigate the transition to a green economy in South Africa. Case studies from South Africa and Uganda were explored to map the progress made towards reducing GHG emissions through carbon financing in line with the principles of the 1997 Kyoto Protocol (and the 2016 Paris climate agreement).

In South Africa, industrial policy is founded on the coal value chain and energy-intensive industries, opening up opportunities for diversifying energy sources and shifting away from the reliance on ageing (and outdated) and coal-intensive electricity generation infrastructure. However, despite significant

support from the finance sector, the existing system (i.e. the national utility) is locking out competition (i.e. renewable energy independent power producers) from the national grid, preventing a smooth transition into renewable energy. Another hindering factor is the difficult diffusing of clean energy technology to poor households and small businesses which cannot afford the upfront investment costs and require support in order to implement such technologies.



To mitigate these issues, carbon financing should be mainstreamed to eliminate the burden faced by poor households and small industry players. This should go hand-in-hand with an in-depth overhaul of the policy and accounting framework, which should reflect sustainability at their core.

### Session 9: Unpacking the water-energy-food nexus

In this session, the importance of the concept of decolonising the South African discourse on green economy was highlighted. Narratives and discourses are drawn from outside experiences and then forced to fit the South African context, but the issue should be approached starting from the South African narrative.

The idea that sustainable development and green economy are compromised terms was put forward. In the 1980s, there was a contestation between development and environment. Rich countries focused on protecting the environment, poor countries wanted development, and the two focus areas were seen to be in competition. There is continued contestation between interests of developed countries and those of developing countries, particularly about the priority given to social and environmental issues, the relative priority to people and nature. The South African green economy debate still primarily reflects developed countries preferences and priorities.

Most developing countries also continue to implement key programmes in an uncoordinated way. In South Africa, the Department of Economic Development facilitated in 2011 the adoption of the Green Economy Accord, which was signed by key stakeholders including government, business and labour. Several provinces then developed Green Economy plans. The country has also adopted an integrated water-energy-food (WEF) nexus approach, but the main challenge is that a clear framework has not been developed. Although research has been conducted, progress has not been made with implementation. A case study in the Kenyan tea value chain however demonstrated the possibility of sustainability integrating WEF issues to transition industries towards new models of development.

### Session 10: Sub-national experiences and sustainability

The green economy has gained prominence in the policy-making debate, on the one side due to the urgency of solving problems raised by climate change and the economic crisis, and on the other side for the potential to promote social equity and improve human well-being. This session considered the role for local systems within industrial development and green growth.

In Gauteng, the transition towards a green economy has progressed, with a number of projects implemented, various government departments developing and initiating strategies, and increased funding. Obstacles hindering effective interventions include lack of coordination and implementation of policy measures, unwillingness of policymakers to sacrifice short-term economic gains for long-term sustainability, and limited availability of the appropriate skills.



In Uganda, establishing industrial parks is aimed at fostering economic development. However, there is a need to make sure that the negative impacts do not exceed the positive benefits, and that they

ensure sustainability of the environment. The Kampala Industrial and Business Park, for example, led to a reduction of built-up structures in the affected zone and a material increase in sustainability, despite some negative pressure on its nearby environment as a result of the industrial activity.

## Plenary session

The closing session was a panel discussion on key issues for sustainable development. The idea was put forward that the transition required trade-offs to be managed while at the same time minimising unintended consequences for marginalised groups.

There are no quick wins and a long-term perspective is required. How the transition is financed is an important indication of commitment and an important factor in moving towards a more sustainable growth path. The current discourse is captured by the elite, it was suggested, and marginalised groups need to be included: the policy development process must incorporate a nuanced understanding of political economy dynamics. The important role of civil society was also mentioned.

On trade-offs, it was noted that the obvious but often ignored problems have been identified, namely the heavy dependency on coal and how we need to think about a new growth path. Industrial policy must incorporate a sustainable element. This would help the country in managing risks and unintended consequences associated with industrial development. Lack of implementation in public policy was also one of the key factors that may hinder successful transition. The inability to implement is linked to too many policy objectives. Industrial policy has supported vested interests. This is reflected in the types of jobs that are created and the extent to which industry supports capital-intensive firms at the expense of labour. This raises a number of questions: how do policymakers ensure that industrial policy levers are more labour intensive? For example, how does the automotive industry, which has received a lot of state support, align with a sustainable growth path, in terms of GHG emissions and job creation? What is the approach to public transport issues? How are local technologies to be incorporated? Assessment of these cases illustrates that part of the problem is achieving scale.

Part of the government mandate is to seek to influence actors in the economy or society to achieve a more sustainable growth path. In doing so, government aims to scale-up what works, particularly with the greening of the brown sectors. A key area of contention remains who should fund the transition, with the private sector often seeking incentives. However, if government is to give money to the private sector, the private sector needs to implement equitable models.

The meaning of sustainable growth itself was questioned, and a clear distinction between sustainable growth and economic growth that is sustainable was urged. Broadly there is a need to ensure the better alignment of skills, which is dependent on the chosen industrial policy development path (in the South African case, innovation and research and development tend not be localised). Success, it was remarked, will also be determined by how local firms are involved in the value chain of new technologies.



08h00 – 09h00		Registration and Tea	
09h00 - 10h30	VA Auditorium	<b>OPENING SESSION</b>	
		Opening & Context of the conference	<b>Saul Levin</b> (Programme Director, TIPS)
		Welcome	<b>Erika Kraemer-Mbula</b> (University of Johannesburg)
			<b>Oliver Greenfield</b> (Green Economy Coalition)
			<b>Khaled El Mekwad</b> (United Nations Industrial Development Organization)
Introductory remarks	<b>Tasneem Essop</b> (National Planning Commission)		
		Keynote address	<b>Lionel October</b> (Director General at the Department of Trade and Industry)
10h30 - 11h00		Tea and Coffee Break	
11h00 - 12h30	VA Auditorium	<b>SESSION 1: RENEWABLE ENERGY AND IN INCLUSIVE GROWTH</b>	
		The need for coordinated renewable energy, trade and industrial policy - avoiding unintended socio-economic consequences, <b>Martin Cameron</b> ( <i>Trade Research Advisory</i> )	<b>Martin Cameron</b>
		From Policy to Strategy: Scaling Clean Energy Innovation and Low Carbon Sustainable Development Pathways in SA , <b>Jacob Park</b> ( <i>Rutgers University, USA</i> )	<b>Jacob Park</b>
		Understanding the domestic and international barriers to achieving localisation benefits from the Renewable Energy Independent Power Producers Procurement Programme, <b>Ellen Davies and Octave Ligopi</b> ( <i>WWF-SA</i> )	<b>Ellen Davies and Octave Ligopi</b>
		<b>Discussant</b>	<b>Ntombifuthi Ntuli</b> (CSIR)
		<b>Chairperson</b>	<b>Baba-Tamana Gqubule</b> (TIPS)
	VA Room 1	<b>PARALLEL SESSION 2: MANUFACTURING AND SUSTAINABLE DEVELOPMENT: SOUTH AFRICAN EXPERIENCES</b>	
		Capital intensity, employment and sustainability in the South African manufacturing sector, <b>Anthony Black</b> ( <i>University of Cape Town</i> )	<b>Anthony Black</b>
		The role and nature of industrial symbiosis in South Africa, <b>Sarah O'Carroll</b> ( <i>GreenCape</i> )	<b>Sarah O'Carroll</b>
	A Green Industry and Trade Analysis for South Africa, <b>Gaylor Montmasson-Clair, Christopher Wood, Shakespear Mudombi, Bhava Deonarain</b> (TIPS)	<b>Christopher Wood</b>	



		Supporting an Emerging Water Industry in South Africa: Insights, Opportunities and Challenges, <i>Valerie Naidoo (WRC)</i>	<b>Valerie Naidoo</b>
		<b>Discussant</b>	<b>Vuyo Mjimba (HSRC)</b>
		<b>Chairperson</b>	<b>Ndivhuho Raphulu (NCPC)</b>
<b>12h30 – 13h30</b>	<b>LUNCH</b>		

<b>13h30 – 15h00</b>	<b>VA Auditorium</b>	<b>SESSION 3: MANUFACTURING AND SUSTAINABLE DEVELOPMENT: INTERNATIONAL EXPERIENCES</b>	
		Growth and development in the cosmetics, soaps and detergents regional value chains: South Africa and Zambia, <i>Teboho Bosiu, Farasai Chinanga and Mwanda Phiri (University of Johannesburg)</i>	<b>Teboho Bosiu</b>
		What are the factors hampering the manufacturing sector performance in Namibia? <i>Victoria Nambinga (National Planning Commission, Namibia)</i>	<b>Victoria Nambinga</b>
		Green Industries: Best practice examples, <i>Conrad Kassier (UNIDO)</i>	<b>Conrad Kassier</b>
		<b>Discussant</b>	<b>Philippa Rodseth (Manufacturing Circle)</b>
		<b>Chairperson</b>	<b>Mbofholowo Tsedu (TIPS)</b>
	<b>VA Room 1</b>	<b>PARALLEL SESSION 4: SUSTAINABILITY TRANSITION AND SOCIO-ECONOMIC CONSIDERATIONS</b>	
		Designing Policy Frameworks for a Climate-Compatible Industrial Development Transition in South Africa, <i>Gaylor Montmasson-Clair (TIPS)</i>	<b>Gaylor Montmasson-Clair</b>
		Advancing gender equality campaign issues for diffusion of green energy technology in Africa, <i>Wilson Okaka (Kyambogo University, Uganda)</i>	<b>Wilson Okaka</b>
		Socio-Economic drivers for an inclusive and sustainable Growth path, <i>Samantha Munro (DNA Economics)</i>	<b>Samantha Munro</b>
		<b>Discussant</b>	<b>Samantha Ashman (University of Johannesburg)</b>
		<b>Chairperson</b>	<b>Tasneem Essop (NPC)</b>
<b>15h00 – 15h30</b>	<b>Tea and Coffee Break</b>		
<b>15h30 – 17h00</b>	<b>VA Auditorium</b>	<b>SESSION 5: CARBON-INTENSIVE INDUSTRIES AND SUSTAINABILITY</b>	
		A just transition for South Africa's coal economy: optimizing resource extraction and use for development, <i>Jesse Burton (University of Cape Town)</i>	<b>Jesse Burton</b>
		Solar thermal for decarbonising industrial process heat – industrial development without carbon emissions, <i>Louise Scholtz (WWF-SA)</i>	<b>Louise Scholtz</b>
		Impact of climate change policy on the cement industry in India, <i>Pooja Pal (Panjab University, India)</i>	<b>Pooja Pal</b>
		The projected trajectory of South Africa's GHG emissions, <i>Shailendra Rajkumar (Sasol)</i>	<b>Shailendra Rajkumar</b>
		<b>Discussant</b>	<b>Gaylor Montmasson-Clair (TIPS)</b>
<b>Chairperson</b>	<b>Francis Ziba (ZIPAR)</b>		

	VA Room 1	<b>PARALLEL SESSION 6: TOWARDS A SUSTAINABLE TRANSPORT SECTOR</b>	
		Transforming South Africa's Transport Sector for Sustainable Development, <i>Bhavna Deonarain and Kelello Mashiane (TIPS)</i>	<b>Bhavna Deonarain and Kelello Mashiane</b>
		Decarbonisation and the Transport Sector: A Socio-Economic Analysis Of Transport Sector Futures In South Africa, <i>Tara Caetano (University of Cape Town)</i>	<b>Tara Caetano</b>
		Economic benefits of extended producer responsibility initiatives in South Africa: The case of waste tyres, <i>Faaïqa Hartley (University of Cape Town)</i>	<b>Faaïqa Hartley</b>
			<b>Discussant</b> <b>Chairperson</b>
17h00		<b>End of day 1</b>	

<b>08h00 – 08h30</b>		<b>Arrival tea and coffee</b>	
08h30 – 10h00	VA Auditorium	<b>SESSION 7: AGRICULTURAL VALUE CHAINS AND SUSTAINABILITY</b>	
		Sustainable agriculture for a better economy: policy planning and public financing, <i>Selebogo Leshoro (DAFF)</i>	<b>Selebogo Leshoro</b>
		Towards labour absorptive, low-carbon economic development: identifying interventions for the reduction of greenhouse gas emissions in key agricultural value chains in the Western Cape, <i>Pieter Frederik Janse van Vuuren (GreenCape)</i>	<b>Pieter Frederik Janse van Vuuren</b>
		Growth and development in the sugar to confectionery value chain in Zambia and South Africa, <i>Francis Ziba (ZIPAR)</i>	<b>Francis Ziba</b>
			<b>Discussant</b> <b>Chairperson</b>
	VA Room 1	<b>PARALLEL SESSION 8: FINANCING THE SUSTAINABILITY TRANSITION</b>	
		Increasing carbon financing: A strategy for climate change mitigation in Uganda, <i>Jennifer Turyatempa Tumushabe (Kabale University, Kabale, Uganda)</i>	<b>Jennifer Turyatempa Tumushabe</b>
		A benchmarking paper on the role of infrastructural spending in unlocking industrial potential and fostering inclusive low-carbon economic development in South Africa, <i>Struan Robertson (TIPS)</i>	<b>Struan Robertson</b>
		Estimating publicly-mobilised private finance for climate action: A South African Case Study, <i>Lauren McNicoll (OECD), Raphael Jachnik (OECD), Gaylor Montmasson-Clair (TIPS) and Shakespear Mudombi (TIPS)</i> ,	<b>Shakespear Mudombi</b>
			<b>Discussant</b> <b>Chairperson</b>
<b>10h00 – 10h30</b>		<b>Tea and Coffee Break</b>	
10h30 – 12h00	VA Auditorium	<b>SESSION 9: UNPACKING THE WATER-ENERGY-FOOD NEXUS</b>	
		Some learnings from the water, food and energy nexus about decolonising the Green Economy for an Anthropocene Southern Africa, <i>Mike Muller (Wits School of Governance)</i>	<b>Mike Muller</b>
		Fragmented sectoral approach on water, energy and agriculture in South Africa, <i>Ntombi Radebe (The Innovation Hub)</i>	<b>Ntombi Radebe</b>

		Climate change vulnerability and value chain assessment in Egypt and Kenya, <i>Cynthia Juwita Ismail and Yudiandra Yuwono (Udayana University, Indonesia)</i>	<b>Cynthia Juwita Ismail and Yudiandra Yuwono</b>
		<b>Discussant</b>	<b>Saliem Fakir (WWF-SA)</b>
		<b>Chairperson</b>	<b>Thabo Thulare (TIPS)</b>
	<b>VA Room 1</b>	<b>PARALLEL SESSION 10: SUB-NATIONAL EXPERIENCES AND SUSTAINABILITY</b>	
		Development towards green growth in Gauteng province: Opportunities and challenges, <i>Ndidzulafhi Nenngwekhulu (The Innovation hub)</i>	<b>Ndidzulafhi Nenngwekhulu</b>
		An Assessment of the effects of growth poles on land use transformations in Uganda: Evidence from Kampala Industrial and Business Park (KIBP), <i>Aaron Achoroi (Makerere University, Uganda)</i>	<b>Aaron Achoroi</b>
		<b>Discussant</b>	<b>Lorenza Monaco (University of Johannesburg)</b>
		<b>Chairperson</b>	<b>Mbofholowo Tsedu (TIPS)</b>
<b>12h00 – 13h00</b>	<b>VA Auditorium</b>	<b>PLENARY SESSION</b> Panel discussion on key issues for sustainable growth	<b>MODERATOR:</b> <b>Josephilda Nhlapo (DPME)</b> <b>PANEL:</b> <b>Saliem Fakir (WWF-SA)</b> <b>Mapula Tshangela (DEA)</b> <b>Saul Levin (TIPS)</b> <b>CLOSING REMARKS:</b> <b>Garth Strachan (the dti)</b>

TIPS is a research organisation that facilitates policy development and dialogue across three focus areas: trade and industrial policy; inequality and economic inclusion; and sustainable growth. The Annual Forum is platform for researchers, policymakers and other stakeholders to present research and engage in dialogue on policy-relevant issues. The Forums have overarching themes and have been running since 1997.

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