



science
& technology

Department:
Science and Technology
REPUBLIC OF SOUTH AFRICA



Federal Ministry
of Education
and Research

INNOVATION FOR SUSTAINABILITY IN A CHANGING WORLD

Second South African-German Dialogue on Science for Sustainability

CSIR ICC, Pretoria, South Africa,
26 and 27 October 2009



Sustainable | Solutions
Science for Sustainability

SUSTAINABILITY IN A CHANGING WORLD

Second South African-German Dialogue on Science for Sustainability

Objectives

The objectives of the dialogue are to exchange experiences and scientific knowledge on the topics (day one):

- Towards Innovation Systems for Sustainability: Role of International Cooperation in Science and Technology
- Decoupling Economic Development and Environmental Degradation;
- Organizing National Systems of Innovation to Support Sustainable Development

On day two both sides will exchange information and get feedback from the scientific community, industry and the governments on proposed cooperation for future strategic R&D projects and initiatives related to science for sustainability, e.g. in the fields of environmental technologies and technologies for climate protection, climate change, energy, land use and land-ocean interaction. The day will end with a sustainability related excursion.

I. Concept

Germany and South Africa – Sustainability in a Changing World

At the Earth Summit in Rio de Janeiro (1992) the United Nations declared its commitment to the vision of sustainable development. Over 170 signatory states committed to translate this vision into practice by adopting Agenda 21, a global action programme to achieve sustainable development worldwide. The Federal Republic of Germany and the Republic of South Africa signed Agenda 21 and pledged to promote fundamental political, social, economic and industrial change towards sustainability.

Science and technology play a crucial role in meeting the pressing challenges of sustainable development. Having recognized the considerable potential for collaboration in developing cost-effective and innovative technologies, the Federal Republic of Germany and the Republic of South Africa initiated the German-South African Dialogue on Science for Sustainability (D4S).

The dialogue rests on an assessment that both South Africa and Germany face a challenge in combining economic growth with sustainability and agree that the time is ripe for a partnership based on mutual interests in a sustainable future nationally and globally. The dialogue should lead to joint research and sustainability strategies as well as contribute to the development of strong linkages between research, the private sector, civil society and the government, both within and between the countries.

This partnership draws on the ongoing collaborative projects in the fields of environmental science and sustainable technologies within the existing political framework for scientific and technological cooperation between the Republic of South Africa and the Federal Republic of

Germany (See Intergovernmental Agreement on Cooperation in Science, Research and Technology, 1996).

A significant milestone has been the signature of a Joint Declaration of Intent on Cooperation in the Area of Science for Sustainability by the German Federal Minister of Education and Research Annette Schavan and the South African Minister of Science and Technology Mosibudi Mangena in February 2008. The Declaration confirms the countries' support for the G8+O5 call for an internationally coordinated research agenda as part of the Heiligendamm Dialogue Process and in accordance with the results of the G8 Strategy Meeting on Africa's Science and Technology Consolidated Plan of Action.

The 1st South African-German Conference on Science for Sustainability was successfully hosted by the German Development Institute on behalf of the South African Department of Science and Technology (DST) and the German Federal Ministry of Education and Research (BMBF) in Bonn on 16-17 June 2008. The dialogue partners acknowledged the importance of each country's evolving policy frameworks for building the capacities and competences in their respective national systems of innovation and the need for a balanced interaction between the ongoing process of the dialogue and enhanced cooperation on strategic projects and interventions. Specifically, both countries have identified sustainability as a significant area of focus. South Africa's Medium-Term Strategic Framework includes 'sustainable resource management and use' as one of ten strategic priorities of the new government. Similarly, Germany has placed sustainability at the core of its social and economic development agenda.

On the innovation front, South Africa adopted a 10-year Innovation Plan in 2007 which identifies five key grand challenges for its National System of Innovation. The need to contribute to sustainable development challenges is reflected in all of the five grand challenges but three of the grand challenges are especially significant. The Energy Security grand challenge identifies the need for developing and deploying new energy technologies, including renewable energies and energy sources with a lower carbon footprint whilst the Human and Social Development grand challenge identifies the need for new approaches to the challenge of change.

In particular, the Global Change grand challenge has a major focus on innovation for sustainability. A comprehensive 10-year Research Plan acknowledges that 'the ways in which human societies engage with their environment to satisfy basic needs, stabilise and grow their economies, and improve their quality of life, affect and are affected by the natural cycles that regulate the land, water, and air. Changes are occurring so rapidly, however, that greater understanding of the Earth's natural processes, the human influence on these processes, and the interactions between the two, has become a global priority – as has the need to find ways to mitigate these changes where possible, and to adapt to them' (DST: 2009: 6).

Work is also underway to accelerate the development of other environmental technologies and innovations that would support adaptation and resilience. These include water, agricultural, built environment, coastal protection, environmental monitoring, and environmental rehabilitation. This is located within a broader framework of developing the Environmental Goods and Services sector in South Africa.

Germany has placed sustainability at the core of its economic and social development agenda. Specifically, the German Research for sustainability is aimed at:

1. developing strategies for social action with the goal of meeting fundamental needs while minimizing the risks for the long-term stability of nature and society;

2. gearing globalized value chains and production systems to sustainability and at the same time securing the long-term competitiveness of the German economy;
3. shaping regional development with the goal of improving the quality of human life and at the same time stabilizing the natural, social and economic bases of this quality of life on a long-term basis;
4. managing natural resources with the goal of maintaining their functions on a long-term basis and at the same time preserving and fostering their regeneration capacity as much as possible

There are important overlaps between these focus areas and three of the four knowledge themes identified in the South African 10-year Global Change Research Plan. These are:

- Reducing the human footprint
- Adapting the way we live
- Innovation for Sustainability

As such, South Africa and Germany have entered into a policy dialogue process that aims to strengthen science and technology co-operation between the two countries. South Africa and Germany held its first Science for Sustainability Dialogue in June 2008 in Bonn and agreed to continue the dialogue whilst identifying new areas of co-operation that advance the spirit of the Dialogue. On this basis, the second dialogue session aims to:-

- 1 – Deepen joint understanding of a selected number of policy and strategy issues of interest to players in the National Systems of Innovation of both countries
- 2 – Refine the dialogue framework that was developed in Bonn during the first Dialogue session as a basis for identifying new areas of co-operation and to agree on the next steps for the Dialogue
- 3 - Identify specific areas for enhanced co-operation between the two countries (these will be taken forward through ongoing mechanisms such as the Joint Committee meetings, etc.)

II. Conference Programme

Overview:

South Africa will host this second conference in Pretoria 26 and 27 October 2009

Day 1 will provide an opportunity to engage in a discussion on international cooperation in science for sustainability, decoupling economic development and environmental degradation, and organizing national innovation systems to support sustainable development. The opening session will include welcoming speeches and will be followed by three plenary sessions focussing on the three abovementioned themes. Each issue will be covered in a 1.5-hour session. As this is a dialogue, participants will be able to contribute from the floor.

Day 2 Both sides will exchange information and get feedback from the scientific community, industry and the governments on proposed topics for future R&D cooperation in science for sustainability, e.g. in the fields of environmental technologies and technologies for climate protection, climate change, energy, land use and land-ocean interaction.

INNOVATION FOR SUSTAINABILITY IN A CHANGING WORLD

Second South African-German Dialogue on Science for Sustainability

DAY 1: 26 October 2009

Time: 9:00 – 17:00 h

Venue:

**CSIR Pretoria, International Conference Centre (ICC)
Meiring Naudé Rd, Brummeria, South Africa**

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| 9:00 – 9:30 | Refreshments and REGISTRATION |
| 9:30 – 10:15 | <p>Welcoming Remarks</p> <p><i>Introduction and key note on Science & Technology Policy related to Sustainability, Imraan Patel, Department of Science and Technology (DST), South Africa</i></p> <p><i>Welcoming Address, Dieter W. Haller, Ambassador, Federal Republic of Germany, Pretoria</i></p> <p><i>Dialogue on Science for Sustainability, Wolf Junker, Federal Ministry for Education and Research (BMBF), Germany</i></p> <p><i>Conference Agenda and Introduction of Participants, Mario Scerri, Institute for Economic Research on Innovation (IERI), South Africa</i></p> |
| 10:15 – 10:45 | REFRESHMENT BREAK |
| 10:45 – 13:00 | <p>Session 1: Decoupling Economic Development and Environmental Degradation – emerging frameworks, current experiences and future research questions</p> <p>Format: 5 (fifteen-minute) inputs followed by a plenary discussion</p> <p><u>Moderator:</u> Lothar Mennicken, International Bureau of the BMBF, Germany</p> <p><i>Decoupling Economic Development and Environmental Degradation, Mark Swilling, Centre for Renewable and Sustainable Energy Studies, South Africa</i></p> <p><i>Sustainable Development: Some Lessons on Governance, Reimund Schwarze, Helmholtz Centre for Environmental Research – UFZ, Germany</i></p> <p><i>Concept and Implementation of Environmental Industrial Policy in Germany and Relevant European Strategies, Klaus Jacob, Free University</i></p> |

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| | <p>of Berlin, Germany</p> <p><i>The Links between Sustainability and Environmental Management Accounting</i>, Cosmas Ambe, Environmental Management Accounting Network, South Africa</p> <p><i>Science for the Future: The Potential of Inter- and Transdisciplinary Sustainability Research</i>, Martina Schäfer, Technical University of Berlin</p> <p>Plenary Discussion</p> |
| 13:00 – 14:00 | LUNCH |
| 14:00 – 15:30 | <p>Session 2: Organizing National Systems of Innovation to Support Sustainable Development</p> <p>Format: 5 (fifteen-minute) inputs followed by a plenary discussion</p> <p><u>Moderator</u>: Mammo Muchie, Institute for Economic Research on Innovation (IERI), South Africa</p> <p><i>Policy Perspective: Sustainable Development and the “Ten Year Innovation Plan”</i>, Marjorie Pyoos, Department of Science and Technology (DST), South Africa</p> <p><i>Innovation Systems Approaches to Sustainable Development</i>, Mario Scerri, Institute for Economic Research on Innovation (IERI), South Africa</p> <p><i>Green markets of the future - an economic opportunity also for Newly Industrializing Countries?</i> Rainer Walz, Competence Center Sustainability and Infrastructure Systems at the Fraunhofer Institute for Systems and Innovation Research, Germany</p> <p><i>Lead Market Strategies and Success Factors for Environmental Innovation</i>, Klaus Rennings, Centre for European Economic Research, Germany</p> <p><i>Involving Industry: Key Challenge of South African-German R&D Cooperation</i>, Helmut Kergel, International Technology Cooperation and Cluster, VDI/VDE Innovation + Technik GmbH</p> <p>Plenary Discussion</p> |
| 15:30 – 16:00 | REFRESHMENT BREAK |
| 16:00 – 17:00 | <p>Session 3: Multilateral science, technology, and innovation co-operation to address global challenges</p> <p>Format: 3 (fifteen-minute) inputs followed by a plenary discussion</p> <p><u>Moderator</u>: Mario Scerri, IERI</p> <p><i>Global Solutions to Global Challenges</i>, Dhesigen Naidoo, University of Pretoria, South Africa</p> |

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| | <p><i>Towards Innovation Systems for Sustainability: Role of International Cooperation in Science and Technology as well as Development Cooperation</i>, Britta Rennkamp, German Development Institute (DIE), Germany</p> <p><i>Multilateral Approaches to Science and Technology Cooperation for Sustainability</i>, Oksana Buranbaeva/Mike Muller, United Nations University (UNU), Germany</p> <p>Plenary Discussion</p> |
| 17:00 – 17:10 | Wrap-up of Day 1 and confirmation of programme for Day 2 |
| 17:30 – 19:00 | COCTAIL DINNER |

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| <p>DAY 2:27 October 2009</p> <p>Time: 8:00 – 17:00 h</p> <p>Venue:</p> <p>CSIR Pretoria, International Conference Centre (ICC) Meiring Naudé Rd, Brummeria, South Africa</p> | |
| 8:00 – 9:00 | REFRESHMENTS |
| 9:00 – 10:00 | <p>Session 4: Reflections on South African-German Science and Technology Co-operation for Sustainability</p> <p>Format: 6 (five- or ten-minute) inputs followed by a plenary discussion</p> <p><u>Moderator:</u> Mike Muller, United Nations University</p> <p><i>Reflections on the Sustainability Dialogue, a DST perspective</i>, Kaya Sishuba (on behalf of Thomas Auf der Heyde) Department of Science and Technology (DST), South Africa</p> <p><i>Research for Sustainability and the bilateral S&T agreement</i>, Tanja Froehlich, German Embassy, Pretoria</p> <p><i>Making it happen: Sustainability in the practice of German South African science cooperation - energy, environment and remote sensing</i>, Harold J. Annegarn, University of Johannesburg, Dept. of Geography, Environmental Management and Energy Studies, University of Johannesburg</p> <p><i>Experiences and Challenges in South African-German Cooperation in renewable energies</i>, Hagen Späth, Trium Investments (Pty) Ltd.</p> <p><i>Best practices and lessons learned in transferring sustainable technology from science to the market</i>, Frank Aletter, South African-German Chamber</p> |

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| | <p>of Commerce and Industry (AHK Südliches Afrika)</p> <p><i>DAAD support programmes in sustainability research and training, Ralf Hermann, DAAD South Africa</i></p> |
| 10:00 – 10:15 | REFRESHMENT BREAK |
| 10:15 – 11:00 | Plenary Discussion |
| 11:00 – 11:15 | <p>Closing Remarks</p> <p>Imraan Patel, Department of Science and Technology (DST), South Africa</p> <p>Wolf Junker, Federal Ministry for Education and Research (BMBF), Germany</p> |
| 11:15 – 12:15 | 3rd Meeting of the Joint Working Group Science for Sustainability |
| 12:15 – 13:00 | LUNCH |
| 13:00 – 17:00 | <p>Excursion in the context of “Science for Sustainability”</p> <p>Sustainable Energy: BMBF funded project "EnerKey" at Johannesburg University, a talk with South African Project Coordinator Prof. Harold Annegarn combined with a site visit.</p> |

II. Participants

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About the Organizers

The **Department of Science and Technology** (DST) of the Republic of South Africa strives toward introducing measures that put science and technology to work to make an impact on growth and development in a sustainable manner in areas that matter to all the people of South Africa. This includes focused interventions, networking and acting as a catalyst for change in terms of both productive components of our economy, making it competitive in a globally competitive liberalised environment, and also in respect of the huge development backlog existing among the poorest components of society. The goal of realising this vision is underpinned by development and resourcing strategies for the formation of science, engineering and technology, human capital, democratisation of state and society, promotion of an information society and ensuring environmental sustainability in development programmes (www.dst.gov.za).

The German **Federal Ministry of Education and Research** (BMBF) focuses on people and their ideas by promoting research institutions and universities, by awarding fellowships and prizes, and by fostering competition in education and research (www.bmbf.de). The **International Bureau** of the BMBF at the Project Management Agency DLR coordinates the project “Dialog for Sustainability – D4S” (www.internationales-buero.de) on behalf of the BMBF.

The **United Nations University** (UNU) is dedicated to the generation and transfer of knowledge, and the strengthening of individual and institutional capacities in furtherance of the purposes and principles of the Charter of the United Nations. The mission of UNU is to contribute, through research and capacity building, to efforts to resolve the pressing global problems that are a

concern of the United Nations, its Peoples and Member States (www.unu.edu).

The **Institute for Economic Research on Innovation (IERI)** does policy research in the political economy of knowledge to promote sustainable economic growth, social development and political democracy. IERI (www.ieri.org.za) is based in the Faculty of Economics and Finance of the Tshwane University of Technology.

III. Documentation

All documentation of the conference will be published at:

<http://www.dialogue4s.de/en/270.php>