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South African National Energy Development Institute

Delivering Sustainable Energy

Annual Report 2015/16

Contents

PART A

General Information

Registered name:
South African National Energy Development Institute (SANEDI)

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External auditors:
The Auditor-General of South Africa

Bankers:
ABSA Capital

Company Secretary:
Acorim Secretarial and Governance

Abbreviations and Acronyms

AAAMSA	Association of Architectural Aluminium Manufacturers of South Africa
AFD	French Development Agency
AGSA	Auditor-General of South Africa
ASSA	Academy of Science for South Africa
BEE	Black Economic Empowerment
CCS	Carbon Capture and Storage
CCT	Clean Coal Technologies
CEF	CEF Group of Companies formerly known as Central Energy Fund
CEM	Clean Energy Ministerial
CES	Clean Energy Solutions
CEO	Chief Executive Officer
CER	Centre of Energy Research
CESAR	Centre for Energy Systems Analysis and Research
CFT	Carbon Fuel Tablet
CNES	Centre of New Energy Systems
CO_2	Carbon Dioxide
COCATE	Large-scale CCS transportation infrastructure in Europe
CoRD	Centres of Research and Development
CPI	Consumer Price Index
CPV	Concentrated Photovoltaics
CSAG	Climate Systems Analysis Group
CSC	Community Steering Committee
CSP	Concentrated Solar Power
CSIR	Council for Scientific and Industrial Research
CSIR CSP	CSIR Concentrated Solar Power
CSTDI	Centre for Solar Technology, Development and Innovation
DEA	Department of Environmental Affairs
DID	Gauteng Department of Infrastructure Development
DKK	Danish Krone
DoT	Department of Transport
DoE	Department of Energy
DSM	Demand Side Management
DST	Department of Science and Technology
DTU	Technical University of Denmark
DBREV	Douglas Banks Renewable Energy Vision
dti	Department of Trade and Industry
Dx	Distribution Grid
EDI	Electricity Distribution Industry
EE	Energy Efficiency
EEDSM	Energy Efficiency and Demand Side Management
EMWG	Energy Management Working Group
eNaTIS	Electronic National Administration Traffic Information System
EPD	Energy Performance Database
EPWP	Expanded Public Works Programme
ERC	Energy Research Centre
ESI	Electricity Supply Industry
ETDE	Energy Technology Data Exchange
ETDEWEB	Energy Technology Data Exchange World Energy Base
FMPPI	Framework for Managing Programme Performance Information
GAAP	Generally Accepted Accounting Practice
GEF	Global Environment Facility
GHG	Greenhouse Gas
GIZ	German Agency for International Cooperation
GPDRT	Gauteng Province Department of Roads and Transport
GRAP	Generally Recognised Accounting Practice
GSEP	Global Superior Energy Performance Partnership
IAS	International Accounting Standards
IDC	Industrial Development Corporation
IEA	International Energy Agency
IEP	Integrated Energy Plan
IFPEN	IFP Energies Nouvelles
IIA	Institute of Internal Auditors
IPV	Institute of Photovoltaics
ISGAN	International Smart Grid Action Network
IT	Information Technology
kW	Kilowatt
LAN	Local Area Network
M&V	Monitoring and Verification
MEASA	Marine Energy Association of South Africa
MoU	Memoranda of Understanding

MTEC	Medium Term Expenditure Committee
MW	Megawatt
NAAMSA	National Association of Automobile Manufacturers of South Africa
NBI	National Business Initiative
NDA	National Development Agency
Necsa	South African Nuclear Energy Corporation SOC Limited
NEEA	National Energy Efficiency Agency
NIER	Newcastle Institute of Energy Research
NOK	Norwegian Krone
NRF	National Research Foundation
NWA	Numerical Wind Atlas
OWA	Observational Wind Atlas
PAA	Public Audit Act
PCSP	Pilot CO_2 Storage Project
PDI	Previously Disadvantaged Individual
PFMA	Public Finance Management Act
PPA	Power Purchase Agreement
PPC	Parliamentary Portfolio Committee
PSA	Plataforma Solar de Almería
PV	Photovoltaics
RE	Renewable Energy
RECORD	Renewable Energy Centre for Research and Development
REEEP	Renewable Energy and Energy Efficiency Partnerships
R&D	Research and Development
SABS	South African Bureau of Standards
SACCCS	South African Centre for Carbon Capture and Storage
SACRM	South African Coal Roadmap
SADC	Southern African Development Community
SAfECCS	South Africa - Europe Cooperation on Carbon Capture and Storage
SAGEN	South Africa – German Energy Programme
SANAS	South African National Accreditation System
SANEDI	South African National Energy Development Institute
SANERI	South African National Energy Research Institute
SAPIA	South African Petroleum Industry Association
SAPVIA	South African Photovoltaic Industry Association
SARS	South African Revenue Service
SARETEC	South African Renewable Energy Technology Centre
SASGI	South African Smart Grids Initiative
SASTELA	Southern Africa Solar Thermal and Electricity Association
SATTIC	South African Travel and Tourism Industry Conference
SAWEA	South African Wind Energy Association
SAWEP	South African Wind Energy Programme
SAWS	South African Weather Service
SAYAS	South African Young Academy of Science
SEA	Strategic Environmental Assessment
SETRM	Solar Energy Technology Road Map
SLA	Service Level Agreement
SMME	Small Micro Medium Enterprises
SMART	Specific, measurable, achievable, realistic and time-bound
SOLTRAIN	Southern African Solar Thermal Training and Demonstration Initiative
TAF	Technical assistance facility
TIA	Technology Innovation Agency
Tx	Transmission Grid
UCT	University of Cape Town
UCT CSAG	University of Cape Town Climate Systems Analysis Group
UNDP	United Nations Development Programme
URL	Uniform Resource Locator
VNWA	Verified Numerical Wind Atlas
WASA	Wind Atlas of South Africa
WAsP	Wind Atlas Analysis and Application Programme
WITS	University of the Witwatersrand
WfE	Working for Energy Programme
WWF	World Wildlife Fund
WRI	World Resource Institute
WSU	Walter Sisulu University

Foreword by the Chairperson

Justice N Mlonzi
Chairperson

"I believe that the skillful development of energy resources and infrastructure can alchemise our many resources into a bright, new future."

In September 2015, 193 United Nations (UN) member countries adopted the new, post-2015, sustainable development agenda. For the first time energy was included as a specific goal in the agenda, in acknowledgement of the fact that sustainable energy provides an opportunity that can transform lives, economies and the planet.

In Africa, we entered 2016 with more than 645 million (or almost two-thirds of our continent's population) lacking access to energy. More than 182 million of these people without access to energy are living in the Southern Africa Development Community (SADC) region. The African Development Bank (AfDB) estimates that power shortages and bottlenecks in the energy sector cost African countries as much as 4% of GDP each year. Consequently, the most immediate energy priority for most African countries is to expand access. In fact, providing safe, clean, reliable and affordable energy to those who currently have no access to such is widely viewed as essential in order to progress toward other development objectives.

"SANEDI's energy efficiency programme targets improved energy efficiency among all consumers and, importantly, provides the technical backbone for the country's tax incentive programmes aimed at promoting greater energy productivity."

By comparison, South Africans have been fortunate, with more than 85% of the population having access to electricity (an almost 10% improvement since 2002). But, even among electrified homes, energy poverty remains a concern. Where access to energy is lacking, other urgent human and societal needs also are often not met. In other words, it is possible to greatly improve the quality of life for many poor households by providing them access to an affordable source of energy.

At the level of economic development, energy has been described as the 'oxygen' of the economy and the life-blood of growth. Steady and reliable energy supplies are crucial to growth in developing and emerging economies such as our own. Fortunately, apart from coal and promising potential for gas, our country is blessed with abundant Renewable Energy (RE) resources such as solar, wind, biomass and waste-to-energy. Effectively developing and distributing our rich, natural resources presents an extraordinary opportunity to address our energy needs, support economic growth and deliver socio-economic development that can power and transform our country.

SANEDI's energy development agenda is a key part of this journey. Its portfolio of initiatives is closely attuned to technology advancements, declining technology costs and continued innovation in the energy sector. As a whole, these can enable South Africa to take full advantage of our energy sources and the associated infrastructure development as a vehicle for economic growth, industrialisation, employment creation and sustainable development.

I believe that the skillful development of energy resources and infrastructure can alchemise our many resources into a bright, new future. Despite significant funding challenges, I've seen SANEDI make a marked contribution to the energy sector's transformation during my tenure as Chairperson of the Board. Sector developments and innovations facilitated under the Renewable Energy, Cleaner Fossil Fuels and Cleaner Mobility programmes have provided direct and critical support to important national programmes.

Timeously developed resource maps and detailed resource information, in particular, have contributed to the success of the country's acclaimed Renewable Energy Independent Power Producers Procurement Programme (REIPPPP). Carbon Capture and Storage is proving itself as a viable, climate-friendly solution to mitigate impacts of the coal-fired electricity that has powered South Africa's economy for so long – and that will continue to be a cornerstone of our energy portfolio for the foreseeable future.

The Smart Grids Programme is demonstrating the many facets of an intelligent network as an essential enabler for municipalities to navigate the changing electricity service delivery environment, providing robust and efficient systems that can more readily meet the more complex consumer requirements while limiting the impacts on the municipality itself.

Unsustainable patterns of energy consumption threaten not only human health and quality of life but also affect economic productivity, ecosystems and contribute to climate change. SANEDI's energy efficiency programme targets improved energy efficiency among all consumers and, importantly, provides the technical backbone for the country's tax incentive programmes aimed at promoting greater energy productivity.

The Working for Energy Programme has been providing practical and innovative energy solutions for rural and remote communities, meaningfully improving the lives of many, less fortunate citizens. These solutions offer multiple and far reaching benefits for communities – in terms of job creation (especially for youth and women), skills transfer (new technology), entrepreneurship opportunities, contribution towards carbon mitigation, waste management and development of sustainable, RE generation at household level. This serves as an active empowerment of South Africa's remote rural communities.

It has been a privilege to have served on the SANEDI Board during this past year. I believe SANEDI is making an important contribution to energy development in our country, one that can serve all levels of development in South Africa. I look forward to seeing SANEDI's activities expand, becoming more visible and enabling a more pronounced contribution to the lives of South Africans and the economic and socio-economic development of the country.

Justice N Mlonzi
Chairperson

Board of Directors

Ms N Mlonzi
Chairperson

BProc LLB

Mr J Marriott
Deputy Chairperson

BSc Chem Eng

Ms M Modise

BSc (Hon), HED, MSc (Eng)

Dr D Hildebrandt

BSc Chem Eng, MSc Chem Eng, PhD Chem Eng

Ms D Ramalope

BSc (Hon), MSc, MBL

Mr C Manyungwana

Dip Management, Higher Dip Public Management and Administration, Post Grad Dip Transport Management

Dr V Munsami

BSc (Hon), MSc, PhD

Mr G Fourie

Diploma Mech Eng,
BCom Economics, MBA

Ms P Motsielwa

B Acc (CA)(SA)

Dr C Sita

MSc Chem Eng (Polymer Engineering) PhD Chem Eng (Polymer Engineering)

Mr M Gordon

(alternate director), BSc, MBA

Dr L Maserumule
(alternate director)

BSc (Applied Mathematics), PhD (Applied Mathematics)

Chief Executive Officer's Overview

Kadri Nassiep
CEO: SANEDI

"SANEDI's RE focus is on enabling accelerated and informed development of South Africa's rapidly growing clean energy portfolio."

A new global energy landscape is emerging. Energy sector developments and climate change concerns throughout the world are influencing a large-scale shift to low-carbon energy supplies and solutions with associated changes in infrastructure requirements and the way utilities provide energy services. Many of these global trends are already evident in South Africa.

This rapid evolution presents both risks and opportunities, creating a context within which energy development and innovation is increasingly relevant. The opportunities in particular are pertinent to developing economies, where obsolete solutions can potentially be leapfrogged towards a more sustainable energy future. Fully utilising the opportunities for maximum developmental benefit would require taking note of the turn of events, anticipating the important shifts and skilfully moving with the changes. Being at the forefront of energy development and innovation will therefore be key for South Africa to proactively engage with the rapid changes in the energy sector.

Led by our long-term vision to be the leading clean energy solutions provider for a low-carbon South Africa, SANEDI has been building critical skills and tools to navigate the sector's transformation.

This is an exhilarating phase and I am immensely proud of SANEDI's significant contribution to the energy sector during the 2015/16 financial year.

The year's success culminated with one of the most important events on the international Renewable Energy (RE) calendar. In September 2015, RE took centre stage with the 6th International Renewable Energy Conference (IREC) hosted for the first time on African soil. IREC is the foremost international conference dedicated to RE, providing a global platform for Government, private sector and civil society leaders to advance RE. SAIREC was hosted by the South African Department of Energy (DoE) together with SANEDI, under the theme RE-energising Africa. The conference was made possible by the German Development Corporation, which enabled conference access at no cost to delegates, facilitating broad participation and input to shape Africa's energy future. SAIREC concluded with a commitment by all delegates to work on global universal access to energy and to upscale and mainstream renewables in order to achieve a global energy transition.

Over the past decade these conferences have provided the motivation for several momentous initiatives. Likewise, SAIREC concluded with a commitment by all delegates to work on global universal access to energy and to upscale and mainstream renewables in order to achieve a global energy transition – underscoring the significance of SANEDI's energy development contribution.

SANEDI's RE focus is on enabling accelerated and informed development of South Africa's rapidly growing clean energy portfolio. Besides continued technology innovation and development, SANEDI provides broader support to the fast growing RE sector, including skills development and developing critical resource data. Among our most significant milestones for the year were:

- The South African Renewable Energy Technology Centre, the first national RE training centre in the country, became fully functional in July 2015. SANEDI, through the Renewable Energy Centre of Research and Development (RECORD), has been instrumental in the establishment phase and remains active in an advisory and support capacity.
- The Phase I Wind Atlas for South Africa (WASA) book was launched on 7 September. The Wind Atlas is an invaluable resource for the efficient development of South Africa's wind resources and critical to inform network planning and systems operations. WASA's second phase was also launched in 2015 with the aim to extend the wind resource mapping footprint (which was initially focused on coastal areas).
- WASA critically contributed to the development of the country's Renewable Energy Development Zones (REDZ), which were approved by Cabinet in February 2016.
- The year also delivered a Photovoltaic (PV) / Wind aggregation study that will enable optimal and synergistic development of two of South Africa's most abundant RE resources. The study, developed in collaboration with CSIR and Eskom and made possible by donor funding, was concluded in March 2016.

Energy, as we all know, is an essential contributor to the well-being of people and society. The Working for Energy Programme focuses on taking innovative, sustainable energy solutions to rural and low-income urban areas in the country, thereby actively supporting the Government and DoE commitment to universal access for all South African households.

During the year, the programme delivered more than 50 biogas digesters to rural communities as part of a suite of technologies, including rainwater harvesting systems, solar water heating systems and energy efficiency measures. These initiatives are making a marked improvement to the lives of rural South Africans in the beneficiary areas.

Chief Executive Officer's Overview (continued)

With support from the Department of Environmental Affairs (DEA) and the United Kingdom's Department for International Development (DfID), we also investigated mini-grid and other non-grid solutions for electricity service delivery in remote and rural communities. Such systems of local energy generation, distribution and use bring together the multiple energy efficiency and energy services solutions developed by the Working for Energy Programme. The investigation demonstrated the enormous potential offered by these innovative grid solutions to provide remote communities with reliable and sustainable electricity services; resulting in vastly improved living conditions, enabling economic activity and creating employment opportunities.

Developments in the energy sector is also placing more demands on traditional electricity network infrastructure. Smart Grids – electricity networks that can intelligently integrate the actions of all users and also the growing number of prosumers connected to it – are increasingly recognised as an essential for utilities and municipalities to fulfil their strategic objectives of providing secure, reliable and affordable electricity, while ensuring sustainable operations and enhanced revenue management.

SANEDI, with support from European Union (EU) donor funds, established the Smart Grids Programme to provide technical support, project guidance and project capacity to nine participating municipalities. In line with DOE priority areas, support is focused on metering infrastructure, revenue enhancement, asset management and active network management. Among these participating municipalities the Smart Grid programme has already enabled significant improvements in service delivery and revenue collection, achieving as much as 15% reduction in financial losses where enhanced revenue management was the focus.

SANEDI's Cleaner Fossil Fuels programme pursues alternative, low carbon energy and mitigation options to limit serious, negative environmental impacts from conventional energy sources. During the year we concluded a feasibility investigation for shale gas development in support of critical Government decisions. The South African Centre for Carbon Capture and Storage (SACCCS) brought carbon capture and storage to pilot stage, drawing significant support and commendations from the global community.

During October 2015, SANEDI participated in the International 'World EcoMobility 2015 Festival', a collaborative initiative between the City of Johannesburg and International Council for Local Environmental Initiatives (ICLEI) . During this month, conventional modes of transport into Sandton, Johannesburg's economic hub, were prohibited allowing EcoMobility alternatives. SANEDI's Cleaner Mobility Programme, with the support of the Department of Transport, had the opportunity to demonstrate innovative, clean transport options by providing actual transport in the business district.

The importance of improved energy efficiency as a key enabler for economic productivity and growth in South Africa is duly recognised by the South African government. Two tax incentive mechanisms have been established to promote improved energy performance for businesses. During the year, SANEDI provided technical support to both these incentive programmes, which are estimated to have reduced annual energy consumption by at least 1.5 TWh.

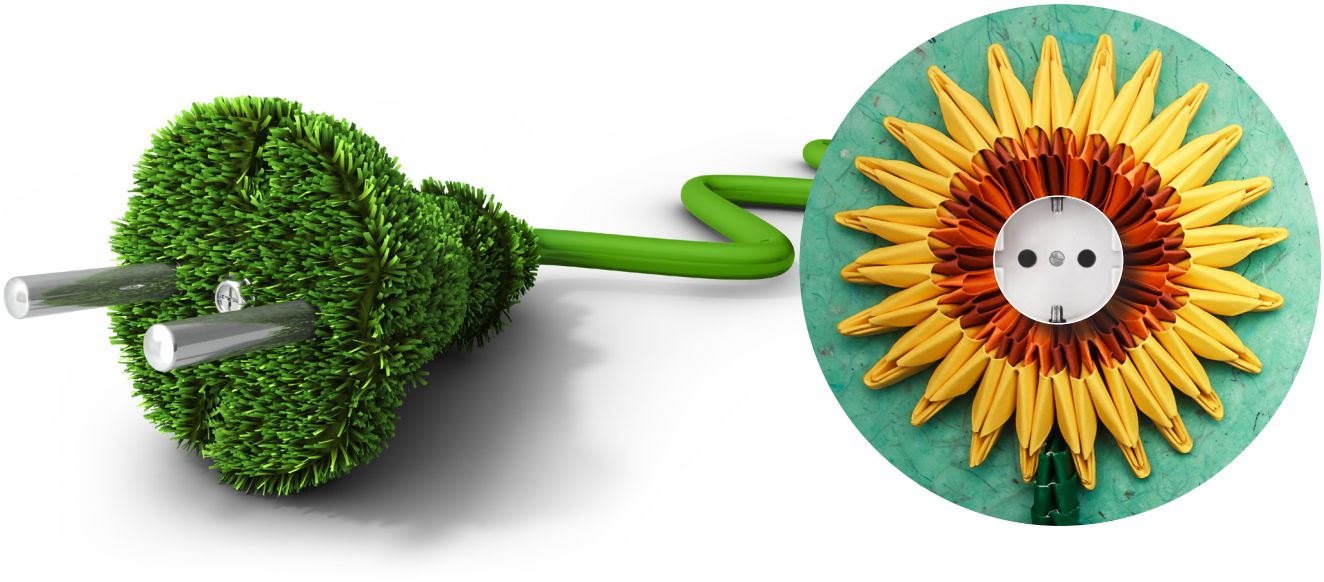
SANEDI also provided technical and project delivery support to international partners, including collation of energy data for the global BigEE knowledge platform (coordinated by the Wupperthal Institute) and hosting the French Development Agency (AfD)'s Sustainable Use of Natural Resources and Energy Finance (SUNREF) technical assistance facility.

Building a strong team

During this financial year, the number of employees across SANEDI's range of programme activities increased to 54. Building an effective team, skills and capacity that will effectively serve the energy sector, depend on appropriate structures and strong leadership. We aim to continuously improve our leadership team and foster a unique performance culture. During this year, SANEDI appointed our first Human Resource Manager to drive and prioritise the development of our people.

We believe a diverse team that blends different cultural backgrounds and work experiences is an important success factor. We actively manage diversity and have made significant progress over the past years as demonstrated by our team composition for 2015/16. With respect to gender equity our team has equal representation by female and male employees, accurately reflecting the demographics of the country.

Blacks		Coloured		White		Indians	
Females	Males	Females	Males	Females	Males	Females	Males
20	15	1	2	4	5	2	5



"SANEDI remains committed to provide technology innovation, knowledge resources and development leadership, while best leveraging our available resources to make a maximum contribution to a cleaner energy sector that can underpin sustainable economic growth."

SANEDI also focuses on skills development to support the rapidly growing energy sector. During the year we hosted seven interns and supported 11 students studying at related training facilities in the country.

Building strategic relationships

This year's performance would not have been possible without the generous support of international development partners. Strong relationships with partner organisations are a critical success factor for our organisation. In 2015/16 we relied on 12 active collaboration and transformative partnerships, five of which were newly established or renewed during this year.

A platform for good governance and efficiency

We aim to continuously streamline structures and platforms to improve operational efficiency and governance. In 2015, we made significant progress with standardised, digitalised and accelerated business processes. We also successfully implemented internal controls that manages our supply chain and purchasing activities in line with legislation, policies and practice notes.

Sound financial management

Even so, this year has not just been plain sailing. The critical juncture of transformation in the energy sector – when the demand for innovation, development and skills in the energy sector is at its peak – coincided with a severe budget cut. During the 2015/16 year SANEDI faced serious budgetary constraints, with a limited funding allocation under the Medium Term Expenditure Framework (MTEF) that has been reduced by 66% for the 2016/17 financial year.

Committed to leadership in sustainable energy

I would like to thank all SANEDI employees for their unfailing dedication and contribution to our performance this year, despite the financial hurdles. I would also like to thank our supervisory bodies, the SANEDI board and the DOE as our shareholder, for their invaluable guidance and support/oversight. I would like to especially thank our international development partners for their continued trust, support and generosity in sharing knowledge, resources and funding that have made possible much of our contribution to the energy sector.

SANEDI remains committed to provide technology innovation, knowledge resources and development leadership, while best leveraging our available resources to make a maximum contribution to a cleaner energy sector that can underpin sustainable economic growth.

K Nassiep
Chief Executive Officer
SANEDI

Statement of responsibility and confirmation of accuracy for the annual report

To the best of my knowledge and belief, I confirm the following:
All information and amounts disclosed in the annual report is consistent with the annual financial statements audited by the Auditor General.

The annual report is complete, accurate and is free from any omissions.

The annual report has been prepared in accordance with the guidelines on the annual report as issued by National Treasury.

The Annual Financial Statements (Part E) have been prepared in accordance with Standards of Generally Applicable Accounting Standards (GRAP) applicable to the public entity.

The accounting authority is responsible for the preparation of the annual financial statements and for the judgements made in this information.

The accounting authority is responsible for establishing, and implementing a system of internal control has been designed to provide reasonable assurance as to the integrity and reliability of the performance information, the human resources information and the annual financial statements.

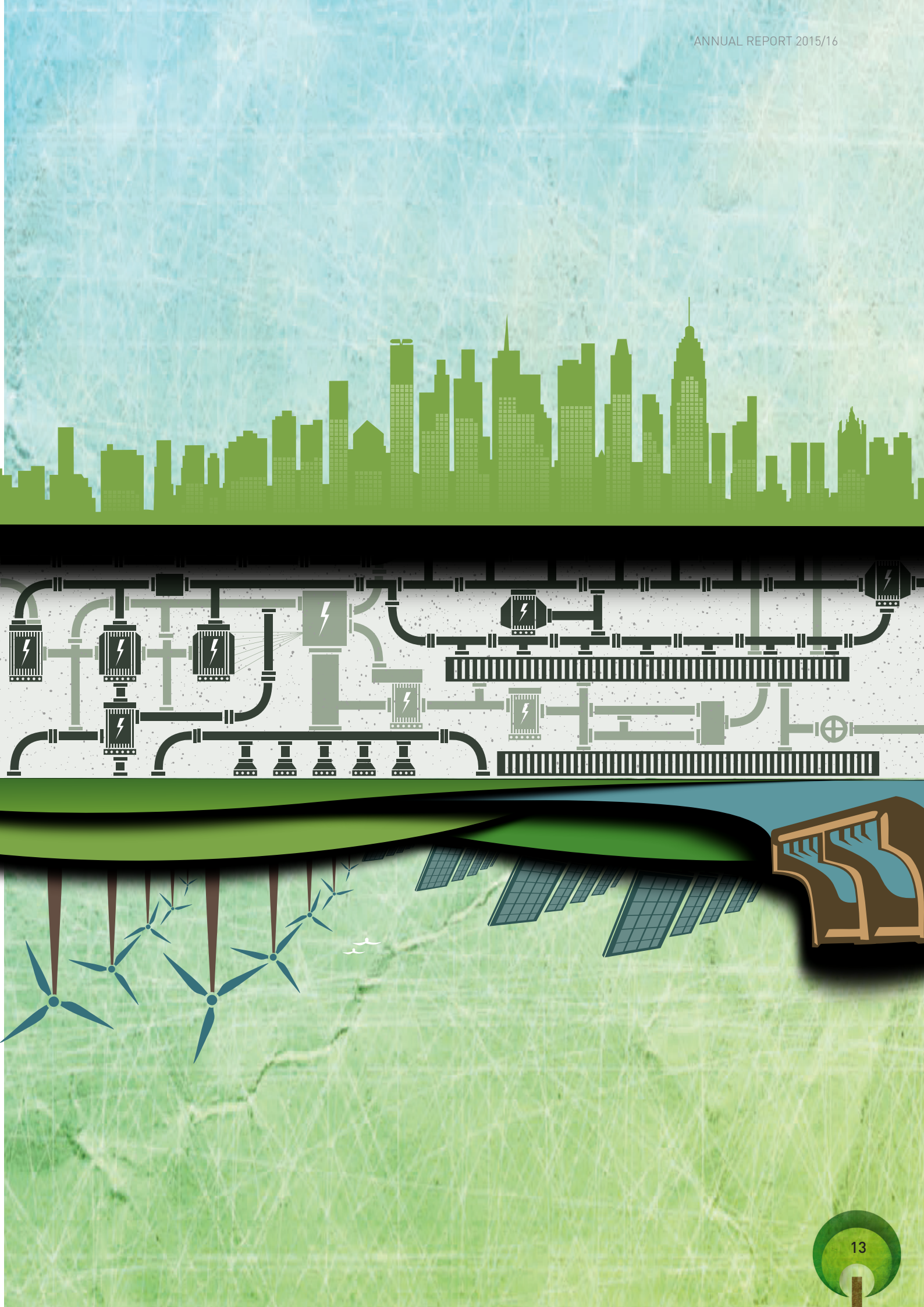
The external auditors are engaged to express an independent opinion on the annual financial statements.

In our opinion, the annual report fairly reflects the operations, the performance information, the human resources information and the financial affairs of the entity for the financial year ended 31 March 2016.

Yours faithfully

Kadri Nassiep
Chief Executive Officer

29 July 2016



Strategic Overview

Vision

Leading clean energy solutions provider for a low carbon South Africa

Mission

Accelerating the implementation of energy research and development, improving energy efficiency and increasing the uptake of RE to the benefit of South Africa

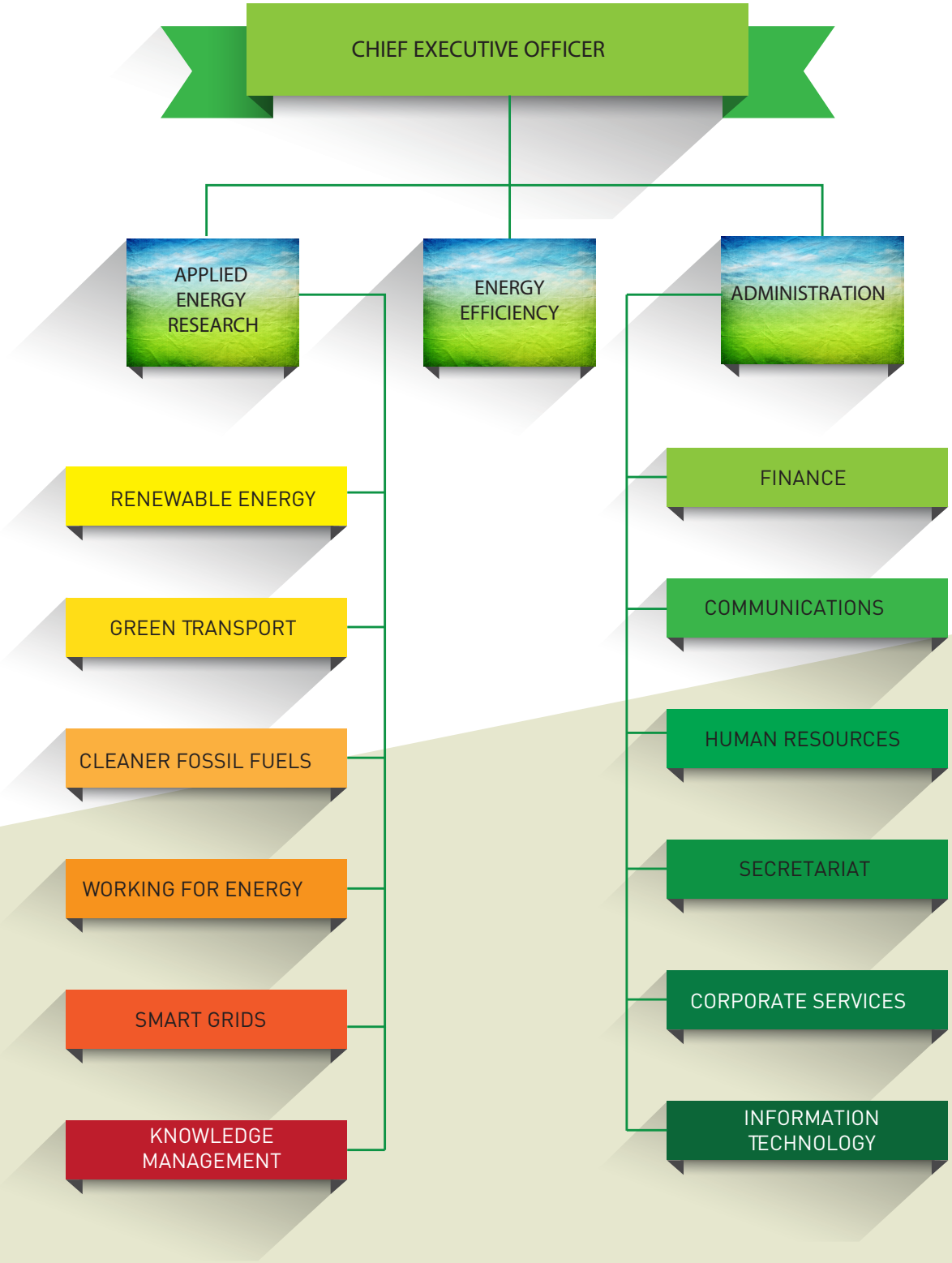
Values

- Innovation
- Accountability
- Transparency
- Batho Pele
- Integrity/Honesty

Legislation

The National Energy Act, 2008 (Act No 34 of 2008), Section 7 (2) gave effect to SANEDI's existence and provides for its primary mandate and specific responsibilities. The Act provides for SANEDI to direct, monitor and conduct energy research and development as well as undertake measures to promote energy efficiency throughout the economy.

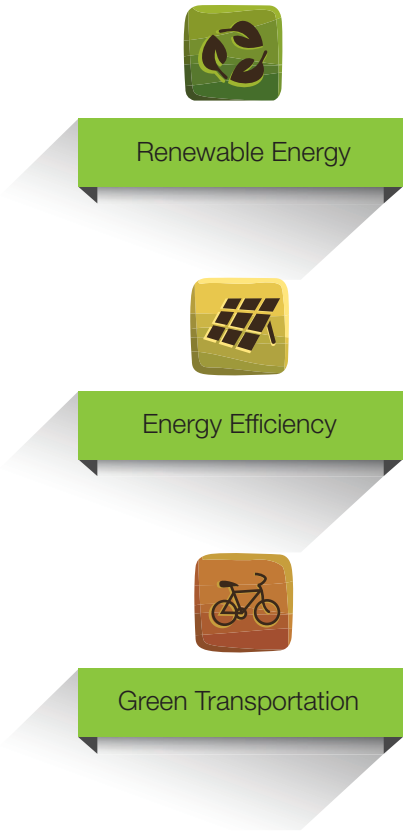
Organisational Structure



Performance Information

Auditor-General's Report: Predetermined Objectives

The report of the Auditor-General on predetermined objectives is on page 88 to 90 of the annual report.



Strategic Outcome Orientated Goals

SANEDI is expected to contribute to Government's twelve outcomes, which are based on the Medium Term Strategic Framework (MTSF) that clearly articulates the energy agenda. SANEDI contributes to the following three outcomes that the Minister of Energy has committed to:

STRATEGIC OUTCOMES	PROGRAMMES	STRATEGIC OBJECTIVES
All/Crosscutting	1. Corporate governance and administration	• Corporate, executive, financial, information, supply chain management, governance and compliance support to the Institute • Strong collaborative approach and strategic international collaboration
Enable well informed and high confidence energy planning, decision-making and support policy* development Support accelerated transformation to a less energy and carbon intensive economy	2. Applied energy research and development, including subprogrammes for: • Cleaner fossil fuels, including Carbon Capture and Storage • Renewables • Smart Grids • Working for Energy • Data and Knowledge Management • Cleaner Mobility Programme	• Knowledge creation in support of policy direction and viable cleaner energy options • Knowledge creation in the energy mobility and cleaner mobility sector in support of policy direction • Intelligent energy systems infrastructure • Demonstrate cleaner energy technology opportunities and solutions • Due custodianship of knowledge and data developed within SANEDI
Foster a culture of energy efficiency and more rational energy use	3. Energy efficiency programme	• Support the Income Tax Amendment Act section 12I and 12L relating to the tax rebate for energy efficiency improvements • Management of the EEDSM Hub and oversight of the Hub to a CORD • Provide industry support and capacity building • Provide a national champion coordinating service for all energy efficiency awareness and promotion initiatives • Establish a national measurement and verification centre

Performance Information by Programme

Applied Energy Research: Cleaner Fossil Fuel

Cleaner Fossil Fuel

Investigations were undertaken as pertained to the development of a shale gas industry in South Africa. Reports on the following were completed:

- Carbon dioxide as an extraction agent;
- CO_2 reduction potential;
- Demand and supply match;
- Water and waste issues;
- Risk assessment; and
- Geography and surface issues.

The study objective and targets were to address shale gas issues such as:

- Diversity of energy supply;
- Water demand and availability;
- National carbon dioxide emissions reductions;
- Job creation opportunities;
- Pipeline infrastructure development; and
- Environmental and economic risks.

All of these feasibility issues pertained to the development of a shale gas industry in South Africa.

Although the research focused on local issues, there are a significant number of commonalities related to shale gas exploitation on a global basis. Specifically, this research did not investigate geological matters [which are location specific], but instead addressed more universal matters. Therefore, results of the research can be applied to global applied research and shale gas development projects.

Shale gas is mentioned four times in the MTSF and eight times [and an individual section] in the National Development Plan, which states that; "…technically recoverable shale gas resources in South Africa form the fifth largest reserve globally… shale gas as a transitional fuel has the potential to contribute a very large proportion of South Africa's electricity needs."

The current study has investigated the non-geological aspects of shale gas development as a decision support to Government with regard to the exploitation of shale gas as an indigenous and low carbon energy supply. Shale gas, once developed, has the potential to be a game-changer in the energy economy of South Africa, addressing security of supply as well as affordability.

Carbon Capture and Storage is one of the National Flagship Programmes listed in the National Climate Change Response Strategy White Paper. The determination of the potential and appropriateness of geological storage of carbon dioxide in South Africa has led to the Pilot CO2 Storage Project (PCSP). The PCSP was established as a Cost-Centre within SANEDI to complement the South African Centre for Carbon Capture and Storage (SACCCS).

The Data Inventory Framework has been completed and assimilates all geological information on the Zululand basin into a single database, thus allowing easy access to the geological records and allowing for cross reference, thereby saving resources, time and money.

The exploration permit application was submitted to the DMR. However, it has since been resolved to undertake the exploration under the Council for Geoscience Act 1993 as amended.

The Environment and Social Impact Assessment (ESIA) was completed and provides an in-depth understanding of the Environmental and Social impacts and mitigation measures to be implemented for the geological seismic and drilling exploration programme.

The draft exploration plan has been completed and addresses the research programme required in terms of schedule, timing costs & resources required to fill the gaps in the current geological information and thus provide for the determination of whether conditions are suitable for CCS.

The objective of the Pilot Monitoring Project (PMP) is to develop capacity and protocols for the measurement of surface carbon dioxide in preparation of the PCSP. The results are also being used to inform local residents as to the nature of these natural releases.

A PCSP Stakeholder Engagement (SE) Plan was compiled using World Bank and other international bodies' similar documents as a baseline, thereby providing a programme to raise CCS awareness and solicit support for the PCSP. The success of the PCSP is dependent on the acceptance by key Government structures and landowners.

The South African carbon capture and storage programme is being regarded by the international community as a flagship programme for carbon capture and storage being implemented in a developing country.

Thirty three key stakeholders were consulted to garner support. These included, amongst others; the National and Provincial Houses of Traditional Leaders, Ingonyama Trust Board, responsible for 75% of land ownership in the KZN, UMkhanyakude and Ugu District and UMhlabuyalingana, Mbizana Local Municipalities, Amafa / Heritage KZN, ISimangaliso Wetland Park Authority and KZN Department of Rural Development and Land Reform – Land Claims Commission.

Moreover, SE was an essential part of the successful implementation of Phase I of the Pilot Monitoring Project in Bongwana.

The South African Carbon Capture and Storage programme is being regarded by the international community as a flagship programme for carbon capture and storage being implemented in a developing country.

The PCSP will improve the understanding of the geology of the continent and easy access to information will allow for comparative studiesstudies, thus improving information sharing and lessons learnt. This leads to access to international expertise so South Africa can leap-frog early work done by other successful carbon capture and storage projects, enabling faster and lower cost delivery.

It is intended to apply to have the PCSP recognised as a Carbon Sequestration Leadership Forum CSLF, an international ministerial body project.

The Pilot Monitoring Project (PMP) Phase 1 already had international participation with researchers from the British Geological Survey and the Scottish Carbon Capture and Storage contributing to the research work. Such participation adds globally to the body of knowledge for the natural CO_2 release site and the source of the CO_2 which improves local knowledge and international capacity on a natural CO_2 release site. Increased collaboration between scientists globally brings the area of focus to the international arena, thus promoting further international investigating and the publishing of scientific papers for the Bongwana site.

An abstract has been submitted to the IEA GHGT13 Conference regarding sharing CCS perceptions in South Africa.

From time to time SANEDI/SACCCS assists neighbouring countries in CCS matters.

Carbon Capture and Storage is mentioned indirectly twice in the MTSF through environmental references and the need to mitigate carbon emissions; and mentioned explicitly thrice in the National Development Plan that states:-
“Given South Africa’s dependence on coal, it makes sense to investigate carbon capture and storage that takes into account economic, environmental and technological feasibility.”

Moreover, The South African government has further mandated the development of CCS in South Africa via the following:

- CCS is part of the long-term Mitigation Scenarios previously developed by the then Department of Environmental Affairs and Tourism;
- CCS is one of South Africa’s eight Near-term Priority Flagship Programmes of the National Climate Change Response White Paper, October, 2011 that looks to address both greenhouse gas mitigation and climate change adaptation; and
- Cabinet endorsed the South African CCS Road Map during May, 2013.

In order for South Africa to achieve its green-house gases emissions reduction target, carbon capture and storage participates with other mitigation measures such as energy efficiency, RE, fuel switching and nuclear energy. CCS has the potential to prevent tens of millions of tonnes of carbon dioxide being released into the atmosphere. Noting that South Africa will continue to use fossil fuels for the foreseeable future, carbon capture is seen as a transition technology until renewables and nuclear energies can play a larger part in the energy economy.

Cleaner Fossil Fuels (continued)

CCS is being developed over the medium term with the next phase being a Pilot Storage Project; thereafter an Integrated Demonstration is scheduled to be undertaken. One of the immediate impacts on people's lives is the awareness of climate change and mitigation measures as achieved through the stakeholder engagement programme.

Oversight of the implementation of the National Carbon Capture and Storage Road Map and associated capacity building continues under SACCCS. The re-organisation of SACCCS to facilitate the formation of the PCSP within SANEDI has been accomplished.

To date, seven masters and three doctorate students have graduated. There are currently six masters bursars studying. A total of seven [including three during 2015/16] non-bursary support initiatives (in the form of equipment, etc.) have been implemented. This programme has seen an increase in graduate numbers in SA that may be utilised directly in CCS or other fields.

A general Stakeholder Engagement Plan was compiled, based on World Bank and other international bodies' documents.

The SE Plan is a structured approach to raise awareness on CCS in general as one of the portfolios of technologies that mitigate against Climate Change.

Phase 1 entailed working in synergies with the Department of Basic Education's Districts and the Environmental Education Centres to solicit their support to incorporate basic CCS in their existing curricula/programmes with emphasis placed on demystifying Maths, Science & Technology.

Twenty-two key stakeholders were consulted including, among others; the Sedibeng East, Nkangala and UMkhanyakude Education Districts as well as Environmental Education Centres such as SANBI, Ndumo & Isibusiso Esihle.

Toolkits informed by the latest science trends from around the world were developed to assist teachers and learners understand Climate Change and Environmental issues. SANEDI/SACCCS has provided hands-on CCS Educational Toolkits affording grade 5 – 11 learners opportunity to conduct a scientific-inquiry and action-based approach to learning.

A CCS website is maintained and linkages provided for international CCS bodies. The visits/hits for 2015/16 total ~500,000.

Four proFour CCS support projects were initiated, one related to international co-operation and the other focusing on the impact of Carbon tax on CCS. These projects form a baseline for the eventual roll-out of CCS as a greenhouse gas mitigation measure in support of a national target.

The Fourth Biennial CCS Conference was held during October, 2015, with local and international participation. For the first time, local stakeholder representatives participated as speakers. The outputs of the conference are being used to improve delivery of CCS in SA.

As part of raising SA's profile, SANEDI/SACCCS is a member of the following international CCS organisations;

a. Carbon Sequestration Leadership Forum CSLF – Ministerial level global organisation
b. International Energy Agency Greenhouse Gas programme, IEAGHG
c. Global Carbon Capture and Storage Institute, GCCSI

Such membership brings access to international CCS expertise as well as participating in international projects. The international profile also facilitates access to funding undertake, for example, pilot project in South Africa. Moreover, the outputs of the SANEDI/SACCCS work is presented at international meetings.

Catalysed by the SACCCS, the following co-operative academic programmes [including courses and workshops] have been instituted:

a. University of the Witwatersrand and the Norwegian University of Science and Technology
b. University of Pretoria and University of Oslo
c. University of Western Cape and the Norwegian University of Science and Technology

These co-operations facilitate the transfer of CCS knowledge from Norway a leading CCS country, and South Africa.

A member of staff from SANEDI/SACCCS was selected to attend the IEAGHG Summer School on CCS scheduled to be held in Regina, Canada.

SANEDI was selected to part-organise [under a contract with the GCCSI] the Austin, USA Workshop on Off-Shore Storage of Carbon Dioxide.

Schools provide a focal point for engaging in stakeholder support and capacity building as well as raise awareness and understanding of local CCS activities. Developing relevant CCS educational material can be challenging – considerations such as educational standards, language and conceptual fit with existing curricula, teacher capacity, and placing CCS in a meaningful context, all contribute to the implementation of CCS-related curricula in all countries.

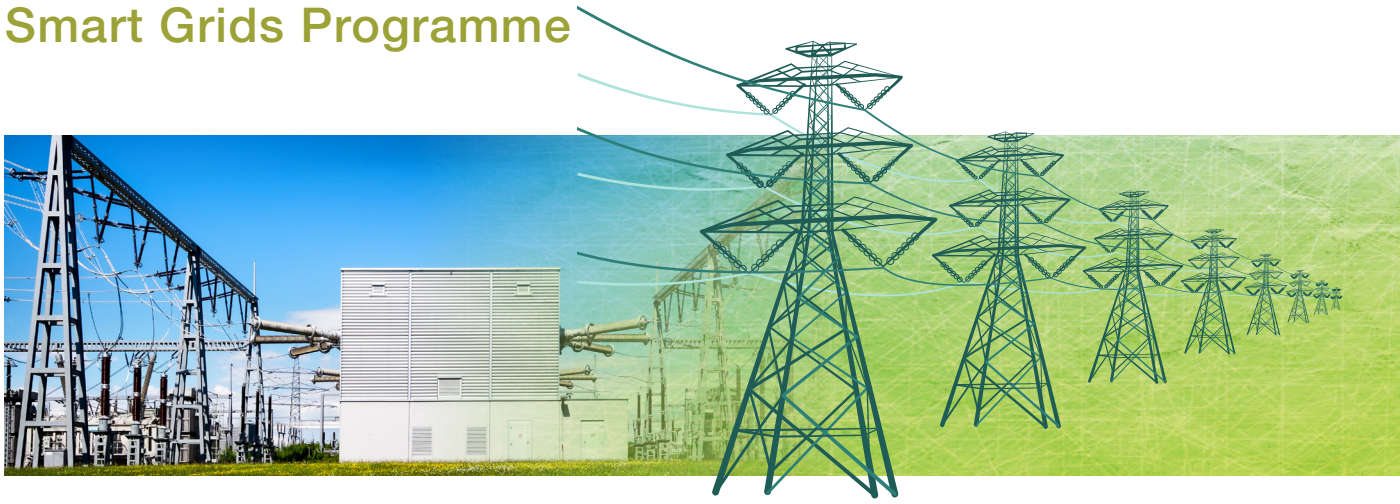
SANEDI/SACCCS embarked on a CCS Education case study in 2015/16 funded by the Global Carbon Capture and Storage Institute (GCCSI), a first for South Africa as a developing country.

Lastly, SANEDI conducted a Basic Education Districts Roadshow to expose the case study consultant to the South African Education Environment in Gauteng and KwaZulu-Natal.

Performance Information by Programme

Applied Energy Research: Smart Grids Programme

Smart Grids Programme



The uninterrupted supply and sustainable provision of electricity are critical components in economic growth and development. However, the challenges of providing secure, reliable and affordable electricity in support of socio-economic development through service delivery, has proven to be a monumental task, especially for municipalities. The development of innovative strategies and technological advancements are needed to change the status quo in the availability of electricity, delivery of secure and affordable electricity while keeping the municipality sustainable. The effective deployment of smart grids in the Electricity Supply Industry (ESI) is recognised as a key business enabler. The implementation of appropriate technology contributes, among others, to improved customer service, improved business efficiency and business sustainability. Thus, the positive results that are observed from the deployment of smart grids, provide an effective solution to address some of the challenges that municipalities and utilities are faced with. The capital investment into smart grids takes a value inclusive approach to test solutions that transition a utility into becoming an efficient and effective, financially sustainable entity.

The desirability of smart grid concepts and technologies has gained noticeable interest in South Africa, with more utilities/municipalities looking for ways to improve performance and the long-term outlook of fulfilling their strategic objectives, while ensuring sustainable operations and enhanced revenue management. A smart grid is an electricity network that can intelligently integrate the actions of all users connected to it – generators, consumers and those that do both, in order to efficiently deliver sustainable, economic and secure supplies.

The SANEDI Smart Grids Programme stands in alignment with the strategic objectives of the Department of Energy (Electricity Chief Directorate) and is dedicated to carrying out Applied Research Projects to test and deploy various smart grids concepts within the South African Electricity Distribution Industry (EDI). The programme within its capacity, facilitates the implementation of nine pilot projects, which are intended to improve the sustainability outlook of operating a utility.

The Smart Grid Programme addresses Government's MTSF objectives of energy transformation and service delivery. With regards to energy transformation, technology innovation is used as an enabler for change. The introduction of smart grid technology is a key enabler for South Africa to achieve its energy mix. Without smart grids large scale integration is impossible. This allows South Africa to meet its climate change objectives at municipal level. With regards to service delivery, smart grid technology is enabling the use of integrated systems and processes in the municipal environment, thus enabling efficiencies and effectiveness not seen before in the municipal environment. The nhanced revenue projects are clearly showing that if the projects are holistically designed and project managed, these can enable the municipalities to minimise energy losses and optimise revenue collection.

European Union (EU) Donor Funded Smart Grids Programme

The Department of Energy (DoE) identified four areas within the Electricity Distribution Industry (EDI) that require policy and regulatory input. These four areas resulted in the selection of nine municipalities to participate in projects that are aimed at addressing issues within a municipality. With what was envisioned by the DoE, these projects would serve as stepping stones in defining the future smart grids policy for South Africa. The aim and intention of these pilot projects are to demonstrate the value proposition in the DoE priority areas and allow us to understand the business case and implementation lessons learned.

The SANEDI Smart Grids Programme team functions as the implementation arm of the Electricity Policy Directorate of the DoE under the EU Donor Funded Smart Grids Programme. In its capacity, it offers technical support, project guidance and project capacity to the participating municipalities and utilities. The team plays a pivotal role in making sure that the projects are able to identify well with the needs of the municipality; that there is integration and alignment between project plans and budget margins in the realisation of objectives.

Smart Grids Programme (continued)

Applied Research Pilot Projects

City Power has an innovative aspect to the project, Automated Remote Appliance Management for Load Limiting purposes. These components include a smart switch, GSM network, web application for end customers, web base management platform for the control centre and a high availability data centre. The Smart Switch Devices report to a back end platform from where the switches can be controlled and monitored. The City Power project has the potential to inform industry and other municipalities on strategic and innovative ways of addressing key industry areas such as Free Basic Electricity, Time of Use and Inclined Block Tariff.

Nala Local Municipality – Revenue Enhancement

Nala Local Municipality has advanced well along its project phases. Nala has currently deployed over 60% of its smart meters and is busy documenting the development approval report with the appointed service provider.

Mogale City Local Municipality – Revenue Enhancement Project

Two separate service providers have been appointed to carry out this project. One for installing smart meters and the other responsible for the back office set up. Both systems are integrated in the municipality's existing billing and vending systems. The replacement of old kiosks with tamper proof kiosks was completed and is now fully functional with 600 smart meters.

Naledi Local Municipality – Revenue Enhancement

Naledi is undertaking the implementation phase of the project and are well into the deployment of smart meters and the integration into the back office. Naledi was running at an electricity revenue loss of 23% in 2014. With the successful deployment of just over 80% of its smart meters, its losses have been reduced to 9%. It has found that within its large power user base, there is a significant number of meter bypasses. This has been corrected and strictly enforced via the remote capability of the back office.

Msunduzi Municipality – Advanced Asset Management

Msunduzi Municipality in particular has been a challenging project. The Project Facilitation Team (PFT) decided to reduce the scope of this project and reallocate the balance of funding (R15 million) to performing projects. A work plan was developed to cover a limited scope of work that makes it possible to use the already allocated funds of R5 million. They have successfully concluded the new scope of work which focus on detailing the status of critical electricity assets and mitigation strategies. The municipality may be considered in the next round of allocations and have addressed fundamental issues and are ready to address other challenges going forward.

A kiosk containing a Data Concentrator Unit (DCU) at Naledi Local Municipality acting as a central point for smart meters within a geographical location.

Control panels inside the main Substation at Nala Local Municipality.

EThekwini Municipality - Active Network Management

EThekwini has successfully completed the major phases of the project. The project is focused on active elements within the distribution grid and showcasing a fully installed Advanced Distribution Management System that addresses the operations of its entire utility spectrum. A pre-installation (sweep) exercise commenced in November 2015 to check the status of network infrastructure, among others. The supply and setup of multi-vendor master stations (MVMS) and the first module (prepaid) were installed and tested in December 2015. Systems went live in January 2016.

Nelson Mandela Bay Municipality (NMBM) – Advanced Asset Management

Nelson Mandela Bay Municipality (NMBM) has been one of the best participating municipalities on the programme. They are presently deploying remote surveillance cameras at strategic locations to support critical utility assets and also the deployment of broadband communication and hotspots to support the future rollout of smart meters, field devices and free internet services for customers within hotspots.

Recently commissioned data asset management control room at Nelson Mandela Bay.

University of Pretoria Collaboration

The University of Pretoria in collaboration with the SANEDI Smart Grids Team is taking the lead on the review of South Africa's metering code into a more advanced smart metering code. The purpose of this collaboration is to make an investment into advancing critical skills in South Africa and provide funding for students within the Engineering Faculty. This was realised by the selection of students from Undergrad level to PhD level. A total number of 11 students were selected, including those who are previously disadvantaged. In addition, the programme encourages the upliftment of female students in the field of Engineering.

Programme Ultimate Deliverables: Policy Recommendations

In fulfilling the essence of the EU programme, the SANEDI Smart Grids team has submitted the final Policy Recommendation Paper to the DoE for policy consideration. These policy recommendations contribute to enhancing the prospects of smart grids in South Africa by considering a number of alternatives on how best to go about addressing the problem within the Municipal Electricity Distribution Departments (MEDD). As one of the Ultimate Deliverables on the EU Donor Funded Smart Grids Programme, the Policy Recommendations Paper to the DoE highlights policy gaps identified while implementing the pilot projects. The document captured the essence of what the EU programme is and how it feeds into and contributes to the formulation of national policy that directly speaks to the implementation in the development of smart grids in a South African context.

South African Smart Grid Initiative (SASGI)

SASGI is a stakeholder participation driven initiative. The SASGI industry representation reflects an all-inclusive stakeholder grouping of relevant Government departments, utilities and industry-related representative organisations.

SASGI continuously holds quarterly meetings throughout the year, hosting stakeholders ranging from policy makers, technical experts, researchers, utilities and municipal officials within the industry. Moreover, SASGI's meeting have been instrumental in shaping and guiding the direction the industry is taking. The discussions of the meeting are valuable through the dissemination of information and the contribution of ideas and practices.

Smart Grids Programme (continued)

International Smart Grid Action Network (ISGAN)

South African participation in the international arena is of extreme importance, especially to the globally competitive world of a modern society. South Africa's involvement in ISGAN provides the opportunity to leverage on international case studies and lessons learned. SANEDI acts as the bridge between both worlds and shares relevant information with industry through SASGI. Through our participation in ISGAN we are able to contribute to the development of standards and the identification policies and regulations that are aligned to the objectives of sustainable energy and clean energy solutions.

South Africa is represented at ISGAN in both Annexure 3 and 6. Considering that smart grids are gradually becoming relevant in South Africa, it is important that we assimilate ourselves as a country to best practices and standards through international organs such as ISGAN.

SA-EU Dialogue Facility

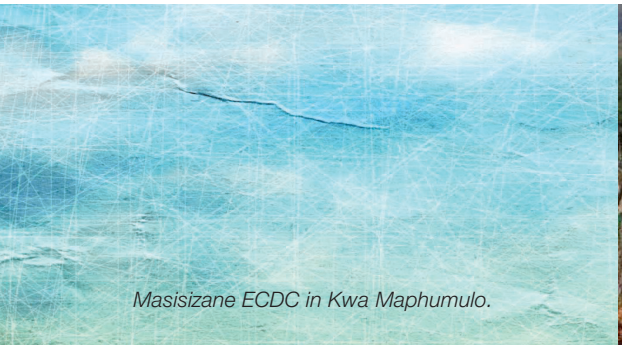
South Africa and the EU consider each other as strategic partners. SANEDI Smart Grids Programme is presently implementing a project funded by the SA-EU Dialogue Facility (Bridging Phase). The significance of the project is to set South Africa on the path of developing a National Smart Grids Vision. This project is intended to bring together policy makers and technical experts within the energy departments and other organs of state for the purpose of refining and making the Smart Grid Vision Document more relevant to the South African energy context and the national roll out of smart grids.

Main utility control room at Nelson Mandela Bay Electricity.

Performance Information by Programme

Applied Energy Research: Working for Energy

Working for Energy



Masisizane ECDC in Kwa Maphumulo.

The Working for Energy Programme (the Programme) is a multi-year Renewable Energy (RE) Programme under the Environment and Culture Sector of the Expanded Public Works Programme. It is aimed at delivering clean energy solutions to rural and urban low income communities through labour intensive methods where possible, with special emphasis on empowering youth, women and people with disabilities.

The programme is in its seventh year of operation and has gained traction with the roll-out of its project pipeline in KwaZulu-Natal, Limpopo, Gauteng, Eastern Cape, Northern Cape and the North West.

Investigation into Energy Islands for Application in South Africa

The concept of the sustainability of a mini-grid as an option for the electricity service delivery in remote and rural communities in South Africa had not yet been thoroughly investigated. To this end, SANEDI, in partnership with the National Department of Environmental Affairs and the DFID through Cardno Emerging Markets have initiated a study to determine challenges impeding the implementation of mini-grids in South Africa. The study has been completed and it provides proposed implementation strategies for the implementation of mini-grids and other non-grid systems.

Applied Research in Rural Energy Provision

This year epitomises the culmination of efforts to showcase the concepts of greening of community facilities and households. The programme has created enough comprehension of the operational issues to transition from the demonstration stage to the roll out stage effective from the 2016/17 financial years, fiscal resources permitting. This will enable the Clean Energy sector to meaningfully contribute towards the attainment of the MTSF objectives – energy poverty eradication, job creation, skills development and improving the quality of life of the low income communities.

Working For Energy Projects

The Working for Energy Programme continues to roll out various technologies in a number of communities detailed below.

MasisizaneEarly Childhood Development Centre in Kwa Maphumulo

Bio-energy Cluster Projects

Expansion of the iLembe Biogas Project

Following the successful implementation of the Ndwedwe rural energy project in the iLembe District Municipality, which was completed in the 2014/2015 financial year, the skills created in the project were used in the project expansion to "green" two Early Childhood Development Centres (ECDCs) namely, the Masisizane ECDC in Kwa Maphumulo and the Sigcawu ECDC in Kwa Ximba. Both ECDCs were finalists in the 2014/15 Provincial NDA ECDC Awards. The projects were implemented as part of the existing SANEDI-NDA partnership.

The suite of technologies implemented at each ECDC included a rainwater harvesting system, 200 litre solar water heater system, energy efficient lighting and a six cubic meter biogas system using biowaste to produce biogas for cooking. All the interventions were initiated, installed and commissioned in the reporting period.

Sigcawu ECDC in Kwa Ximba.

Ms Ngubane, Principal of the ECDC, cooking on a biogas stove.

Lack of reticulated municipal water, compounded by the drought in the Kwa-Maphumulo/Kwa Dukuza areas led to the Masisizane ECDC suffering severe water shortage. The project was further expanded to include additional rain water harvesting tanks, water purification, and a pumping and reticulation system to counter the impacts of the lack of reticulated water to the ECDC.

The ECDCs service a combined total of approximately 200 children. These interventions resulted in an immediate cost savings for the ECDCs and lowered the overall running costs of the institutions.

Melani Biogas Project

Phase 2 of the Melani Project in partnership with the University of Fort Hare commenced in the 2014/2015 financial year. The unforeseen harsh ground conditions had caused delays in project implementation. The successfully trained local personnel led to the construction of three biogas digesters for three ECDCs. The project is well positioned to be completed in the next financial year.

The novel approach to project implementation coupled with the successful extensive stakeholder engagement process led to the University of South Africa (UNISA) taking a keen interest in our project has contributed to further expand the Melani Biogas Project by funding the installation of a further 13 biogas digesters for research purposes.

Mpfuneko Biogas Project

This project has been ongoing for a number of years and has been beset by a number of challenges, including water shortage in the greater Giyani Municipality area and the national drought, which led to a shortage of both water and cow dung necessary for the operation of the digesters during the 2015 and 2016 calendar years. This resulted in the testing of the digesters being compromised.

The construction of 40 out of 55 biogas digesters was completed during the reporting period with two of these being fully commissioned. The balance will be water and gas tested for commissioning in the next financial year.

Greening Of Tygerkloof Combined School

An MoA between SANEDI and the Tygerkloof Combined School regarding the greening of the school near Vryburg, in the Dr Ruth Segomotsi Mompati District Municipality has been concluded. Due to the hardness of the water in the area, the project commenced with the installation of a water purification system to enable solar water heating systems. The anaerobic biodigester is being constructed and will be completed and commissioned in the next financial year.

Greening of Thusanang ECDC

The Thusanang ECDC greening project was completed during the financial year and was launched by the Deputy Minister, Ambassador Ms Thembisile Majola. The project comprises cool surfaces interventions, efficient lighting, solar water heating, rain water harvesting system coupled to a water purification system and a biogas digester, producing biogas from bio-waste from local cows and kitchen waste.

The ECDC has reported savings of over 70% of its ordinary energy bill.

ECDC digester under the SANEDI-Fort Hare Partnership.

Working for Energy (continued)

Community Outreach Programmes

The Working for Energy Programme is involved in the Kwalata Unlimited Science Expo and the Sasol Techno X Programme to share work undertaken by SANEDI with high school pupils as a means to encourage interest in the field of science and technology. Community members in nearby communities are also exposed to the opportunities afforded by clean energy to improve the quality of life.

Future Project Pipeline

The Programme is venturing into new biomass-to-energy initiatives. During the reporting period, Partnership Agreements have been signed to venture in the biomass gas-to-electricity pilot project and the biomass-to-green coal using the biomass pyrolysis process. These projects will be implemented over the next MTEF period and will contribute better to the MTSF.

The Centre for Energy Systems and Research (CESAR) have been working with the International Energy Agency (IEA), to populate the South African section of the MoMo transport model.

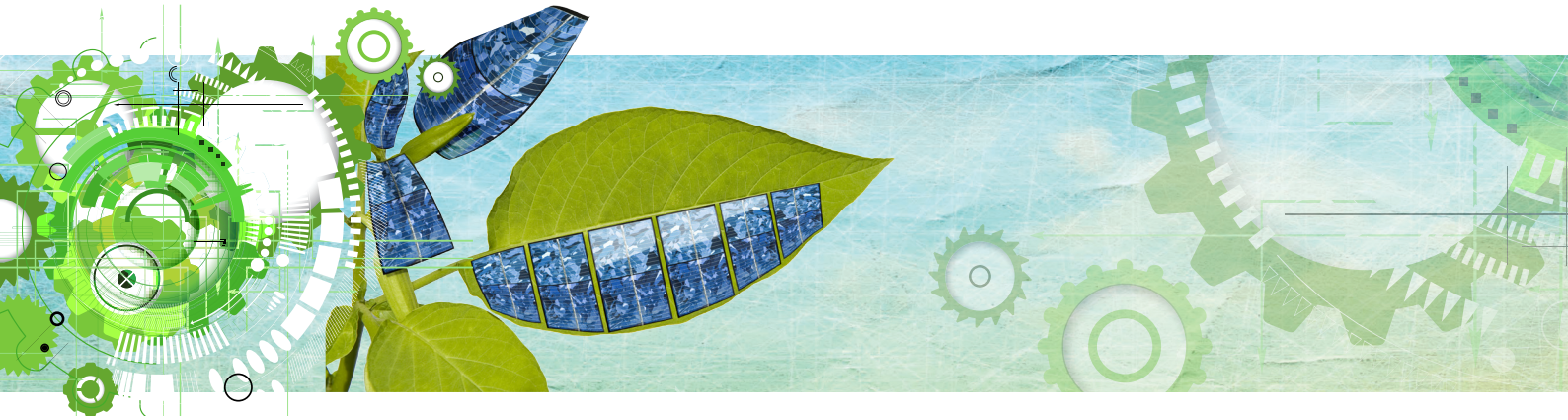
Deputy Minister and former ambassador Thembisile Majola at the launch of the Working for Energy Programme at the Thusanang ECDC.

The launch of the Working for Energy programme at the Thusanang ECDC.

Performance Information by Programme

Applied Energy Research: Data and Knowledge Management

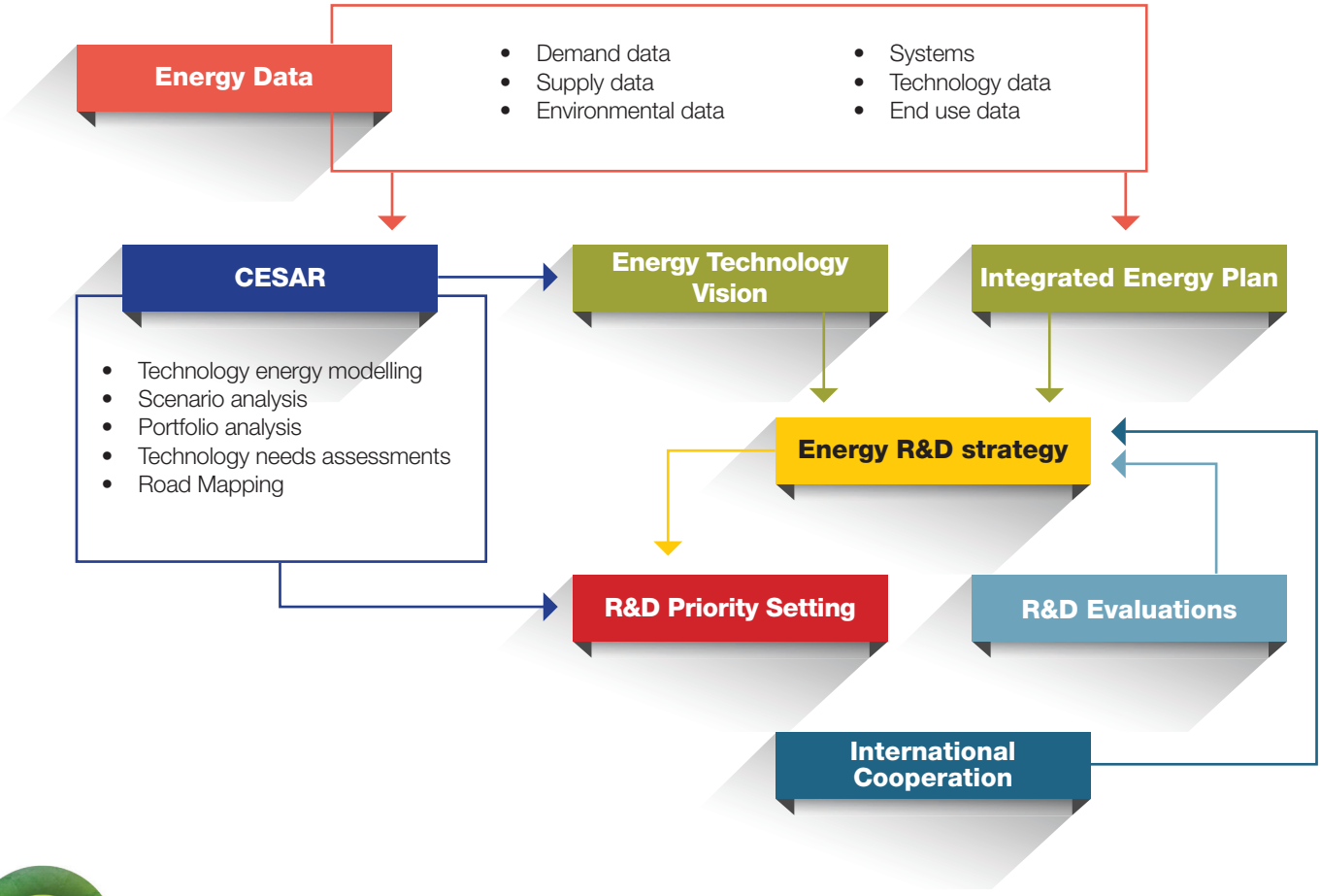
Data and Knowledge Management



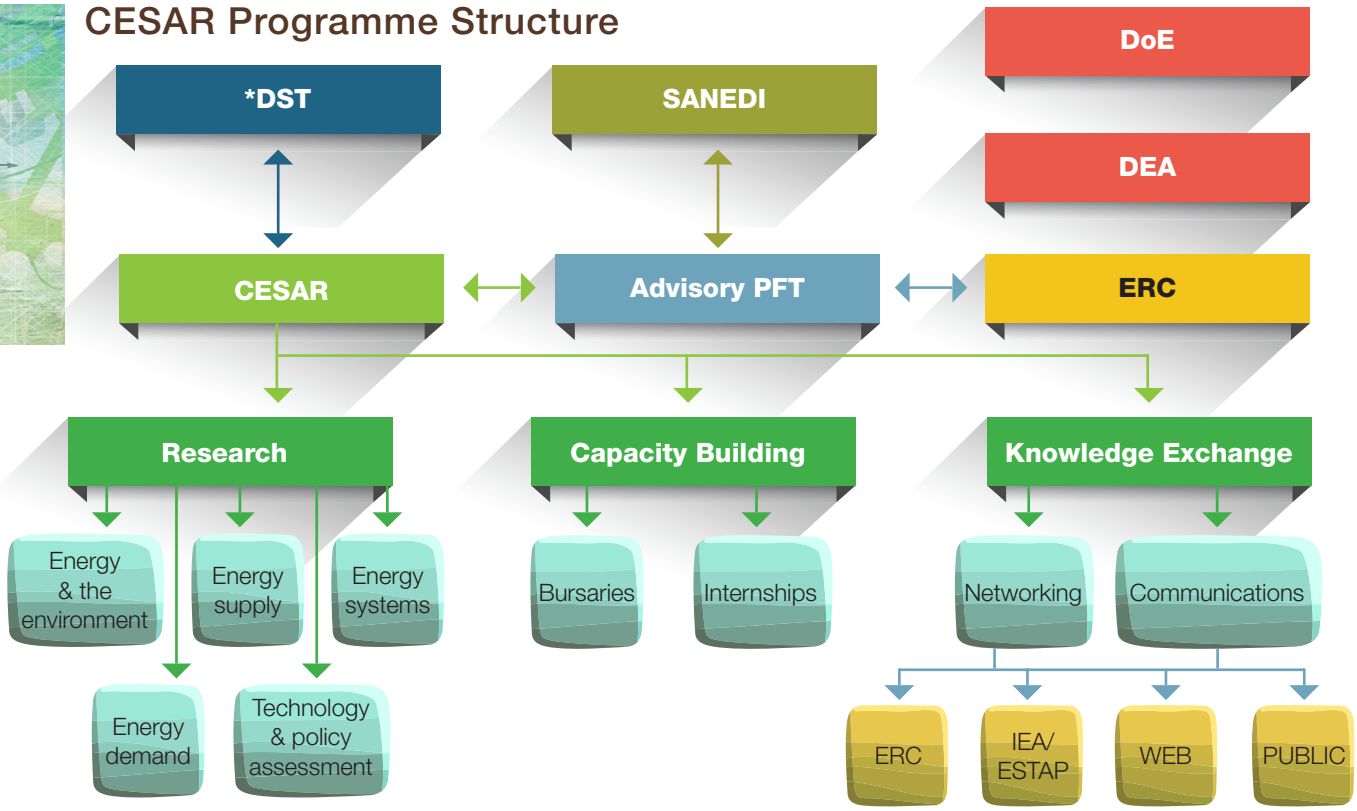
The Centre for Energy Systems and Research (CESAR) was established in May 2009 with the stated aim of being the authority in the field of Energy Data for the purpose of Modelling and Planning. CESAR is one of the centres that previously resided with SANERI, but is incorporated under the South African National Energy Development Institute (SANEDI). The CESAR programme managed by SANEDI, after the restructuring, remains a Department of Science and Technology (DST) funded programme.

The CESAR programme was initiated to provide a mechanism for energy modelling and planning to support the alignment of national and local government energy objectives. The aim is to develop an energy data repository and technical capacity to support national and local energy planning and policy. In addition, CESAR aims to provide an energy platform where national and local decision makers are assisted in energy planning and to meet the objectives of the Integrated Energy Plan (IEP) and National Climate Change Response Strategy.

The DST are interested in energy modelling from the perspective of wanting to use a more scientific methodology to direct energy technology R&D strategy, priorities and energy research investments. As indicated in the diagram below, the use of a common dataset is necessary to conduct energy modelling.



CESAR Programme Structure



CESAR Objectives

- To develop technical capacity, knowledge, and human capacity in energy modelling and planning
- To collect and maintain an open central database of energy research and related data
- To research and develop suitable models for the South African energy system
- To provide research support and advice on government initiatives regarding energy data collection, energy modelling and planning
- To collaborate with international bodies regarding research on energy data, energy modelling, planning and policy development
- To develop the necessary skills and resources to support the following:
  - Energy modelling
  - Planning
  - Analysis
  - Energy technology innovation
  - Contribute towards the development of a centralised energy planning database that is up to date and can support the requirements of multiple Government institutions (national and local).

In order to meet the mandate of CESAR, a collaboration agreement between the Energy Research Centre (ERC), University of Cape Town and SANEDI was concluded in 2014 for the period from 2014 - 2017. The collaboration agreement specifies that the ERC will capacitate and train SANEDI appointed energy modellers with relevant technology skills and knowledge. The long-term vision for the DST is to develop a fully functioning energy modelling group at CESAR within SANEDI.

Summary of CESAR progress

Work Package 1: Training of modellers

SANEDI's two appointed energy modellers were seconded to the ERC, UCT. As per the collaboration agreement with the ERC, SANEDI appointed energy modellers will be trained with relevant technology skills and knowledge.

In addition, the energy modellers will attend training courses and participate in 'on the job training' on all approved projects. Collectively they attended the following training courses:

1) R Modelling Course, hosted by software carpentry at UCT
2) Energy Modelling Course, hosted by ERC, UCT
3) Energy Statistics Course, hosted by IEA
4) Renewable Energy Course, hosted by GIZ/SARETEC

They have also been skilled to use the following software packages:

1) LEAP
2) ANSWER – Times
3) Lumina Analytica
4) R
5) Excel based models

Data and Knowledge Management (continued)

Work Package 2: Transport Phase 2 study

The transport phase 2 study follows up on the previous study highlighted above to build on the foundation that was developed, refine areas that had gaps and focus on a new set of aspects that were not covered under the transport study phase 1.

The main question is how to meet the energy needs of the transport sector in the future considering the uncertainty in future fuel prices and technology costs compared to performance. Continuing from the previous study an update of the current Vehicle Parc Model with key assumptions as user inputs will be published publically on ERC and SANEDI websites. All datasets will be in compatible form so that it can be integrated for Integrated Energy Plan (IEP) purposes or other public databases (Open Energy Database, Data First, UCT). This would include technology assumptions for the vehicle parc and future technologies as well as a focus on more detail within the road freight and rail categories. Inclusion of a transport sector link between CGE model and energy system model in SATMGE.

The update of the Vechicle Parc Model and working paper was successfully completed. A prototype of an open energy database has been developed. The current picture of base year assumptions was updated into a number of database platforms. The South African TIMES Model was updated successfully with the outputs of the Vehicle Parc Model.

Future Work Packages

Work Package 3: Energy distribution infrastructure considerations for Fuel Switching Objective

The objective of the project is to improve the representation of Fuel Switching Decisions in Energy Planning Models – the development of credible, local transmission and distribution costs accounting for spatial issues across all energy carriers and specific to sectors, particularly electricity, gas, diesel and petrol but each carrier done as a separate phase.

Work Package 4: Increased RE integration using Demand Side Management (DSM) with 'smart' loads objective

Investigating the role of residential/commercial/light industrial sector DSM using smart meters and real-time pricing in supporting increased RE integration into the power system.

The potential for heavy industry DSM using 'smart' loads and real-time pricing in supporting increased RE integration into the power system Mining/Smelting/Iron&Steel/Cement, how much flexibility/storage do they actually have?

Work Package 5: The role of Hydrogen Fuel Cells in the South African energy mix (rural off-grid) Objective

The main purpose of the study is to investigate the viability of implementing Hydrogen Fuel Cell mini-grid technology in comparison to alternative technologies for rural off-grid electrification.

Conclusion

The energy sector is facing serious challenges, such as climate mitigation, universal access to energy, energy security and energy efficiency. These challenges and uncertainties in turn threaten the economy, investment decisions, investor confidence, economic development and environmental commitments, among others.

The DST's interest in energy related data and modelling relates to the prioritisation of the direction for research and technology development, the multitudes of science and technology-related development opportunities that could potentially stem from the energy sector and the enormous opportunity for technology and science skills incubation within priority focus areas.

The DST funded programme CESAR aims to provide this mechanism for energy modelling and planning to support the alignment of national and local government energy objectives. These objectives can only be achieved by an appropriate level of funding, dedicated specialised skills and relevant tools.

Dr. Minnesh Bipath providing feedback to SASGI on ISGAN

Performance Information by Programme

Applied Energy Research: Renewables

Renewables

The Renewables portfolio coordinates and facilitates Renewable Energy (RE) R&D, specifically focusing on wind, solar, biomass and marine energy and human capital development through its RE Centre of Research and Development (RECORD). Industry partnerships and promotion of technologies are strengthened by our provision of resource maps that are used to level the playing field and the Wind Atlas of South Africa (WASA) is an example of the success of such collaboration. Through participating in the IEA Technology Collaboration Platforms and with other international cooperation partners like the Renewable Energy and Energy Efficiency partnership (REEEP), we collaborate with regional and international institutions.

RECORD

Coordination and collaboration are achieved through sectorial teamwork and RECORD manages this on a technology basis through its research platform strategy. RECORD research platforms align research to address goals identified by the sector for collaboration towards developing a mutually needed and beneficial body of knowledge. By way of example for the 2015/16 financial year, a solar water heating (SWH) research review for South Africa was conducted and produced that outlines the work being done, plus the capacity and focus areas in the sector. Such reviews form the basis on which RECORD research platforms are launched. A SWH research platform meeting was held where collaborative research focus areas were identified to address Government aligned targets and collaborative funding has already been leveraged to support initial research. By the same token, the Algal Bioenergy Research Platform is driving a project towards establishment of a national database of information and live cultures, focused on species energy production potential, for national benefit. This project launched with substantial support and collaborative funding to the value of approximately R1.7 million in March 2016. A Waste-to-Energy research platform collaboration across partners is now under way and collaborative funding to the value of approximately R400k has been seeded to determine waste characterisation.

RECORD also endeavors to facilitate knowledge transfer and collaboration in the RE industry space through co-hosting events that facilitate this with industry associations. During 2015/16 RECORD supported:

- Three SAPVIA knowledge sharing events designed to support the needs of the PV industry
- Three SAWEA knowledge sharing events designed to support the needs of the wind industry
- Two SASTELA knowledge sharing events designed to support the needs of the solar thermal and electrical industry
- The SANEA gala event that recognises excellence in the energy sector and also support two awards that recognise excellence in RE specifically

SANEDI/ RECORD 2015 RERE Award winners

RECORD is also routinely invited to attend meetings in an expert capacity towards knowledge transfer and project development. During 2015/16 much input was given to the Department of Environmental Affairs National Strategic Environmental Assessment (SEA) for the Renewable Energy Development Zone (REDZ) maps as below that was approved by parliament:

- Expert Reference Group (ERG) for the National SEA for Electricity Grid Infrastructure (EGI) in support of Strategic Integrated Project (SIP) 10.

- ERG for the National SEA for the rollout of Wind & Solar PV Energy in South Africa in support of SIP 8
- Water Research Commission (WRC) ERG collaboration towards the Green Village Concept development

The Douglas Banks Renewable Energy Vision (DBREV) bursary is supported annually, by RECORD, towards a deserving Masters level student that addresses pertinent issues in the RE space. This year it was awarded to Kyle Swartz of Cape Town for his studies in RE development planning within the current energy context in South Africa. Embedded generation is the primary focus, though wind farms and energy efficiency will also be taken into account. Additionally, he will explore the impacts RE has upon growing self-sufficiency in the modern society.

RECORD also places great store by skills development and training for the RE sector and, as such, has been instrumental in the establishment of and is active in an advisory and support capacity to the South African Renewable Energy Technology Centre (SARETEC), Cape Peninsular University of Technology and Cape Town. This is a national facility that addresses accredited curriculum and skills development for the RE sector; to date it has been instrumental in training wind turbine service technicians and trainers that have been taken up by the industry. SARETEC represents a collaborative effort to provide skills development and training. Apart from this, it has also been fulfilling an overseeing role in the accreditation of RE training obtained at other institutions and has been leading the development and registration of South African qualifications for the RE sector. While first focusing on wind energy technician training, this is being broadened to solar as well as biomass technology training.

SARETEC was established in 2012 and has been fully functional since July 2015. The wind-energy training component of SARETEC became functional during the course of 2014, with the training facilities being upgraded and training courses elaborated in close collaboration with the wind energy industry in South Africa.

The South African Renewable Energy Technology Centre

SANEDI and particularly the Renewables team was involved in the hosting of the South African International Renewable Energy Conference (SAIREC) 2015. Attracting 3,600 delegates from 26 countries, SAIREC was officially opened by the South African Minister of Energy, Ms Tina Joemat-Petersson, in Cape Town on October 5, 2015. The conference was attended by Government delegations, business leaders and members of civil society, with the aim of advancing RE globally so as to achieve a global energy transition. In her welcome note to the delegates, the Minister of Energy noted that for both South Africa and Africa the opportunity to host the conference was one of significant importance, given that the African continent is intent on modeling an economy which addresses energy needs. The Minister also highlighted the successes of South Africa's Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) to date, which has seen more than 6,000 MW of electricity procured from 92 IPPs over the last five years. The conference, themed RE-energising Africa, allowed delegates the opportunity to discuss the renewables value chain, regulatory frameworks for a transition to renewables, ways to improve energy access with/to renewables, the role of women in RE, advances in renewables in energy smart cities, transport and eco-mobility and more.

Wind Atlas for South Africa (WASA)

The Wind Atlas for South Africa (WASA) Project that started in 2009 and implemented as a capacity development and research co-operation project with the objective to develop and employ numerical (modelled) wind atlas methods has come to fruition with the outcomes and results now being applied by Government, public and private sector as well as international. Some of the achievements and applications are listed below.

WASA Phase 1 Book launch

The Wind Atlas for South Africa (WASA) Phase 1 Book was launched on 7 September 2015. It documents South Africa's excellent wind resource and provides a summary from conceptualisation to completion of the WASA Phase 1 Project that covers the Western Cape and areas of the Northern Cape and Eastern Cape provinces, including a discussion of the main outcomes and application: 10 wind measurement masts operating since Sept 2010 with data that is accessible online, Verified Wind Atlas and database, Large Scale High Resolution Wind Resource map, Extreme Wind Atlas and wind time series data.

Renewables (continued)

Renewable Energy Development Zones (REDZs) for wind and PV

The WASA Large Scale High Resolution Wind Resource map played an important role in the development of the Renewable Energy Development Zones for wind and PV (REDZ) which was approved by Cabinet for gazetting on 17 February 2016.

The eight REDZs identified are areas where wind and solar PV development will have the lowest negative impact on the environment while yielding the highest possible social and economic benefit to the country with the environmental and other authorisation processes aligned and streamlined, thereby stimulating RE investment to these areas.

The REDZs also act as points for grid expansion, thereby allowing for strategic and proactive expansion of grid that is necessary to transfer the RE from these areas.

The protocols and the screening tool which is a big part of the implementation of the REDZ are currently being finalised for public release.

PV/Wind aggregation study

South Africa has abundant wind and solar energy resources. The Wind Atlas for South Africa (WASA) project provided time series data that can be used for modelling purposes, such as for understanding the impact of wind resource variability and intermittency for grid planning and system operations.

The wind resource diversity over a large geographic area with different topologies is very important for understanding the network capacity required to transfer the wind energy at any point in time. The WASA project time series data modelling is verified through wind data of 10 WASA phase 1 wind measurement masts covering the Western Cape and parts of the Northern Cape and Eastern Cape Provinces. An additional five masts were installed and became operational in October 2015 as part of WASA Phase 2 covering the remaining parts of the Eastern Cape, KwaZulu-Natal and Free State provinces.

The fact that South Africa has solar resources in the vicinity of good wind resource areas makes it more important to consider the combined diversity and capacity value of the two resources. Understanding the combined diversity of wind and solar will assist planners to create an adequate and operable grid. The variability and diversity of the wind and solar resource also has implications on the operation regimes of conventional generators.

The Department of Environmental Affairs Strategic Environmental Assessment (SEA) study to determine the development zones for wind and solar PV has, as the first phase, identified eight areas for development. The analysis of wind and solar PV spatial aggregation in South Africa will assist in planning and designing appropriate grid to transfer power from wind and PV plants in these areas.

The predictability of wind resource will be dependent on the spatial distribution, and so will the gradients (ramp rates). The impact or influence of the combined spatial distribution of wind and solar PV needs to be understood and how it shapes the system load profile as this will also have a bearing on the storage requirements of the conventional generation fleet.

The CSIR, SANEDI and Eskom, in collaboration with Fraunhofer Institute for Wind Energy and Energy Systems (IWES) in Kassel, Germany, undertook a research study to investigate the wind and solar aggregation impact on the grid and system operations. The overarching objective of the study is to increase the fact base and the understanding of aggregated wind and PV profiles in South Africa for different spatial distributions and penetration levels of wind/PV, in order to serve as input into the South African energy planning processes (Integrated Energy Plan, Integrated Resource Plan for Electricity, strategic grid planning, Transmission Development Plan (TDP), wind and PV Strategic Environmental Assessments, etc.). The study was completed in March 2016.

Primary findings of the study include the following:

- More than 80% of South Africa's land mass has enough wind resource for economic wind farms with very high annual load factors of greater than 30%
- The vast size of the South African power system allows for a very strong portfolio effect. Short-term fluctuations in the aggregated wind power feed-in are significantly reduced by wide spatial distribution. Where an individual wind farm's power output can fluctuate by +/- 90% of its installed capacity within 15 minutes, a widespread wind fleet's 15-minutes-fluctuations are reduced to +/- 4% of installed capacity
- A share of 50% wind energy in South Africa's electricity supply does not increase the short-term (intra-hour) gradients if the wind fleet is widely distributed; there are no negative impact on reserve requirements
- Up to a 65% energy share in electricity supply from a combined wind and solar PV fleet can be achieved without any significant excess energy

At the launch of the WASA Phase 1 Book: left to right: Noma Qase (DoE), Eric Prinsloo (CSIR), Thembakazi Mali (SANEDI), Jens Carsten Hansen (Technical University of Denmark (DTU) Wind Energy), Andre Otto (SANEDI), Walid Badawi (UNDP).

- South Africa exhibits low seasonality in both wind and solar PV supply, which makes the integration easier, because no seasonal storage is required to balance fluctuations.

The Renewable Energy and Energy Efficiency Partnership (REEEP)

The REEEP Regional Secretariat for Southern Africa has been hosted at SANEDI since 2009. REEEP is an international organisation that advances markets for clean energy in developing countries. Founded during the Johannesburg UN Conference on Sustainable development in 2002, REEEP has built up unparalleled experience in managing funds and delivering outcomes for nearly two hundred clean energy projects in the developing world. For REEEP, 2015 has represented a renewed international recognition and commitment to the principles it was first established around.

REEEP is building capacity to not only track how its efforts leverage the private sector toward targets under the Sustainable Development Goals (SDGs), but also to better understand how clean energy markets impact sustainable development across targets, how supplemental methodologies and metrics can be developed to capture this total impact, and how this understanding can lead to more efficient investment practices for sustainable development-oriented financing. While the global development agenda has grown in size and scope to accommodate the complexity of the sustainable development challenge, so too has the number of organisations, agencies, businesses and other stakeholders working in the space. Amid this dynamic playing field, REEEP has since 2002 increasingly focused its efforts, developing key specialist capacities while leveraging collaborative partnerships.

The REEEP Southern Africa Regional Secretariat builds and maintains a network of NGOs, experts and companies in the sustainable energy arena in Southern Africa. Its efforts include facilitating financing through workshops and collecting and collating information on important Southern African case studies. The Secretariat covers REEEP activities in Malawi, Mozambique, Namibia, Tanzania, and South Africa. REEEP invests in clean energy markets in developing countries to reduce CO2 emissions and build prosperity. Based on a strategic portfolio of high impact projects, REEEP works to generate energy access, improve lives and economic opportunities, build sustainable markets, and combat climate change. REEEP's work is made possible by a community of donors who share our strong believe in catalyzing clean energy markets for green growth.

REEEP targets its activities according to a market's potential for contributing to broader "green growth" — growth that is environmentally, socially and economically sustainable. Specifically, we look for sectors that can combat the effects of climate change (via avoidance/ mitigation and/or adaptation) while contributing to growth in prosperity and human well-being, especially by expanding access to modern energy. REEEP seeds markets by injecting targeted non-profit 'investments' (grants or soft loans) via early-stage Small and Medium-Sized Enterprises (SMEs) offering new products and/or services utilizing clean technologies that have been proven in similar or analogous applications. SMEs are selected for investment based on a highly competitive application and vetting procedure.

REEEP Financial support to SMEs is typically between EUR 100-500K, and is accompanied by a host of technical support services including best practice advisory derived from the REEEP Portfolio; as well as business mentoring, and investor outreach and matchmaking services via the

Renewables (continued)

new PFAN platform housed within REEEP and UNIDO. Enterprises commit to REEEP's in-depth Monitoring, Evaluation and Learning framework, which sets goals and objectives, creates guidelines and benchmarks, monitors and evaluates progress, and produces sector specific market intelligence for internal and external consumption. These insights are directed into three work streams. Internally, sector intelligence and best practices are fed back into REEEP's own processes and advisory support for SMEs, as well as toward development of a downstream investor pipeline. REEEP also leverages this market intelligence toward developing actionable feedback and recommendations supporting enabling environment actors on the policy side (legislators, regulators, policy practitioners), as well as investment side (multilateral development banks, impact investors, venture (growth) capital funds, mezzanine fund etc.) REEEP pursues this strategy across three stages: Invest-Learn-Share. In some projects, REEEP maintains a lead role across all three stages; in others, REEEP focuses on a specific area, collaborating with other lead partners. With the unveiling of the next generation of PFAN, the launch of new projects in Zambia, Southern Africa and India, the scaling-up of projects in East Africa and South Asia, and the rapid evolution of the Open Knowledge efforts that underpin all its work, REEEP is perfectly placed to help accelerate green growth.

Cross Sector Systems: SWITCH Africa Green

Despite being home to some of the world's fastest economic growth rates, Africa faces persistent development challenges and deep-seated poverty, as well as risk of increased environmental degradation from new economic activity. To ensure that Africa's economic boom is economically, ecologically and socially sustainable, it must be driven by an energy revolution: one leveraging RE and energy efficient innovation, taking advantage of technological and commercial advancements and powered by dynamic private sector entrepreneurship. Technologies such as efficient solar powered irrigation systems, small hydro-powered agrifood processing, and waste-to-energy systems are already cost effective in many low-income markets, and businesses have developed new models for raising awareness and building customer bases; for empowering and providing finance to clients with limited resources; or for helping customers' access to new markets for their own goods. To bring about such a revolution, SWITCH Africa Green is supporting African countries in their transition to an inclusive green economy, promoting a shift toward SCP practices and patterns. REEEP and SANEDI are laying the groundwork for South African MSMEs and eco-entrepreneurs in the agricultural and waste management sectors as they begin and manage this transition. Specifically through increasing awareness, up-take and successful implementation of SCP practices and sustainable energy opportunities for MSMEs in agrifood value chains in South Africa, interlinking with established initiatives and building existing insights. The target group and final beneficiaries of the programme are MSMEs in the agriculture and integrated waste management sectors in South Africa, for whom a stakeholder platform will be established and a series of capacity building and training workshops will be provided.

The programme:

- Supports the development of green agribusinesses and eco-entrepreneurship via the use of SCP practices, and equips MSMEs across the key priority sectors to seize green business opportunities, and in doing so promotes South Africa's transition towards an inclusive green economy.
- Provides an opportunity for resource-efficient and cleaner production implementation and alignment with the 10-year framework of programmes on sustainable consumption and production patterns. The project is funded by the United Nations Environment Programme and the European Union.

Smart Cities: Climate change, clean energy and urban water in Africa

Electricity costs can amount to up to 40% of total operating costs among water and wastewater facilities in developing countries and emerging economies. Clean energy solutions are at the core of measures in urban water and wastewater services to reduce operational costs and contribute to climate change mitigation as well as adaptation benefits: reducing greenhouse gas emissions from fossil fuel based electricity and increasing water-efficiency and adaptive capacity of water scarcities.

Water and wastewater infrastructure accounts for around 35% of the total energy consumed by South African municipal administrations. There is a strong need for water efficiency especially since South Africa is a water-scarce country, and water demand exceeds supply on a national level. Along with ageing infrastructure, the level of non-revenue water stands at 35%. More than half of treatment plants do not currently fulfill effluent standards.

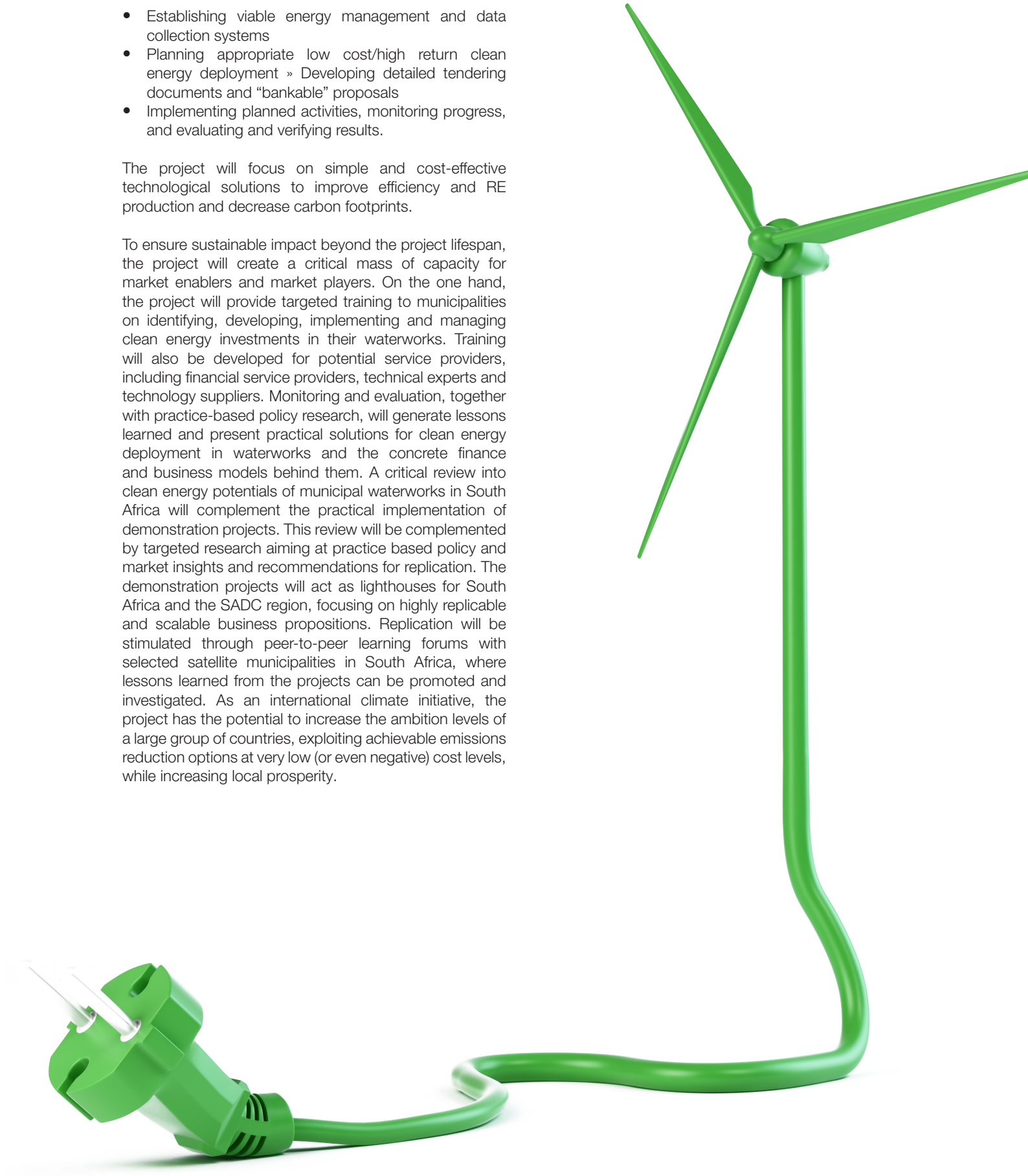
The pilot initiative will focus on South Africa and create a basis for market-based replication and scale-up in the country and across the SADC region. The project revolves around four key components:

The project will select three municipalities for investment in pilot projects to optimize pumping and water treatment systems and deploy renewable energy systems to replace coal-fired electricity production. The project will facilitate knowledge-sharing between the three municipalities, as well as relevant private sector service and technology providers, to support municipalities in:

- Establishing viable energy management and data collection systems
- Planning appropriate low cost/high return clean energy deployment » Developing detailed tendering documents and “bankable” proposals
- Implementing planned activities, monitoring progress, and evaluating and verifying results.

The project will focus on simple and cost-effective technological solutions to improve efficiency and RE production and decrease carbon footprints.

To ensure sustainable impact beyond the project lifespan, the project will create a critical mass of capacity for market enablers and market players. On the one hand, the project will provide targeted training to municipalities on identifying, developing, implementing and managing clean energy investments in their waterworks. Training will also be developed for potential service providers, including financial service providers, technical experts and technology suppliers. Monitoring and evaluation, together with practice-based policy research, will generate lessons learned and present practical solutions for clean energy deployment in waterworks and the concrete finance and business models behind them. A critical review into clean energy potentials of municipal waterworks in South Africa will complement the practical implementation of demonstration projects. This review will be complemented by targeted research aiming at practice based policy and market insights and recommendations for replication. The demonstration projects will act as lighthouses for South Africa and the SADC region, focusing on highly replicable and scalable business propositions. Replication will be stimulated through peer-to-peer learning forums with selected satellite municipalities in South Africa, where lessons learned from the projects can be promoted and investigated. As an international climate initiative, the project has the potential to increase the ambition levels of a large group of countries, exploiting achievable emissions reduction options at very low (or even negative) cost levels, while increasing local prosperity.



Energy Efficiency Programme

Energy Efficiency Tax Incentive Implementation, (Section 12L of the Income Tax Act, 1962)

The Regulations promulgated to support Section 12L of the Income Tax Act, 1962 on the Allowance for Energy Efficiency Savings, remains in force until 1 January 2020. The rebate was significantly increased from 45c/kWh to 95c/kWh of energy saved, with the promulgation of the Taxation Laws Amendment Act, No 25 of 2015 and published in Government Gazette No 39588 on 8 January 2016. This, together with the reduction in Eskom's Integrated Demand Management (IDM) incentives, resulted in an exponential growth in the number of enquiries and applications received for the tax incentive, leading to the realisation on much needed energy savings of approximately 3,52 TWh coming from the first 100 applications across all industrial and commercial sectors.

Section 12L of the Income Tax Act, 1962, was approved by Cabinet in January 2009, to promote investment in energy efficient manufacturing assets and to improve the productivity of the South African manufacturing sector. In addition, and informed by global experience and demonstrated linkages between energy efficiency and profitability, the dti identified tax allowances as an effective mechanism to encourage energy efficient development and investment decisions. The Regulations in support of this section of the Tax Act mandated SANEDI with the task of verifying the calculated energy savings from the respective claimants to qualify for the incentive and to track and report on the actual aggregated energy efficiency impact associated with such claims for an incentive. To date, this incentive has resulted in a total investment in the manufacturing sector of approximately R48 billion, with 14 projects fully implemented and approximately 1.5 TWh of energy saved on an annual basis.

Cool Surfaces Programme

The strategic objective of the project is to support industry stakeholders towards achieving improved energy efficiency, increased thermal comfort in buildings and a reduction of the urban heat-island effect generated by human settlements, in collaboration with international partners.

Achievements for the 2015/16 financial year ending March 2016, included:

- Six cool surfaces demonstration projects were successfully undertaken: Groblershoop pilot project, !Kheis Municipality Office Building, Kimberley Old Magistrates' Court House, Sharpeville – Emanuel & Kgomoco Primary Schools and the Thusanang Day Care Centre in Hammanskraal, north of Tshwane.
- Five trainings directly related to cool surfaces technology: Energy efficiency building simulation & modelling, cool coating application, cool coating manufacturing & distribution as well as measurement & verification of technology performance were successfully undertaken. Four trainings took place in South Africa while two South African delegates attended an advanced Measurement and Verification (M&V) course at the LBNL campus, United States (52 delegates were trained and 17 new jobs created).
- Five Cool Surfaces Conferences and Meetings were hosted around South Africa.
- Laboratory space at the SABS - Building V - has been obtained for the establishment of an Energy Efficiency Building Envelope Testing Laboratory. SANEDI has engaged in collaborative discussions with various academic and research institutions, industry associations and government organisations to host the new proposed regional laboratory as a Private/ Public Partnership.

Energy Efficiency programme (continued)

To date, this incentive has resulted in a total investment in the manufacturing sector of approximately R48 billion, with 14 projects fully implemented and approximately 1.5 TWh of energy saved on an annual basis.

The bigEE Benchmarking Database

bigEE is an international initiative by research institutes for technical and policy advice and public agencies in the field of energy and climate, co-ordinated and funded by the Wuppertal Institute, Germany. Its aim is to develop an international web-based knowledge platform bigee.net for energy efficiency in buildings, building-related technologies, and appliances in the world's main climatic zones. The South African component of this project was initiated in March 2013 and the initial phase was completed in June 2016.

The bigEE contract required South Africa to research and provide input on the following energy efficiency drivers:

- Best Available Technologies (BAT) in Buildings
- Best Available Technologies (BAT) in Appliances
- The stakeholder value chain (Actor Constellation) in the South African building sector
- Updated Climatic Zone Map for the country
- Good Practice Building examples
- Current energy policies in South Africa.

SANEDI delivered on each of the contracted deliverables with the Wupperthal Institute in Germany (the funder) and the results have been uploaded to the intenational bigEE (website www.bigee.net). For the Best Available Technologies in buildings, SANEDI has provided data on the following factors that extensively clarifies the level of energy efficiency in the buildings of South Africa, which can now be benchmarked with other countries, globally.

- Heating Ventilation and Air Conditioning, (HVAC)
- Alternate energy sources
- Insulation in buildings
- Lighting
- Measurement and Verification, (M&V)
- Water Heating
- Plug-in devices
- Retrofitting and maintenance options.

The Best Available Technologies research into appliances in South Africa, indicated the following technologies, with the largest contribution to residential energy consumption in residential areas and buildings, in general:

- Geysers
- Ovens
- Air conditioners
- Fans
- Televisions
- Pool pumps
- Dishwashers
- Tumble dryers
- Refrigerators
- Washing machines

More details on the findings of these appliances can be found on the South African page of the bigEE website, (www bigee.net).

Agence Française de Développement SUNREF Technical Assistance Facility

The AFD credit line finances small and medium- sized investments in the field of energy efficiency and renewable energy through three commercial banks in the first phase namely ABSA Bank Ltd, IDC Ltd and Nedbank Ltd. The implementation of financing is done through a Technical Assistance Facility (TAF) hosted at the South African National Energy Development Institute (SANEDI) to support the emergence of targeted investments and the evaluation of their technical eligibility for the credit line. The TAF for the AFD's first Credit line is due to end in June 2016, and considering the need for additional support, the activity has been extended for a second term.

The TAF continues training Relationship Executives from the banks in reviewing incoming applications. In total, 20 training sessions were held, attended by 273 people in 14 locations nationwide (including Cape Town, Durban, Johannesburg, Pretoria and Bloemfontein).

A green lending toolkit to assess green lending applications was established. During the training roll-out, various 'green lending champions' were identified demonstrating their ability and interest in reviewing and tracking green lending transactions.

The TAF has further assisted champions in conducting initial reviews of incoming applications, assessing their eligibility for finance under the AFD credit facility. The highlights showcase the achievements of Phase 1 of the AFD Credit Facility, which has prompted the French Development Bank to extend the activity to a second phase of the facility, with SANEDI once again playing an even more significant TAF role.

The highlights of the credit line:

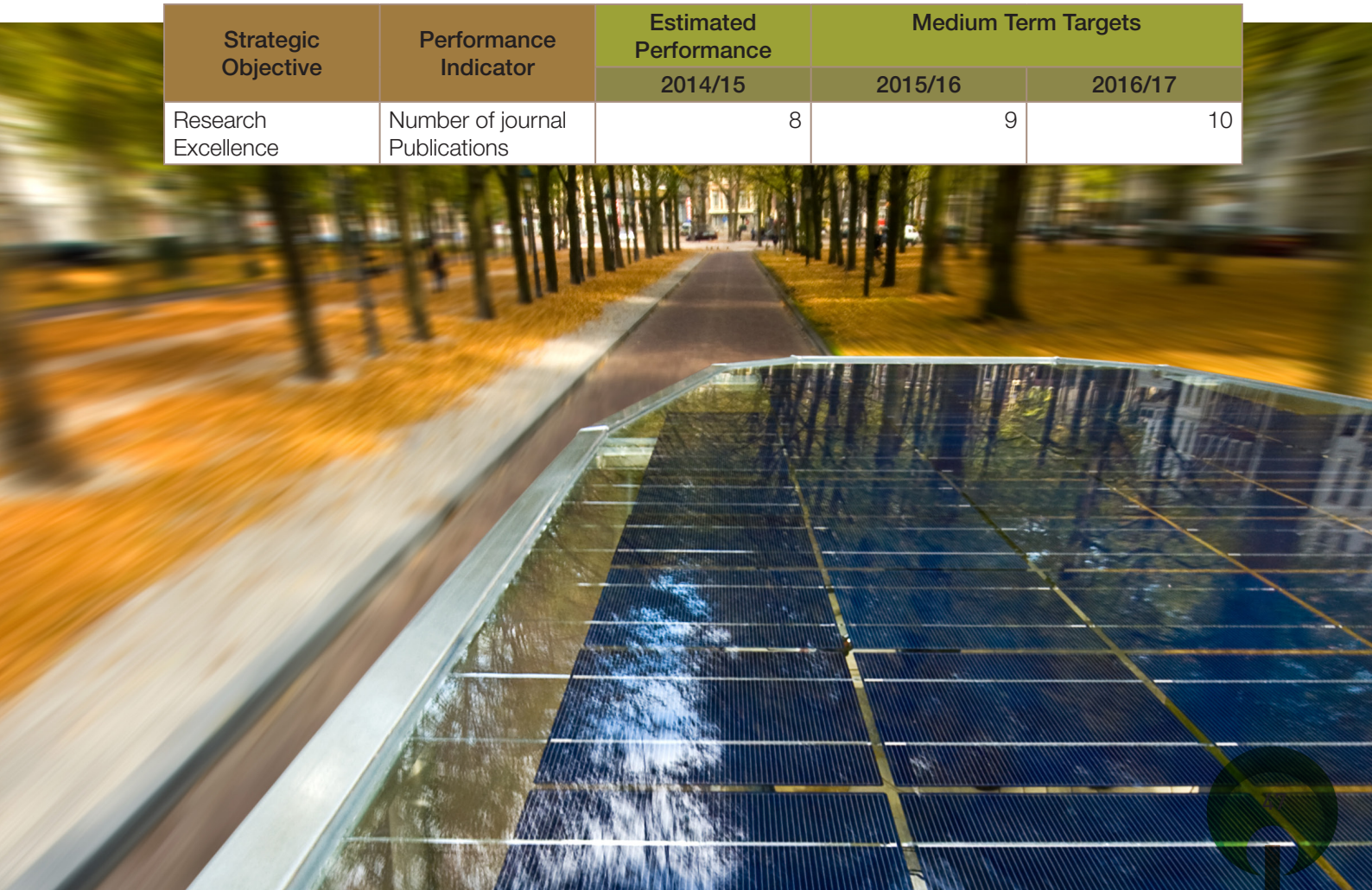
- Financed the first commercially viable private sector Public Audit Act (PPA)-based biogas plant in South Africa;
- Enabling the submission of 40MW of RE projects for the fourth Round of the DoE's small REIPPPP program;
- Enabled over 90 RE and EE projects in the healthcare sector nationally, thereby building up the national industry supply capacity and developing a more competitive private healthcare sector;
- Permitted several food, farming and retail sector companies to move partially off the grid through the implementation of embedded generation;
- Increased awareness among and capacity of banking staff for RE and EE project evaluation.

EEDSM Hub

The Energy Efficiency and Demand Side Management (EEDSM) Hub at the University of Pretoria is co-funded by the Department of Science and Technology (DST), with the primary focus to strengthen energy efficiency-related research, human capacity development, market transformation and enterprise development initiatives in South Africa.

The contract for the Hub was extended in the current reporting period for a two-year period, pending a thorough review of the overall achievements and renewed objectives for the changing energy environment in South Africa. Although the amount of funding provided to the Hub was reduced significantly (which has necessitated changes to the performance targets), 2015 saw the graduation of 16 students in Energy Management, including four Honours, one Masters and 11 PhD students.

Strategic Objective	Performance Indicator	Estimated Performance	Medium Term Targets	
		2014/15	2015/16	2016/17
Research Excellence	Number of journal Publications	8	9	10



Communications

Communications

Exhibitions

The 2015/16 financial year was a busy and exciting year for the SANEDI Communications department with a number of success stories to tell. The highlight was exhibiting at the International Renewable Energy Conference in Cape Town (SAIREC) from the 4th to the 6th of October 2015. Other exhibitions include Sustainability Week, Science Unlimited in Hammanskraaal, Sasol Techno X in Mpumalanga, Cool Roofs Conference in Johannesburg, South African Energy Efficiency conference and Africa Energy Indaba in Sandton, Johannesburg.

SANEDI stand at the Sustainability week 2015.

SAIREC 04 -06 October 2015

South Africa's Department of Energy hosted SAIREC 2015 in conjunction with the South African National Energy Development Institute (SANEDI) and the Renewable Energy Policy Network for the 21st Century (REN21).

The conference themed RE-energizing Africa, allowed delegates the opportunity to discuss the renewables value chain, regulatory frameworks for a transition to renewables, ways to improve energy access with/to renewables, the role of women in renewable energy, advances in renewables in energy smart cities, transport and eco-mobility and much more. SANEDI stood out in bright orange as it attracted over a thousand delegates.

SUSTAINABILITY WEEK: 23 – 25 June 2015 – CSIR International Convention Centre, Pretoria

This is an annual event that is organised by Alive2Green, an organisation that is anchored in "Green Living". The event emphasises opportunities in the Green Economy by engaging multiple stakeholders including national, provincial and local government, government agencies, private sector and civil society. The following sectors are covered by this event are:

- Transport and Mobility
- Green Business
- Green Building
- Sustainable Energy
- The Vision Zero Waste
- Water Resource

Communications (continued)

Science Unlimited 12- 14 May 2015, Kwalata, Hammanskraal

SANEDI through the Working for Energy programme conducted a successful exhibition and Community Outreach during Science Unlimited Expo at Kwalata in Hammanskraal.

Science Unlimited, is a Science, Maths, Technology and Engineering educational initiative that targets school going children form grade 5 to grade 12. In 2015 it ran from 12 - 14 May 2015. The event consists of more than 70 shows, workshops, lectures, demonstrations, experiments and talks facilitated by South African experts to independent educators. All these activities are curriculum aligned. One of the topics covered under "Health, Responsible and Green Living are: Renewable energy, the 3R's (Reduce, Reuse and Recycle) andgreening your community.

Creating awareness about renewable energy is part of the greater mandate of the Working for Energy Programme. As all the WfE projects are now gaining traction and some are near completion it is important that awareness around these projects is created. The projects have resulted in creating sustainable employment opportunities, community upliftment, and skills development while improving the quality of life for the low income communities.

SASOL Techno X 03 – 07 August 2015, Mpumalanga

Sasol Techno X is an exhibition that focuses on displays, workshops, tours, talks and hands-on activities aimed at inspiring and motivating learners and students about careers in Science, Maths, Engineering and Technology.

Target Audience

- Grade 7 to 12 learners (13 to 18 year olds)
- Grade 7 learners
- School choices
- Grade 9 learners
- Subject choices
- Grade 11 learners
- Career Choices
- University students (18 to 24 year olds)
- General Public

Africa Energy Indaba 21- 22 February 2016, Sandton, Johannesburg

Africa Energy Indaba is an event that brings together international and continental experts to share their insights and solutions to Africa's energy crisis, while simultaneously exploring the vast energy development opportunities on offer in Africa. This is very much in line with the core business of SANEDI and it provides SANEDI with the opportunity to interact with the key players in the Clean Energy and Energy Efficiency sphere. Again SANEDI stand had a good traffic and interaction with delegates from different energy spheres.

Science Unlimited 12- 14 May 2015, Kwalata, Hammanskraal.

SANEDI scooped two awards at the event.

Science Unlimited 12- 14 May 2015, Kwalata, Hammanskraal.

Mandela Day 2015, Thusanang Day Care centre.

Mandela Day 2015
Partnering for a Purpose

On Mandela Day in 2015, SANEDI in conjunction with its partners the Department of Energy (DoE) and the National Development Agency (NDA) joined hands in making change in their local communities. Social responsibility is part and parcel of SANEDI's corporate identity and the ethical framework it espouses as an institution. Thus it is obligated to be socially responsible and to act in a manner that contributes to the social benefit of it' communities. For its participation in the Mandela Day celebration, SANEDI identified the Thusanang Day Care Centre as its 2015 beneficiary and further participated in another initiative alongside the DoE at the Cullinan Care and Rehabilitation Centre.

67 Minutes to make your mark

In continuing the spirit of being noble to a good course, SANEDI also contributed adult nappies and beanies at the Cullinan Care and Rehabilitation Centre. This is just a clear indication of the intangible values that house the morale of this organisation. In bright orange overalls SANEDI stood proud, to be part of a legacy that will leave an invaluable mark and will be remembered for the generous contribution it made. As a team, senior managers and employees took the task at hand in great stride and gave their best without complaints. It was an amazing sight, seeing everyone on their feet and acting on making a difference. Thumbs up to the team! Building on this, we can only do more and get the whole team involved. Let us remember one man's cause to fight for social justice for 67 years of his life.

Stakeholder Engagement Plan

SANEDI recognises that effective stakeholder engagement is critical for achieving its mandate. To this end, it is currently developing a structured stakeholder engagement strategy, based on the international AA1000 Stakeholder Engagement Standard. The AA1000 SES is the only international standard for stakeholder engagement used by governments and organisations around the world. It articulates with GRI G4 and IIRC integrated reporting requirements.

SANEDI recognises stakeholders as those who have a direct or indirect impact on its activities, or who are directly or indirectly affected by its activities. SANEDI undertakes stakeholder engagement to ensure that operations and projects engage in building successful and mutually beneficial relationships with stakeholders throughout SANEDI business processes. The appropriate tools, strategies, and approaches are used to build social partnerships to secure its licence to operate.

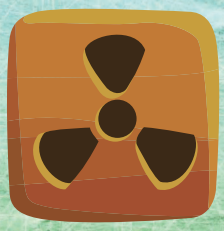
SANEDI has identified a range of stakeholders with whom it engages in respect of their diverse issues and inputs. SANEDI aims to be continuously proactive in its engagement with these stakeholders and to be responsive to their issues and concerns as they arise. The long-term objective is to create value for all its stakeholders including organs of state, employees, as well as project and social partners.

Progress with drafting and implementing the stakeholder engagement plan is well under way. The AA1000SES compliant plan will be integrated to the SANEDI business strategy, individual performance compacts, and communication plans.

Media Monitoring

From 1 April 2015 to 31 March 2016, SANEDI has had 155 mentions in South African Media, with an ad value of R 1 253 375. This is a reach of 18.5 million potential audience. The peak was in October during the SAIREC conference, but each month had SANEDI mentioned. In 2015 SANEDI was mentioned in 117 articles, and in 2016 (up until end March) SANEDI was mentioned in 38 articles. During this time period, SANEDI was also mentioned in 25 global media documents.

Date	2016/17
April 2015	6
May 2015	15
June 2015	6
July 2015	10
Auguat 2015	14
September 2015	8
October 2015	52
November 2015	4
December 2015	2
January 2016	12
February 2016	16
March 2016	10
Tolal	**115**



Report on Performance by Objectives

Report on Performance by Objectives

During the year under review, changes were made to the annual performance plan in order to align our targets and Indicators to SMART principles and to ensure that the information provided is complete, accurate measurable and verifiable. The changes were submitted to the executive authority however these changes were not yet approved by the Executive Authority as at 31 March 2016.

	Objective	Performance indicator	Annual target 2015/16	Performance Result	Reasons for Not Achieving the Annual Target	Interventions put in place to address non–achievement
Programme 1 – Corporate Governance and Administration						
1.	To comply with DoEs compliance calendar in respect of strategic plans, annual performance plans, annual reports for state entities reporting to the Department	Timely submitted strategic plans to the Executive Authority	Compliance with DoEs compliance calendar in respect of strategic plans, annual performance plans, annual reports and quarterly reports for state entities reporting to the Department	100% submission of all mandated plans and reports to the executive authority		
		Timely submitted annual performance plans to the Executive Authority				
		Timely submitted annual report to the Executive Authority				
		Timely submitted quarterly reports to the Executive Authority				
2.	To have effective payments system in place ensuring timely settlement of trade creditors	% of creditors paid within 30 days after all relevant documentation have been received	90% of all creditors paid within 30 days after all relevant documentation have been received	100% creditors paid on within 30 days		
3.	To improve SANEDI's contribution and offerings to its stakeholders and partners through the roll out and implementation of the stakeholder engagement plan and measurement of the effectiveness of the engagement plan	% execution of the activities on the stakeholder engagement plan achieved	85% execution on the activities on the stakeholder engagement plan achieved	Executed 85% of the stakeholder engagement plan		
			60% positive feedback from stakeholder surveys	53.46 % positive feedback		
4.	To have a highly motivated team of employees who are managed according to "best practice" thereby contributing optimally to the achievement of organisational goals	Number of policies approved and implemented	Development of the 5 basic HR policies that will help develop and implement a culture to address accountability and leadership gaps	8 approved policies		

Report on Performance by Objectives (continued)

	Objective	Performance indicator	Annual target 2015/16	Performance Result	Reasons for Not Achieving the Annual Target	Interventions put in place to address non–achievement
Programme 2: Applied Energy Research Cleaner Fossil Fuels (including Carbon Capture and Storage)						
1.	Determination of the potential for shale gas in the energy economy of South Africa	Reports on: • Carbon dioxide as an extraction agent • CO2 reduction potential • Demand and supply match • Water and waste issues • Risk assessment • Geography and surface issues	Completed Reports on: • Carbon dioxide as an extraction agent • CO2 reduction potential • Demand and supply match • Water and waste issues • Risk assessment • Geography and surface issues	Completed Reports on: • Carbon dioxide as an extraction agent • CO2 reduction potential • Demand and supply match • Water and waste issues • Risk assessment • Geography and surface issues		
2.	Determination of the potential and appropriateness of geological storage of carbon dioxide in South Africa – Pilot CO_2 storage plant	Operating documentation – sub committees terms of references	Operationalisation of PCSP Division	Fully Operational PCSP Division		
		Data Inventory	Data Inventory Framework	Data Inventory Framework		
		Exploration permit application Environmental Impact Assessment Report	Submission to DMR of exploration permit Draft Environmental Impact assessment	Exploration permit Draft Environmental Impact assessment submitted to the DMR		
		Exploration Plan Draft	Draft Exploration Plan	Draft Exploration Plan		
		Report on Phase 1 Pilot Monitoring Project	Phase 1 PMP – Bongwana	Phase 1 PMP – Bongwana		
		Stakeholder Engagement Plan / schedule (living doc)	Stakeholder engagement plan for 2015/16	Stakeholder engagement plan for 2015/16		
		Highlights /Minutes of stakeholders engaged and attendance register of stakeholder meetings	Engagement with 20 stakeholders	37 x Engagement stakeholders		

Report on Performance by Objectives (continued)

Objective		Performance indicator	Annual target 2015/16	Performance Result	Reasons for Not Achieving the Annual Target	Interventions put in place to address non–achievement
3.	Oversight of the implementation of the National Carbon Capture and Storage Roadmap and associated capacity building – South African Centre for Carbon Capture and Storage	Operating documentation for SACCCS – terms of reference and workplan	Operationalisation of new SACCCS – committees – terms of references and workplan	Approved Terms of reference and workplans for all SACCCS Committees		
		Bursary award letters	Award of bursary/ support to those who pass evaluation	100% award of Bursaries to qualifying applicants		
		General CCS Communications	General CCS Stakeholder Engagement (SE) plan for 2015/16	General CCS Stakeholder engagement (SE) plan for 2015/16		
		Stakeholder engagement and schedule 2015/16 Schedule of stakeholders engaged with minutes and attendance register	Engagement with 10 stakeholders as addressed in the stakeholder engagement plan	26 x Engagements with Stakeholders as per the stakeholder engagement plan		
		Communications materials	Fact sheets	1 x Fact sheets		
		Website statistics and update	Website analysis	1 x Website analysis		
		CCS general research project contracts	2 x CCS research projects initiated	2 x CCS research projects initiated (C Tax and CLSF off shore studies initiated)		
		CCS Conference Report	CCS conference	1 x CCS Conference Report		

Report on Performance by Objectives (continued)

	Objective	Performance indicator	Annual target 2015/16	Performance Result	Reasons for Not Achieving the Annual Target	Interventions put in place to address non–achievement
Smart Grids						
1.	To manage industry participation and contribution towards the sustainable development of Smart Grids in South Africa through coordination, facilitation of sessions (either workshops, meetings or seminars)	Minutes and reports of sessions held	4 meetings	4 meetings held		
2.	To collaborate with a South African universities and address critical electricity industry challenges through research	A signed collaboration agreement	1 signed collaboration agreement	1 signed collaboration agreement		
		Number of research briefs on individual research topics	1 signed terms of reference	1 signed terms of reference		
			1 research brief on the South African metering code	1 research brief on the South African metering code		
3.	To continuously strive towards local and international development of Smart Grid policies and regulatory frameworks through the participation in the ISGAN Executive Committee meeting	SANEDI reports on ISGAN EXCO meetings to be shared with the SASGI Forum	1 SANEDI report on ISGAN EXCO meetings to be shared with SASGI forum	1 SANEDI report on ISGAN EXCO shared with SASGI forum		

Report on Performance by Objectives (continued)

	Objective	Performance indicator	Annual target 2015/16	Performance Result	Reasons for Not Achieving the Annual Target	Interventions put in place to address non–achievement
4.	To continuously provide guidance to the 9 participating municipalities on the implementation and successful delivery of the EU Donor Funded Smart Grid Programme objectives. SANEDI through the Smart grids team will be developing guidelines for all 4 project areas: 1. Advanced Metering Infrastructure (FBE, TOU and IBT) 2. Revenue Enhancement Project 3. Active Network Management Project 4. Advanced Asset Management Project	Project 1: Implementing guidelines for Advance Metering infrastructure with the concept of Free Basic Electricity, time of use tariff and the incline block tariff	Implementation guidelines on advanced Metering Infrastructure for 7 phases Phase 1 – Project approval Phase 2 – Project assessment Phase 3 – Design approval Phase 4 – Procure approval Phase 5 – Development Phase 6 – Install and support Phase 7 – Handover	Completed implementation guidelines on advanced Metering Infrastructure for 7 phases Phase 1 – Project approval Phase 2 – Project assessment Phase 3 – Design approval Phase 4 – Procure approval Phase 5 – Development Phase 6 – Install and support Phase 7 – Handover		
		Project 2: Implementation guidelines for Advanced Metering infrastructure with the concept of Revenue Enhancement within municipalities	Implementation guidelines on Revenue Enhancement for 7 phases Phase 1 – Project approval Phase 2 – Project assessment Phase 3 – Design approval Phase 4 – Procure approval Phase 5 – Development Phase 6 – Install and support Phase 7 – Handover	Completed implementation guidelines on Revenue Enhancement for 7 phases Phase 1 – Project approval Phase 2 – Project assessment Phase 3 – Design approval Phase 4 – Procure approval Phase 5 – Development Phase 6 – Install and support Phase 7 – Handover		

Report on Performance by Objectives (continued)

Objective		Performance indicator	Annual target 2015/16	Performance Result	Reasons for Not Achieving the Annual Target	Interventions put in place to address non–achievement
	To continuously provide guidance to the 9 participating municipalities on the implementation and successful delivery of the EU Donor Funded Smart Grid Programme objectives. SANEDI through the Smart grids team will be developing guidelines for all 4 project areas: 1. Advanced Metering Infrastructure (FBE, TOU and IBT) 2. Revenue Enhancement Project 3. Active Network Management Project 4. Advanced Asset Management Project	Project 3: Implementation guidelines for Active Network Management of embedded generators and an advanced and Advanced Distribution Management system	Implementation guidelines on Active Network Management of embedded generators and ADMS for each of the 7 project phases Phase 1 – Project approval Phase 2 – Project assessment Phase 3 – Design approval Phase 4 – Procure approval Phase 5 – Development Phase 6 – Install and support Phase 7 – Handover	Completed implementation guidelines on Active Network Management of embedded generators and ADMS for : Phase 1 – Project approval Phase 2 – Project assessment Phase 3 – Design approval Phase 4 – Procure approval Phase 5 – Development Phase 6 – Install and support Phase 7 – Handover		
		Project 4: Implementation guidelines for Advance Asset Management within municipalities	Implementation guidelines on Advanced Asset Management for 7 phases Phase 1 – Project approval Phase 2 – Project assessment Phase 3 – Design approval Phase 4 – Procure approval Phase 5 – Development Phase 6 – Install and support Phase 7 – Handover	Completed implementation guidelines on Advanced Asset Management for 7 phases Phase 1 – Project approval Phase 2 – Project assessment Phase 3 – Design approval Phase 4 – Procure approval Phase 5 – Development Phase 6 – Install and support Phase 7 – Handover		

Report on Performance by Objectives (continued)

	Objective	Performance indicator	Annual target 2015/16	Performance Result	Reasons for Not Achieving the Annual Target	Interventions put in place to address non–achievement
Renewable Technologies						
1.	To provide a centre that coordinates and promotes RE research and development in SA through collaboration and funding	Number of platforms established	1 platform on Solar Water Heating	1 x platform on Solar Water Heating		
		Number of meetings held for existing platforms	4 meetings for : • Algal Bioenergy Platform • Solar High Temperature Platform • Waste-to-Energy Platform	4 meetings : • 2 x Algal Bioenergy Platform • 1x Solar High Temperature Platform • 1 x Waste to Energy Platform		
		Number of events co- hosted by SANEDI	3 SANEDI co- hosted events	3 SANEDI co-hosted events		
		Number of Expert Reference Group and Steering Committee meetings attended	3 meetings attended per invitation	3 meetings attended		
		Number of collaboration agreements entered into	2 collaboration agreements entered into on RE research projects	2 collaboration agreements entered into on RE research projects	Obtaining interns from TIA as opposed to SAGDA. There was a huge variance in the stipend to interns and insufficient funding to cover the shortfall The Ecovest training collaboration project was terminated	
		Number of RE projects completed	4 projects completed	4 x RE projects completed		
		Number of bursaries awarded	2 bursaries awarded	2 x bursaries awarded		

Report on Performance by Objectives (continued)

Objective		Performance indicator	Annual target 2015/16	Performance Result	Reasons for Not Achieving the Annual Target	Interventions put in place to address non–achievement
2.	Provide support through tendering, contracting, payment and reporting to the Danish renewable programmes DoE and Eskom components	A report on the status, progress and audit of programme to date	Develop procurement plan, issue tenders, sign contracts and facilitate payments as per procurement plan	All procurement executed as per the procurement plan.		
3.	Implement, manage and coordinate the WASA Phase 2 programme as per the Danish RE EE Programme. The DoE, SANEDI, Eskom and the Danish have an Implementation Partners Agreement and approved work plan	Reports on status, progress of programme to date	4 quarterly reports on WASA Phase 2 implementation to Danish Embassy to date with minutes of meetings and attendance registers	4 x quarterly reports on WASA Phase 2 submitted to the Danish Embassy with minutes of all meetings and attendance registers		
4.	Host and manage REEEP Secretariat for Southern Africa to accelerate RE and EE uptake in the region as per the SANEDI REEEP contractual agreement	Percentage execution of activities as contained in the REEEP approved work plan	Execution of all activities as agreed to in the collaboration agreement	100% of the activities on the collaboration agreement executed		
5.	Foster international collaboration in order to globalise knowledge and grown potential funding pool through contractual agreements between SANEDI and international partners and attendance of relevant executive meetings	Number of forums SANEDI participates in with regards to international collaboration	4 international meetings attended	4 international meetings attended		
		SAIREC conference hosted	1x SAIREC conferenced hosted in October 2015	1x SAIREC conferenced hosted in October 2015		

Report on Performance by Objectives (continued)

	Objective	Performance indicator	Annual target 2015/16	Performance Result	Reasons for Not Achieving the Annual Target	Interventions put in place to address non–achievement
Working for Energy						
1.	Finalise research on the factors affecting the sustainability of mini-grids in South Africa to support energy provision to rural and low income communities	Research report submitted to DoE regarding factors affecting the sustainability of mini-grids in SA to support energy provisions to rural and low income communities	1 x Final Research report submitted to the DoE	1 x Final Research report submitted to the DoE		
2.	To implement research on the availability and sustainability of RE resources in South Africa mapped against poverty to assist with programme prioritisation	First draft research report on the availability and sustainability of RE resources in SA	First draft research report	0 x draft research report	There were delays in the bid evaluation, process which resulted in the tender not being awarded	The tender has now been finalised and advertised. The report is expected to be completed in the second quarter
3.	To undertake research on the viability of Waste-to-Energy projects based on Value Added Industries waste in selected sites	First draft research report on the viability of Waste-to-Energy projects	First draft research report	First draft research report submitted to the DoE		
4.	To demonstrate RE provision to low income communities and urban communities (to demonstrate RE technologies and services to low income communities and urban communities)	Number of RE demonstration projects commissioned in low income rural and urban communities	2 x commissioned RE demonstration projects	2 x commissioned renewable energy demonstration projects		
		Number of demonstration RE projects under construction but 80% completed in low income rural and urban communities	10 integrated demonstration projects under construction	10 x integrated demonstration projects under construction		
5.	To demonstrate energy saving by RE applications to low income communities and urban communities	Number of demonstration energy saving projects commissioned in low income rural and urban communities	2 x commissioned energy saving projects	2 x commissioned		

Report on Performance by Objectives (continued)

	Objective	Performance indicator	Annual target 2015/16	Performance Result	Reasons for Not Achieving the Annual Target	Interventions put in place to address non–achievement
6.	To reach out to beneficiary communities and engage stakeholders on matters of Clean Energy utilisation and Benefits	Number of community and stakeholder outreach projects supported and launched	2 x projects to be launched	1 x projects launched	Thusanang was launched in the year. SANEDI was supposed to have launched two projects Not being able to solicit the avail-ability of the Minister has impacted on the launch of the second project.	Efforts will be directed towards soliciting the attendance of the Minister via the Director General of the DoE well in advance in order to ensure that the Minister is available for the launch of projects
			2 x expos attended to showcase the programme	2 x expos attended		
Data and Knowledge Management						
1.	CESAR Programme	CESAR programme 2 trained energy modellers Phase 2 transport study and Other DoE/DST approved projects	On Job Training SATMGE Model including transport sector link between CGE Model and Energy system model and Working Paper 2 Methodology for projecting future transport energy demand, mitigation actions and their emissions and economic impacts	Training of the modellers on SATMGE Model including transport sector link between CGE Model and Energy system model and Working Paper 2 Methodology for projecting future transport energy demand, mitigation actions and their emissions and economic impacts		
2.	Integrated EE data-repository	Functional, accurate, integrated and user friendly database	Database fully developed and populated	An EE data-repository database populated		

Report on Performance by Objectives (continued)

	Objective	Performance indicator	Annual target 2015/16	Performance Result	Reasons for Not Achieving the Annual Target	Interventions put in place to address non–achievement
Programme 3 - Energy Efficiency						
1.	To provide comprehensive and updated knowledge information of the level and progress of energy efficiency of the best technologies in appliances and buildings across the South African country through our partnership with Wupperthal Institute of Climate and Technology	Secondary data submissions to Wuppertal for the bigEE.net	4 x secondary data submissions to Wuppertal	4 x secondary data submissions to Wuppertal		
		Number of workshops held in the year	4 workshops to be held in the year	4 workshops were held		
2.	To facilitate funding and implementation support to the University of Pretoria for the implementation of the EEDSM Hub annual project plan	Payments to EEDSM Hub	Payments transferred to the Hub as per the contractual agreement	All Payments were made to the EEDSM hub per the contractual agreement		
		Number of reports submitted to the DST on the EEDSM	3 x reports submitted to the DST	10 reports submitted to the DST		
		Number of bi- annual energy meetings attended	2 meetings	2 Bi-Annual Energy meetings attended		
3.	To assess the suitability of Cool Surfaces Technology under RSA climatic conditions through Simulation Data Modelling in partnership with University of Florida for buildings using open source information	Number of simulations conducted to assess the suitability of Cool surfaces technology under RSA climatic conditions	4 x simulations per annum	0 Simulations conducted	Due to the fact that there are more than two parties involved in the contract finalisation, there were challenges in the finalising the contracts. Peer Africa, SANEDI and USTDA will finalise the contract in the 1st quarter of the new financial year	

Report on Performance by Objectives (continued)

Objective		Performance indicator	Annual target 2015/16	Performance Result	Reasons for Not Achieving the Annual Target	Interventions put in place to address non–achievement
4.	Create awareness of Cool Surfaces Technology partnership with and engagement of stakeholders via the following platforms: Annual International Conference to profile Cool Surfaces	Cool Surfaces hosted in SA to profile cool surfaces	2 x conferences	1 conference was held and 6 conference meetings		
5.	To publish articles in the building industry and energy related periodicals , newsletter, journals, website	Number of publications	4 articles per annum	5 articles were written		
6.	To have demonstration projects	Number of demonstration projects	4 x pilot or demonstration projects	6 projects demonstrations		
7.	To provide assurance to SARS on energy savings claims in line with published regulations and perform a reporting function to key stakeholders (DoE, National Treasury, SARS through National Treasury) and DTI by issuing Energy Efficiency tax certificates for approved and compliant applications and copying them to the Revenue	A database of suitably qualified persons to consider 12L applications, updated annually	Database of suitably qualified persons to consider 12L applications in place and updated	A Database of suitably qualified persons to consider 12L applications, updated		
8.	To provide quarterly progress reports to National Treasury and DoE	Energy Efficiency tax certificates specified by 12L regulations for approved and compliant claims, issued within 6 weeks of approval	All energy efficiency tax certificates (as specified by 12L regulations) for approved and compliant claims issued within 6 weeks of approval	On average application process exceeded 6 weeks	The issuing of certificates were not achieved in 6 weeks due to limited resources and system constraints to deal with the volume of applications	The configuration of a system that will be well equipped to handle the large volumes of applications received is currently receiving attention and it is envisaged the system will be active in the new financial year
		Quarterly report submitted to National Treasury and SARS	4 reports submitted to National Treasury and SARS	Four Reports Submitted to NT and SARS		

PART C

Human Resources (HR) Management

Introduction

Overview of HR matters at the public entity

SANEDI successfully completed the Migration from the CEF (SOC) LTD during the financial year and established an in-house Human Resources Department. This lead to a greater efficiency, a direct channel to adequately address staff issues as we strive towards the establishment of a skilled and motivated staff complement. Several HR structures were established leading to an improvement in our HR audit outcomes. New policies were developed and await implementation in the new financial year.

Set HR priorities for the year under review and the impact of these priorities

Going into the financial year, SANEDI had a number of HR priorities that needed to be addressed by the entity. Amongst these priorities was the migration from the service level arrangement we had with CEF (SOC) Ltd as part of our transitional arrangements since the establishment of SANEDI toward the establishment of a fully functional in-house Human Resources department. The process of migration would entail the appointment of staff within the Human Resources Department through to the customisation and implementation and the development and implementation of new HR policies for the entity.

This migration process commenced with the appointment of the HR manager in June followed by the drafting of 26 new HR policies for the organisation. By the end of the financial year 8 policies were approved by the Remuneration Committee and awaiting Board approval. Due to interruptions in the terms of the Board members the rest of the policies could not be finalised.

Workforce planning framework and key strategies to attract and recruit a skilled and capable workforce

Policies and procedures that inform workplace planning are under review. The current staff planning is based on the original business case and available resources from the National Treasury. SANEDI continues to find innovative ways to attract and retain new skills given the scarcity of some of the skills locally due to the specialised nature of these skills and the fact that some of the technologies/ solutions that inform SANEDI's projects are new in South Africa.

Increased emphases has been placed on staff development and on creating opportunities for interns from the Technology Innovation Agency (TIA) to learn new skills.

Employee performance management framework

Amongst the policies developed during the year was a performance management policy that addressed issues of alignment of the entity's strategic objectives to departmental operational plans and ultimately to individual performance plans. The policies is still to be approved, however steps to align Individual performance to the Annual Performance Plans are underway.

Employee wellness programmes

SANEDI staff still enjoys the support of the CEF SOC (LTD) in providing staff wellness programmes. The Board has taken a decision for a separate wellness programme to be introduced by the entity. Procurement processes were undertaken however due to budget constraints no award could be made for the implementation of a full wellness programme.

HR continues to introduce, in stages, additional programmes over and above the support enjoyed from CEF (S0C) LTD.

Policy Development

The process of reviewing existing policies, drafting new policies commenced during the financial year, however the process could not be completed due to the expiration of board members' terms. The policies will be reviewed and approved during the new financial year by the new Board to be appointed by the Minister of Energy.

Highlight achievements

In addition to the establishment of the HR department several HR structures were introduced into the organisation. In addition to these structures, career path plans and succession plans were developed for all employees with more emphasis placed on Key management positions and scarces skills.

Job descriptions were updated for all staff including alignment of existing positions with the approved organisational structures. The Board also approved the HR strategy and HR plan.

The HR committee

The HR Committee, a sub-committee of ExCO; made up of members of senior management was established. In terms of the approved terms of reference the committee will be responsible for overseeing the operations of the HR department. This incorporates the review of the HR strategies, operational plans, overseeing the implementation and roll out of new HR policies, approval of training and bursaries in line with SANEDI's strategic direction and monitoring of HR compliance within the organisation. The Committee will also ensure proper employee performance management through moderations and approval of performance scores.

The TASK Grading Committee and the TASK Appeals Committee

Following successful training of all members of management on the TASK grading system, SANEDI went on to establish the grading committee and appeals committee in order to re-grade all positions within the organisation.

Human Resource Management (continued)

Challenges faced by the public entity

The greatest challenge faced by the organisation which significantly impacted progress was the disruptions in Board members' terms resulting in delays in approval and implementation of policies. Funding constraints are also having an impact on retention strategies that can be implemented.

The inability to attract and retain key skills remains one of the key challenges faced by the entity also as a result of a lack of sustainable funding for the organisation. At present 70% of all staff complement are on contract which poses risk to continuity as staff have to deal with real issues of job security and lack of adequate growth opportunities. Consultations with the Department of Energy and Treasury are ongoing to try and resolve these issues.

Future HR plans/goals

Going forward the entity to place more emphasis on the finalisation and implementation of the remaining 18 HR polices. Plans for full implementation of the wellness programme will continue.

Negotiations are underway with the National School of Government for a collaboration arrangement that will see a skills audit being conducted, development plans and training interventions being implemented. As part of improving performance management processes, an automated Performance management system will be implemented.

Human Resources Oversight Statistics

Personnel Cost by programme

PROGRAMME NAME	TOTAL EXPENDITURE FOR THE ENTITY (R'000)	PERSONNEL EXPENDITURE (R'000)	PERSONNEL EXP. AS A % OF TOTAL EXP.	NO. OF EMPLOYEES	AVERAGE PERSONNEL COST PER EMPLOYEE (R'000)
Administration	43 706	27 711	63%	19	1 458
Applied Energy and Research	157 786	14 192	9%	29	489
Energy Efficiency	10 041	2 735	27%	6	456

Training Costs

PROGRAMME	PERSONNEL EXPENDITURE (R'000)	TRAINING EXPENDITURE (R'000)	TRAINING EXPENDITURE AS A % OF PERSONNEL COST	NO. OF EMPLOYEES TRAINED	AVG TRAINING COST PER EMPLOYEE
Administration	27 711	474	2%	28	17
Applied Energy and Research	14 192	54	0%	4	13
Energy Efficiency	2 735	-	0%	-	-

Human Resource Management (continued)

In addition the above expenditure on training and development, SANEDI, through its collaborative involvement with various stakeholders in the energy industry, both locally and globally, were invited to send representatives on fully-funded Study Tours to observe and learn about new energy developments in countries such as Germany, France and the United States of America. These Study Tours are primarily aimed at capacity building and in some cases, skills transfer to South African individuals working in the area of sustainable energy and a number of both junior and senior SANEDI staff have benefitted immensely from these hands-on, practical interventions.

Sponsored training programmes:

PROGRAMME	TRAINING /WORKSHOPS /CONFERENCES
Administration	6
Applied Energy and Research	6
Energy Efficiency	4
Total	**14**

Five staff members were also awarded bursaries to study at institutions of Higher Learning.

Employment and vacancies

All vacancies that were planned to be filled during the financial year were filled.

PROGRAMME	2014/2015 NO. OF EMPLOYEES	2015/2016 APPROVED POSTS	2015/2016 NO. OF EMPLOYEES	2015/2016 VACANCIES	% OF VACANCIES
Administration	18	1	19	-	-
Applied Energy and Research	27	2	29	-	-
Energy Efficiency	5	1	6	-	-

PROGRAMME	2014/2015 NO. OF EMPLOYEES	2015/2016 APPROVED POSTS	2015/2016 NO. OF EMPLOYEES	2015/2016 VACANCIES	% OF VACANCIES
Top Management	2	-	2	-	-
Senior Management	6	-	6	-	-
Professional Qualified	16	3	19	1	*20%
Skilled	12	-	12	-	-
Semi-skilled	12	2	12	2	*80%
Unskilled	3	-	3	-	-
TOTAL	52	5	54	3	

**These positions were project related positions and will not be filled.*

Human Resource Management (continued)

Employment Changes

SALARY BAND	EMPLOYMENT AT BEGINNING OF PERIOD	APPOINTMENTS	TERMINATIONS	EMPLOYMENT AT END OF THE PERIOD
Top Management	2	-	-	2
Senior Management	6	-	-	6
Professional Qualified	16	5	3	19
Skilled	12	1	1	12
Semi-skilled	12	1	1	12
Unskilled	3	-	-	3
TOTAL	**52**	**8**	**5**	**54**

Reasons for Staff Leaving

REASON	NUMBER	% OF TOTAL NO. OF STAFF LEAVING
Death	-	-
Resignation	3	60%
Dismissal	-	-
Retirement	-	-
Ill health	-	-
Expiry of contract	2	40%
Other	-	-
TOTAL	**5**	**100%**

Three employees left the employ of the organistaion to pursue other opportunities whereas the others was due to expiry of their employment contracts. Two of these positions were later filled; One was filled internally and the other with an external candidate. The other three positions were linked to projects and will not be filled.

Labour Relations: Misconduct and disciplinary action

We had no cases of misconduct during the financial Year.

Human Resource Management (continued)

Equity target and Employment Equity Status

SANEDI remains committed to fair, transparent and equitable employment practices. During the year under review, our staff establishment was as follows:

LEVELS	MALE			
	AFRICAN	COLOURED	INDIAN	WHITE
Top Management	–	1	–	–
Senior Management	1	–	1	3
Professional Qualified	7	1	3	2
Skilled	3	–	1	–
Semi - Skilled	3	–	–	–
Unskilled	1	–	–	–
TOTAL	**15**	**2**	**5**	**5**

LEVELS	FEMALE			
	AFRICAN	COLOURED	INDIAN	WHITE
Top Management	1	–	–	–
Senior Management	1	–	–	–
Professional Qualified	3	1	1	2
Skilled	6	–	–	1
Semi - Skilled	7	–	1	1
Unskilled	2	–	–	–
TOTAL	**20**	**1**	**2**	**4**

PART D

Financial Information

Country of incorporation and domicile
South Africa

Nature of business and principal activities
Energy research and development

Registered office
Block E, Upper Grayston Office Park
150 Linden Road
Strathavon
Sandton
2199

Business address
Block E, Upper Grayston Office Park
150 Linden Street
Strathavon
Sandton
2199

Postal address
PO Box 9935 Sandton 2146

Bankers
Absa

Auditors
Auditor-General of South Africa

Secretary
Acorim (a division of Merchantec (Pty) Ltd)

South African National Energy Development Institute
Annual financial statements for the year ended 31 March 2016
Accounting Authority's statement of responsibility and approval

In terms of the Public Finance Management Act, 1999 (Act No. 1 of 1999), the SANEDI Board of Directors (the board) are required to maintain adequate accounting records and are responsible for the content and integrity of the annual financial statements and related financial information included in this report. It is the responsibility of the board to ensure that the annual financial statements fairly represent the state of affairs of the entity, as at the end of the financial year, including the results of its operations and cash flows for the reporting period.

The annual financial statements have been prepared in accordance with Standards of Generally Recognised Accounting Practice (GRAP), including any interpretations, guidelines and directives issued by the Accounting Standards Board. The annual financial statements are based on appropriate accounting policies, consistently applied and supported by reasonable and prudent judgments and estimates.

The board acknowledges that it is ultimately responsible for overall internal financial controls established by the entity and places considerable importance on maintaining a strong control environment. To enable the board to meet these responsibilities, the Accounting Authority has set standards for internal controls, aimed at reducing the risk of error or deficit in a cost effective manner. The standards include the proper delegation of responsibilities within a clearly defined framework, effective accounting procedures and adequate segregation of duties, to reduce and/ or avoid risk to the entity. These controls are monitored throughout the entity and all employees are required to maintain the highest ethical standards, in ensuring the entity's business is conducted in a manner that, in all reasonable circumstances, is above reproach. The focus of risk management in the entity is on identifying, assessing, managing and monitoring all known forms of risk across the entity. While operating risk cannot be fully eliminated, the entity endeavours to minimise it by ensuring that appropriate infrastructure, controls, systems and ethical behaviour are applied and managed within predetermined policies and procedures.

The board is of the opinion that, based on the information and explanations given by management, the internal controls in place provide reasonable assurance that the financial records can be relied on for the preparation of the annual financial statements. Although extreme diligence is applied, these internal financial controls can only provide reasonable, and not absolute assurance against material misstatement or deficit.

The Accounting Authority is primarily responsible for the financial affairs of the entity.

The external auditors were engaged to express an independent opinion on the annual financial statements and have been given unrestricted access to all financial records and related data.

The audited annual financial statements set out on pages 91 to 128 which have been prepared on a going concern basis, were approved by the Accounting Authority on 29 July 2016 and were signed on its behalf by:

Mr Kadri Nassiep
Chief Executive Officer

South African National Energy Development Institute
Annual financial statements for the year ended 31 March 2016

Report of the Board Audit and Risk Committee

We are pleased to present our report for the financial year ended 31 March 2016.

Charter

The audit and risk committee (the committee) has adopted a formal terms of reference as its audit committee charter. The charter is reviewed and approved on an annual basis. The committee has regulated its affairs in compliance with this charter and has discharged all its responsibilities as contained therein.

Membership

The committee members were appointed by the Board of Directors. The committee comprises three independent non-executive members, two of whom are experts in the field of finance with the other members being representatives of the shareholder. The committee is required to meet on a minimum of four occasions per annum, as per the charter.

Board Audit committee and Board Risk committee

NAME	APPOINTED	RE-APPOINTED	RESIGNED/TERM ENDED
Ms P Motsielwa (Chairperson)	23 October 2013		
Dr C Sita	23 October 2013		30 April 2015
Ms M Modise	23 October 2013	21 January 2016	31 March 2016*
Dr R Maserumule (alternate member)	23 October 2013		31 December 2015
Dr D Hildebrandt	23 October 2013		31 August 2015

During the financial year, three meetings were held and attendance was as follows:

NAME	24 MAY 2015	24 JUNE 2015	28 JULY 2015
Ms P Motsielwa	Y	Y	Y
Dr C Sita	N/A	N/A	N/A
Ms M Modise	Y	N	N
Dr R Maserumule (alternate member)	N	Y	Y
Dr D Hildebrandt	N	N	Y

Y = Attended meeting
N = Apology received
N/A-Not a member at date of meeting
*Members terms expired on the 31 August 2015, however these were extended by the Minister until 31 March 2016.

South African National Energy Development Institute
Annual financial statements for the year ended 31 March 2016
Report of the Board Audit and Risk Committee (continued)

Internal audit

The Committee considered and approved the internal audit charter and approved the annual work plan for the internal audit function. The internal audit function is responsible for reviewing and providing assurance on the adequacy and effectiveness of the internal control environment across operations. The Chief Audit Executive is responsible for reporting the findings of the internal audit work against the agreed audit plan to the committee on a quarterly basis.

The chief audit executive has direct access to the committees, primarily through its chairperson. The audit committee is also responsible for the assessment of the performance of the internal audit function. The internal audit function is required to undergo a quality review by an independent reviewer every four years. This was undertaken in April 2013 and the review reported positive results and rated the internal audit function as "general conformance", in accordance with the IIA Standards.

The internal audit function is independent and had the necessary resources, budget, standing and authority within the entity to enable it to discharge its functions. The chief audit executive, through a service level agreement, reports functionally to the chairperson of the audit committee and administratively to CEF SOC Limited.

We are satisfied that the internal audit function is operating effectively and that it has addressed the risks pertinent to the entity in its audits. We believe that internal audit contributes to the improvement of internal controls within the entity.

Internal control effectiveness

The system of internal controls is designed to provide cost-effective assurance that assets are safeguarded and that liabilities are effectively managed. In line with PFMA requirements, internal audit and the Auditor-General of South Africa (AGSA) provide the audit committee and management with assurance that the internal controls are adequate and effective. This is achieved by means of evaluating the effectiveness of the management of identified risks, as well as the identification of corrective actions and suggested enhancements to the controls and processes.

Internal and external audit provides the audit committee with reasonable assurance that the majority of internal controls are appropriate and effective. This is achieved by means of the risk management process, as well as the identification of corrective actions and suggested enhancements to the controls and processes.

The system of internal control was not entirely effective during the year under review, as several instances of non-compliance with internal controls were reported by both internal audit and AGSA. From the various reports of the internal and external auditors, we noted deficiencies with various internal controls which were brought to the attention of management. Corrective measures have been undertaken to rectify these deficiencies. We also take note of the improvement in the control environment as noted from the reduction in the number of issues raised by the internal and external auditors.

Corporate governance

We acknowledge that the entity continues to strive towards applying sound principles of good corporate governance. To this extent the entity has endeavoured to ensure that oversight sub-committees aimed at assisting the board to advance its strategic direction are established and operational with all respective charters reviewed on an annual basis.

There were, however, challenges with the operational effectiveness of the Committee(s) and Board for the year under review. This was mainly caused by the inability of the committee meetings to maintain a quorum. The terms of some of the members of the committee, including those of the Chairperson and deputy Chairperson came to an end at 31 August 2015 resulting in significant disruptions to the functioning of the governance structures. Although the terms were later extended to the 31 March 2016 significant challenges still persist as at the date of this report with six (6) board vacancies still to be filled.

Overall we are satisfied with advancements made by the entity towards applying best practice on corporate governance in the interest of the entity and its stakeholders.

South African National Energy Development Institute
Annual financial statements for the year ended 31 March 2016
Report of the Board Audit and Risk Committee (continued)

Risk management

The Board assigned the oversight responsibility of the risk management function to the committee. The entity implemented a risk management strategy, which includes a fraud prevention plan. A formal risk assessment was undertaken for the year ended 31 March 2016 with quarterly reviews, updates and reports. Consequently, internal audit used this data to prepare the three-year rolling strategic plan and an annual operating audit plan. The risk committee monitored the significant risks faced by the entity through risk reporting, evaluation of the reports and participation in risk assessment workshop. We are satisfied that significant risks have been managed to an acceptable level.

Appointment of auditors

The AGSA continues to serve as the independent external auditors of the public entity as mandated by the Public Audit Act, (Act No. 25 of 2004). We have reviewed the audit strategy and audit fees and we are satisfied that the audit strategy adopted is adequate for an organisation of this nature and size. We are also satisfied as to the independence, skill and competence of the auditor.

The auditors continue to have unrestricted access to the committee and we are satisfied that they have had unrestricted access to systems and records to enable them to arrive at their opinion.

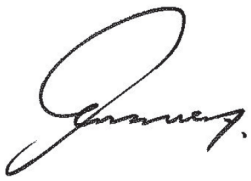
Annual financial statements

We have:

- Reviewed and discussed the audited annual financial statements to be included in the annual report, with the AGSA and the accounting officer;
- Reviewed the entity's compliance with legal and regulatory provisions;
- Reviewed accounting policies and practices;
- Reviewed information on pre-determined objectives to be included in the annual report; and
- Reviewed the annual financial statements for any significant adjustments resulting from the audit.

Conclusion

The committee expresses its sincere appreciation to the Board, Chief Executive Officer, management, Internal Audit and the AGSA for their ongoing support.



Mr Kadri Nassiep
29 July 2016

South African National Energy Development Institute
Annual financial statements for the year ended 31 March 2016
Accounting Authority's Report (continued)

The directors present the Accounting Authority report that forms part of the audited annual financial statements for the year ended 31 March 2016.

The South African National Energy Development Institute (SANEDI) is incorporated in terms of section 7 of the National Energy Act 2008 (Act No. 34 of 2008), and is listed as a national public entity in terms of schedule 3 of the Public Finance Management Act, 1999 (Act No. 1 of 1999) (PFMA), as amended.

1. The Board of Directors acts as the Accounting Authority in terms of the PFMA

NAME	APPOINTED	RESIGNED/TERM ENDED	RE-APPOINTED
Ms N Mlonzi	1 September 2011	31 August 2015	21 January 2016
Mr J Marriott	1 September 2011	31 August 2015	21 January 2016
Mr M Vilana	1 September 2011	31 August 2015	21 January 2016
Ms D Ramalope	17 October 2011	16 October 2015	1 September 2015
Mr M Gordon (alternate director)	17 October 2011	16 October 2015	
Dr D Hildebrandt	1 September 2011	31 August 2016	
Dr R Maserumule (alternate director)	26 June 2012		31 December 2015
Ms P Motsielwa	23 October 2013	31 March 2016*	
Ms M Modise	1 September 2011	31 March 2016*	21 January 2016
Mr C Manyungwane (alternate director)	3 September 2013	31 March 2016*	
Mr G Fourie	1 January 2013		
Dr C Sita	23 October 2013	30 April 2015	

*Members terms expired on the 31 August 2015, however these were extended by the Minister until 31 March 2016.

South African National Energy Development Institute
Annual financial statements for the year ended 31 March 2016
Accounting Authority's Report (continued)

Attendance of meetings

NAME	29 MAY 2015	29 JUNE 2015	30 JULY 2015	17 FEBRUARY 2016	18 MARCH 2016
Ms M Mlonzi	Y	Y	N	Y	N
Mr J Marriott	N	N	Y	N	Y
Mr M Vilana	N	N	N	N	N
Ms D Ramalope	Y	Y	Y	Y	N
Mr M Gordon (alternate director)	N	N	N	N	N
Dr D Hildebrandt	N	Y	Y	N/A	N/A
Dr R Maserumule (alternate director)	Y	Y	Y	N/A	N/A
Ms M Modise	N	N	Y	Y	Y
Dr C Sita	N/A	N/A	N/A	N/A	N/A
Mr C Manyungwane (alternate director)	N	N	Y	N	N
Ms P Motsielwa	Y	Y	N	Y	Y
Mr G Fourie	Y	Y	N	Y	Y

Y = Attended meeting
N = Apology received
N/A = Not a member at the date of meeting

2. Board audit committee and board risk committee

NAME	APPOINTED	RE-APPOINTED	RESIGNED/TERM ENDED
Ms P Motsielwa	23 October 2013		
Dr C Sita	23 October 2013		30 April 2015
Ms. M Modise	1 September 2011	21 January 2016	31 March 2016
Dr R Maserumule (alternate director)	23 October 2013		31 December 2015
Dr D Hildebrandt	23 October 2013		31 August 2015

South African National Energy Development Institute
Annual financial statements for the year ended 31 March 2016
Accounting Authority's Report (continued)

Attendance of meetings

NAME	24 MAY 2015	24 JUNE 2015	28 JULY 2015
Ms P Motsielwa	Y	Y	Y
Dr C Sita	N/A	N/A	N/A
Ms M Modise	Y	N	N
Dr R Maserumule (alternate member)	N	Y	Y
Dr D Hildebrandt	N	N	Y

Y = Attended meeting
N = Apology received
N/A = Not a member at the date of meeting
* = Not a member at the date of the meeting, but present at the meeting
*Members terms expired on the 31 August 2015, however these were extended by the Minister until 31 March 2016.

Remuneration Committee

Attendance of meetings

NAME	24 JULY 2015	25 AUGUST 2015	26 AUGUST 2015	29 FEBRUARY 2016
Ms M Modise (Chairperson)	Y	Y	Y	Y
Dr R Maserumule (alternate director)	Y	Y	Y	N
Ms D Ramalope	Y	Y	Y	Y
Mr M Gordon (alternate director)	N	N	N	N
Ms P Motsielwa	N	Y	Y	Y
Mr G Fourie	Y	Y	Y	Y

Y = Attended meeting
N = Apology received
N/A = Not a member at the date of meeting

South African National Energy Development Institute
Annual financial statements for the year ended 31 March 2016
Accounting Authority's Report (continued)

Project and Innovation Committee

Attendance of meetings

NAME	16 JULY 2015
Mr G Fourie (Chairperson)	Y
Ms D Ramalope	N
Dr C Sita	N/A
Dr Hildebrandt	N

Directors Remuneration

Director's remuneration is determined annually by the Minister of Energy. Representatives of Government departments are not remunerated.

NAME	REMUNERATION (FEES)	ALLOWANCES	TRAVEL EXPENSES	RE-IMBURSEMENTS	TOTAL
Mr J Marriott	16	-	-	-	16
Ms N Mlonzi	27	-	-	-	27
Dr D Hilderbrant	21	-	-	-	21
Ms P Motsielwa	61	-	21	-	82
Total	**125**	**-**	**21**	**-**	**146**

South African National Energy Development Institute
Annual financial statements for the year ended 31 March 2016
Accounting Authority's Report (continued)

3. Nature of business

Main business and operations

The main business and operations for the South African National Energy Development Institute (SANEDI) are defined in Chapter 4 of the Energy Act, 2008 (Act No. 34 of 2008). In terms of the Act, the main business and operations of SANEDI are:

- Energy research and development; and
- Energy efficiency

The principal activities of the South African National Energy Development Institute are outlined below:

- Undertake energy efficiency measures as directed by the Minister;
- Increase energy efficiency throughout the economy;
- Increase the gross domestic product per unit of energy consumed;
- Optimise the utilisation of finite energy resources;
- Direct, monitor, conduct and implement energy research and technology development in all fields of energy, other than nuclear energy; and
- Promote energy research and technology innovation

In addition to the above, SANEDI is expected to provide the following:

- Training and development in the field of energy research and technology development;
- Establishment and expansion of industries in the field of energy;
- Commercialisation of energy technologies resulting from energy research and development programmes;
- Register patents and intellectual property in its name resulting from its activities;
- Issue licenses to other persons for the use of its patents and intellectual property;
- Publish information concerning its objectives and core functions;
- Establish facilities for the collection and dissemination of information in connection with research, development and innovation;
- Undertake any other energy technology development related activity, as directed by the Minister, with the concurrence of the Minister of Science and Technology;
- Promote relevant energy research through cooperation with any entity, institution or person equipped with the relevant skills and expertise within and outside the Republic;
- Make grants to educational and scientific institutions in aid of research, by promoting the training of research workers by granting bursaries or grants in aid of research;
- Undertake the investigations or research that the Minister, after consultation with the Minister of Science and Technology, may assign to it; and
- Advise the Minister and the Minister of Science and Technology on research in the field of energy technology

4. Review of financial results

SANEDI continues to receive funding from National Government's MTEF allocation processes through the Department of Energy to carry out its mandate. The budget for the current financial year amounted to R403 million (R168 million: 2015) towards the overall activities of the organisation. This was made up of a mix of funding from varying sources, as SANEDI acts as an implementing agent of the state and other international agencies in terms of co-operation agreements signed with those agencies.

The make-up of the funding for the year was as a depicted below, which is indicative of the funding structure of the organisation. The variance of R108.6 million between budgeted income and actual income available was due additional project funding received from donors during the year as we concluded more project funding agreements. Additional funds were received under existing contracts per agreed upon milestones to advance projects to the next phase. Other Income comprises primarily of interest income and recoveries of funding from International Donor Agencies.

South African National Energy Development Institute
Annual financial statements for the year ended 31 March 2016
Accounting Authority's Report (continued)

Table 1: Funding sources for 2015/16

INCOME SOURCE	BUDGETED INCOME '000	%	ACTUAL INCOME '000	%	VARIANCE (BUDGET TO ACTUAL '000)
National departments	69 861*	17%	72 861	14%	(3,000)
International Donors	26 870	7%	19 790	4%	7,080
RDP Funding	32 160	8%	182 672	36%	(150,512)
Roll over funding	274 659	68%	227 080	44%	47 579
Local partners	–	0%	4 739	1%	(4,739)
Other Income	–	0%	5 088	1%	(5,088)
	403 550	**100%**	**512 230**	**100%**	**108 680**

*Includes R8,1 million received from the Department of Science and Technology for specific projects.

An amount of R108,8 million of these funds remains unspent, is classified as conditional grant funding and in retained surpluses, and will continue to be spent in line with the signed project agreements.

Table 2: Revenue recognised

REVENUE	2016 R'000	RESTATED 2015 R'000	VARIANCE
Revenue from non-exchange transactions	188 333	210 496	(22 163)
Revenue from exchange transactions	19 679	16 372	3 307
Total revenue	**208 012**	**226 868**	**(18 856)**

The variance of R18,8 million was as a result of SACCCS and Shale gas allocations ceasing at the end of the previous financial year. There were no additional funds allocated for this financial year.

South African National Energy Development Institute
Annual financial statements for the year ended 31 March 2016
Accounting Authority's Report (continued)

Table 3: Expenditure

EXPENDITURE	2016 R'000	RESTATED 2015 R'000	VARIANCE
Employee related costs	(44 643)	(40 152)	(4 491)
Project costs	(147 296)	(51 727)	(95,569)
Depreciation and amortisation	(3 693)	(4 846)	1,153
Finance Costs	(107)	–	(107)
Repairs and maintenance	(167)	(342)	175
Bad debts	(568)	(538)	(30)
Operating expenses	(14 997)	(15 868)	871
Loss on foreign exchange	–	(39)	39
Loss on Fair value adjustment	(58)	–	(58)
Impairments	(8)	7	(15)
Total expenditure	**(211 537)**	**(113 505)**	**(98 032)**

Overall, expenditure for the financial year amounted to R211.5 million (R113.5 million 2015). Of this amount spent, 70% (46%:2015) was spent on project costs as we continue to maximise efforts to spend more on the projects and less of operating expenditure. The variance of R97.6 million between budgeted the current year and the previous financial year was as a result of additional project funding received during the year from donors which in lead to increased spending on projects.

Operating expenses remained within expectations with minimal variances to the previous financial year as we continued to apply cost containment measures to minimize non-essential expenditure. Refer to Note 20 for further explanations of the variances.

Employee's costs increased due to new staff appointments made during the financial year.

Table 4: Accumulated surpluses

	2016 R'000	RESTATED 2015 R'000	VARIANCE
Accumulated Surplus (Deficit)	214 147	217 672	(3 525)

A total Deficit of R3.5 million was incurred during the year as a result of expenditure from projects (SACCCS, Shale gas and WFE being funded from retained surpluses which were realized in previous periods.

South African National Energy Development Institute
Annual financial statements for the year ended 31 March 2016
Accounting Authority's Report (continued)

5. Going concern

SANEDI's assets exceed its liabilities by R214.147 million. SANEDI has applied for approval to retain these of the accumulated surplus funds of R214.147 million from the National Treasury in terms of section 53(3) of the PFMA.

The directors believe that the entity will operate for the next foreseeable 12 months given the revised allocation received from MTEC for the next financial year.

6. Review of operations

Chapter 4 of the National Energy Act, 2008 (No. 34 of 2008) provides for the establishment of the South African National Energy Development Institute (SANEDI) which is categorized as a Schedule 3A entity in terms of the Public Finance Management Act, 1999 (Act 29 of 1999).

The mandate of entity in terms of the Energy Act is two-fold namely energy research and development and energy efficiency.

The year under review has indeed been a very challenging one in terms of governance related issues but in terms of project implementation it has been a very successful one which can be clearly evidenced in the Performance by Objectives information which is included in the Annual Report.

The governance related issues are largely due to the fact that the terms of much of the Board members came to an end on 31 August 2015. Member's terms were extended in January 2016 until 31 March 2016. The entity currently awaits the appointment of Board members.

Below are summaries of the highlights of the year under review:

Centre for Carbon Capture and Storage

The Steering Committee approved that SACCCS could focus on the Zululand Basin for the exploration purposes under the PCSP. The major outputs materialised in the year under review is the outputs relating to the Pilot Monitoring project where actual field work has taken place. Phase one of the project is completed. The Council for Geoscience, the CSIR, the British Geological Survey and the Scotland Carbon Capture and Storage together with SANEDI undertook a field trips to the Bongwana basin to assess how to use the natural CO2 emissions as a test bench for developing the PCSP monitoring programme. The sub- programme manages a successful a stakeholder engagement programme with more than 40 engagements taking place including engagements with the the House of Traditional Leaders and the Amakhosi. The fourth biennial Carbon Capture and Storage Conference which was a success was held during October 2015 with local delegates as well as international delegates. The conference included two workshops that gave inputs to the SANEDI carbon capture and storage programme. Feedback from delegates, especially international indicated a successful gathering that achieved its goal of disseminating latest progress as well as providing inputs to the SANEDI programme.

Renewable Energy

The solar technology roadmap implementation for Department of Science and Technology was awarded to SANEDI. An amount of R16.5m will be transferred to SANEDI over a four (4) year period for the project. SANEDI through the WASA programme served on the expert reference group which provided inputs to the renewable energy development zones which was approved for gazetting by Cabinet in February 2016. Five WASA Phase 2 wind measurement stations, covering the north eastern parts of the Eastern Cape Province, KwaZulu-Natal and Free State Provinces, were commissioned in October 2015. This brings the total number, together with 9 WASA Phase 1 masts operating since September 2010 and covering the Western Cape and parts of the Northern and Eastern Cape provinces, to 14 WASA wind measurement stations in operation by October 2015. In fulfilling its role as an advisor, SANEDI provided advisory support for the development of an off grid plant growth facility for the Agricultural Research Council that was launched in 2016. This is a containerised solution that can be adapted for off grid laboratory applications and can be extrapolated to cover any laboratory needs in remote areas where there is no electricity grids (originally developed for HIV and TB testing). In such economic conditions where entities cannot exist in vacuums and it becomes necessary to forge partnerships in order to achieve goals. SANEDI in collaboration with Eskom and the CSIR participated in the wind and photovoltaic aggregation study that was launched in March 2016 with the Wind Atlas South Africa (WASA) data that was used for the analysis. The outcome of the study indicated that a combination of photovoltaic and wind can significantly contribute to South Africa's energy supply.

South Africa hosted the first ever International Renewable Energy Conference on the African continent from 4 – 7 October 2015. With over 3,600 registered delegates from 82 countries, perspectives were varied and conversations were lively. Under the theme of Re-Energising Africa, delegates discussed the renewables value chain, needed regulatory frameworks for a transition to renewables, how to improve energy access and much more. SAIREC

South African National Energy Development Institute
Annual financial statements for the year ended 31 March 2016
Accounting Authority's Report (continued)

was also home to an exhibition and multiple side events showcasing pioneering innovations and products. Convened by REN21, SANEDI and the South African Department of Energy, SAIREC was responsible for spearheading the conversation on renewables in Africa.

Working for Energy

SANEDI has a number of projects under the Working for Energy Programme that have been completed and are waiting to be handed over to the beneficiary communities in the Eastern Cape, KwaZulu-Natal and Gauteng. The solar water heating and the water purification systems have been commissioned in Tygerkloof Combined School in Vryburg, North West Province. SANEDI is in the process of completing the biogas digesters in the first quarter. In Gauteng, the cool surfaces project, efficient lighting, solar water heating projects have been completed. We are in the process of completing the biogas digesters. It is envisaged that this will be completed by the end of the first quarter in the 2016/17 financial year.

The Waste to Energy project in Port Elizabeth is underway. The project is at the procurement of equipment stage. Thirteen (13) digesters under the partnership agreement amongst SANEDI, UNISA and Fort Hare University has been completed. Under the Working for Energy programme, the greening of the two Early Childhood Centres in KZN (Kwa-Maphumulo and Kwa-Ximba) has been completed.

Smartgrids

The Naledi revenue enhancement project under the Smartgrid sub-programme is aimed at installing 5500 smart meters. After installation of 60% of the meters, the municipality recorded a drop in its technical and financial losses with regards to electricity sales of 11%. The sub-programme also presented 4 papers at the South African Institute for Electrical Engineers (SAIEE).

Energy Efficiency

The Parliamentary report with regards to the tax Incentives was completed and distributed to Parliament during March 2016. The 12l report reflects a total energy investment in the country amounting to 1.5 terawatt hour saving. The final upload of data with regards to the BigEE project was completed. The technical obligations have thus been met on-time and within budget. The Energy Efficiency and Demand Side Management Hub which was initiated to generate high quality Masters and Doctoral graduates specifically trained to meet the needs of an expanding and sustainable energy industry in South Africa achieved all their targets with ten (10) PhD students graduating. 45% of the graduates are from the previously disadvantaged communities.

SANEDI was awarded a contract to host the TAF – Technical Assistance Facility for phase 2 of the AFD green credit line. The project consists of a credit facility being made available to three banks namely the IDC, Nedbank and ABSA. The facility is to finance renewable energy projects. The projects will be identified by the banks in terms of their own financial eligibility and risk criteria

7. Subsequent events

The directors are not aware of any other matters or circumstances arising since the end of the financial year, not otherwise dealt with in the annual financial statements which significantly affect the financial position of the entity or the results of the operations.

8. Approval

The audited annual financial statements set out on pages 91 to 128 which have been prepared on the going concern basis, were approved by the Accounting Authority on 29 July 2016 and were signed on its behalf by:

Mr Kadri Nassiep
Chief Executive Officer
In his capacity as Accouting Authority

South African National Energy Development Institute
Annual financial statements for the year ended 31 March 2016
Accounting Authority's Report (continued)

For purposes of materiality (as per PFMA sections 50(1) and 55 (2)) and significance (as per PFMA sections 54(2)) framework the following acceptable levels were agreed with the Executive Authority in consultation with the Auditor- General of South Africa:

- Section 50(1): Material facts to be disclosed to the Minister of Energy are considered to be facts that may influence the decisions or actions of the Stakeholders of the Public Entity or the Group of companies.
- Section 55(2): Disclosure of material losses in the annual financial statements will be for all losses through criminal conduct and any irregular expenditure and fruitless and wasteful expenditure that occurred during the year.
- Section 54(2): The criteria to determine the level of significance was based on the guiding principles as set out in the "Practice Note on applications under Section 54 of the PFMA No. 1 of 1999 (as amended) by Public Entities" as published by National Treasury during 2006 subject to adjustments for any Section 54(4) exemptions.

The significant Rand level was determined as being 1% of revenue as follows:

Approval levels in terms of Section 54

Public Entity's board approval levels	< 2 080 120
Obtain DoE approval and inform National Treasury	> 2 080 120

South African National Energy Development Institute
Annual financial statements for the year ended 31 March 2016
Report of the Auditor-General to Parliament

Report on the financial statements

Introduction

1. I have audited the financial statements of the South African National Energy Development Institute set out on pages 91 to 128, which comprise the statement of financial position as at 31 March 2016, the statement of financial performance, statement of changes in net assets, and cash flow statement for the year then ended, as well as the notes, comprising a summary of significant accounting policies and other explanatory information.

Accounting authority's responsibility for the financial statements

2. The accounting authority is responsible for the preparation and fair presentation of these financial statements in accordance with South African Standards of Generally Recognised Accounting Practice (SA Standards of GRAP) and the requirements of the Public Finance Management Act of South Africa, 1999 (Act No. 1 of 1999) (PFMA), and for such internal control as the accounting authority determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor-general's responsibility

3. My responsibility is to express an opinion on these financial statements based on my audit. I conducted my audit in accordance with International Standards on Auditing. Those standards require that I comply with ethical requirements, and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

4. An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgement, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

5. I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my audit opinion.

Opinion

6. In my opinion, the financial statements present fairly, in all material respects, the financial position of the South African National Energy Development Institute as at 31 March 2016 and its financial performance and cash flows for the year then ended, in accordance with South African Standards of Generally Recognised Accounting Practice (SA Standards of GRAP) and the requirements of the Public Finance Management Act of South Africa, 1999 (Act No. 1 of 1999) (PFMA).

Emphasis of matter

7. I draw attention to the matter below. My opinion is not modified in respect of this matter.

Restatement of corresponding figures

8. As disclosed in note 20 to the financial statements, the corresponding figures for 31 March 2015 have been restated as a result of errors discovered during 31 March 2016 in the financial statements of the South African National Energy Development Institute at, and for the year ended, 31 March 2015. This mainly relates to revenue that was incorrectly classified as deferred income.

Report on other legal and regulatory requirements

9. In accordance with the Public Audit Act of South Africa, 2004 (Act No. 25 of 2004) (PAA) and the general notice issued in terms thereof, I have a responsibility to report findings on the reported performance information against predetermined objectives for selected programmes presented in the annual performance report, compliance with legislation and internal control. The objective of my tests was to identify reportable findings as described under each subheading but not

South African National Energy Development Institute
Annual financial statements for the year ended 31 March 2016
Report of the Auditor-General to Parliament (continued)

to gather evidence to express assurance on these matters. Accordingly, I do not express an opinion or conclusion on these matters.

Predetermined objectives

10. I performed procedures to obtain evidence about the usefulness and reliability of the reported performance information for the following selected programmes presented in the annual performance report of the public entity for the year ended 31 March 2016:
- Programme 2: Applied energy research on pages 54 to 62
- Programme 3: Energy efficiency on pages 63 to 64

11. I evaluated the usefulness of the reported performance information to determine whether it was presented in accordance with the National Treasury's annual reporting principles and whether the reported performance was consistent with the planned programmes. I further performed tests to determine whether indicators and targets were well defined, verifiable, specific, measurable, time bound and relevant, as required by the National Treasury's Framework for managing programme performance information (FMPPI).

12. I assessed the reliability of the reported performance information to determine whether it was valid, accurate and complete.

13. The material findings in respect of the selected programmes are as follows:

Programme 2: Applied energy research

Usefulness of reported performance information

14. Treasury Regulation Treasury Regulation 30.1.3(g) requires the strategic plan to form the basis for the annual report, therefore requiring consistency of objectives, indicators and targets between planning and reporting documents. Important reported objectives and indicators were not consistent with those in the approved annual performance plan.

Reliability of reported performance information

15. I did not identify any material findings on the reliability of the reported performance information for Programme 2: Applied energy research.

Programme 3: Energy efficiency

Usefulness of reported performance information

16. Treasury Regulation Treasury Regulation 30.1.3(g) requires the strategic plan to form the basis for the annual report, therefore requiring consistency of objectives, indicators and targets between planning and reporting documents. Important reported objectives and indicators were not consistent with those in the approved annual performance plan.

Reliability of reported performance information

17. I did not identify any material findings on the reliability of the reported performance information for Programme 2: Energy efficiency.

Additional matter

18. I draw attention to the following matter:

Achievement of planned targets

19. Refer to the annual performance report on pages x to x and x to x for information on the achievement of the planned targets for the year. This information should be considered in the context of the material findings on the usefulness and reliability of the reported performance information for the selected programmes reported in paragraphs 14 to 17 of this report.

Adjustment of material misstatements

20. I identified material misstatements in the annual performance report submitted for auditing on the reported performance information for Programme 3: Energy Efficiency. As management subsequently corrected the misstatements, I did not raise any material findings on the reliability of the reported performance information.

Compliance with legislation

21. I performed procedures to obtain evidence that the public entity had complied with applicable legislation regarding financial matters, financial management and other related matters. My material findings on compliance with specific matters in key legislation, as set out in the general notice issued in terms of the PAA, are as follows:

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Report of the Auditor-General to Parliament

Financial statements, performance and annual reports

22. The financial statements submitted for auditing were not prepared in accordance with the prescribed financial reporting framework as required by section 55(1) (b) of the Public Finance Management Act. Material misstatements of current liabilities and disclosure items identified by the auditors in the submitted financial statement were subsequently corrected, resulting in the financial statements receiving an unqualified audit opinion.

Strategic planning and performance management

23. The 2015-16 strategic plan did not form the basis for the annual report of the entity as required by section 55(2) (a) of the PFMA and Treasury Regulation 30.1.3(g).

Expenditure management

24. Effective steps were not taken to prevent irregular expenditure, amounting to R420 000 as disclosed in note 18 of the AFS, as required by section 51(1) (b) (ii) of the Public Finance Management Act.

25. Effective steps were not taken to prevent fruitless and wasteful expenditure, amounting to R129 000 as disclosed in note 17 of the AFS, as required by section 51(1) (b) (ii) of the Public Finance Management Act.

Procurement and contract management

26. Goods and services with a transaction value below R500 000 were procured without obtaining the required price quotations, as required by Treasury Regulation 16A6.1.

27. Invitations for competitive bidding were not always advertised in at least the government tender bulletin, as required by Treasury Regulation 16A6.3(c).

Internal control

28. I considered internal control relevant to my audit of the financial statements, annual performance report and compliance with legislation. The matters reported below are limited to the significant internal control deficiencies that resulted in the findings on the annual performance report and the findings on non-compliance with legislation included in this report.

Leadership

29. The accounting authority did not exercise adequate oversight over compliance with laws and regulations. This resulted in material misstatements identified in the financial statements and annual performance report and in non-compliance with laws and regulations.

Financial and performance management

30. Controls were not adequately designed to prevent, detect and adequately address risks that impact on financial reporting, performance reporting and compliance with laws and regulations.

Auditor-General

31 July 2016

AUDITOR-GENERAL
SOUTH AFRICA

Auditing to build public confidence

South African National Energy Development Institute
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Statement of Financial Position

	NOTES	2016 R'000	RESTATED 2015 R'000
Assets			
Non-current assets		2 351	5 107
Property, plant and equipment	2	2 115	2 781
Intangibles assets	3	236	2 326
Current assets		378 594	371 865
Receivables from exchange transactions	4	6 174	6 806
VAT receivable		1 405	207
Cash and cash equivalents	5	371 015	364 852
Total assets		**380 945**	**376 972**
Liabilities			
Current liabilities		(166 798)	(159 300)
Payables from exchange transactions	8	(18 404)	(15 096)
Other Provisions (Tax Liability)	7	(20 803)	(20 803)
Unspent conditional grants and receipts	6	(110 134)	(115 890)
Bonus Provisions	7	(17 457)	(7 511)
Total liabilities		**(166 798)**	**(159 300)**
Net assets			
Accumulated surplus		**(214 147)**	**(217 672)**

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Annual financial statements for the year ended 31 March 2016
Statement of Financial Performance

	NOTES	2016 R'000	RESTATED 2015 R'000
Revenue			
Revenue from non-exchange transactions	9	188 333	210 496
Revenue from exchange transactions	9	19 679	16 372
Total revenue		**208 012**	**226 868**
Expenditure			
Employee related costs	11	(44 643)	(40 152)
Project costs		(147 296)	(51 727)
Depreciation and amortisation	2,3	(3 693)	(4 846)
Finance Costs		(107)	–
Repairs and maintenance		(167)	(342)
Bad debts		(568)	(538)
Operating expenses	10	(14 997)	(15 868)
Loss on foreign exchange		–	(39)
Loss on fair value adjustment		(58)	–
Impairments	2	(8)	7
Total expenditure		**(211 537)**	**(113 505)**
Surplus (deficit) for the year		**(3 525)**	**113 363**

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Statement of Changes in Net Assets

	NOTES	ACCUMULATED SURPLUS R'000	TOTAL NET ASSETS R'000
Restated opening balance as at 1 April 2015		**15 505**	**15 505**
Surplus for the year ended 31 March 2015		35	35
Opening balance as at 31 March 2015		**15 540**	**15 540**
Prior Period Errors	19	202 132	202 132
Restated opening balance as at 1 April 2015		**217 672**	**217 672**
Decicit for the year ended 31 March 2016		(3 525)	(3 525)
Balance at 31 March 2016		**214 147**	**214 147**

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Cash Flow Statement

	NOTES	2016 R'000	RESTATED 2015 R'000
Cash flows from operating activities			
Receipts		**308 089**	**321 660**
Grants		281 236	301 478
Interest income		22 883	17 640
Membership fees and sponsorships		3 970	2 542
Payments		**(300 980)**	**(106 290)**
Employee costs		(34 333)	(29,954)
Suppliers		(160 085)	(72 048)
Transfers of funds		(106 562)	(4 288)
Net cash flows from operating activities	12	**7 109**	**215 370**
Cash flows from investing activities			
Purchase of property, plant and equipment		(879)	(419)
Proceeds from sale of property, plant and equipment		–	14
Purchase of other intangible assets		(67)	(1 375)
Net cash flows from investing activities		**(946)**	**(1 780)**
Net increase in cash and cash equivalents		**6 163**	**213 590**
Cash and cash equivalents at the beginning of the year	5	364 852	151 262
Cash and cash equivalents at end of the year	5	**371 015**	**364 852**

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Annual financial statements for the year ended 31 March 2016
Accounting Policies

1. Presentation of annual financial statements

1.1. Basis of preparation

The annual financial statements have been prepared in accordance with the effective Standards of Generally Recognised Accounting Practice (GRAP) including any interpretations, guidelines and directives issued by the Accounting Standards Board.

These annual financial statements have been prepared on an accrual basis of accounting and are in accordance with historical cost convention unless specified otherwise. They are presented in South African Rand.

The financial statements have been prepared on a going concern basis and the accounting policies have been applied consistently throughout the period.

1.2. Translation of foreign currencies

Foreign currency transactions

A foreign currency transaction is recorded, on initial recognition in Rands, by applying to the foreign currency amount the spot exchange rate between the functional currency and the foreign currency at the date of the transaction. At each reporting date:

- Foreign currency monetary items are translated using the closing rate;
- Non-monetary items that are measured in terms of historical cost in a foreign currency are translated using the exchange rate at the date of the transaction; and
- Non-monetary items that are measured at fair value in a foreign currency are translated using the exchange rates at the date when the fair value was determined.

Exchange differences arising on the settlement of monetary items or on translating monetary items at rates different from those at which they were translated on initial recognition during the period or in previous annual financial statements are recognised in surplus or deficit in the period in which they arise.

When a gain or loss on a non-monetary item is recognised directly in net assets, any exchange component of that gain or loss is recognised directly in net assets. When a gain or loss on a non-monetary item is recognised in surplus or deficit, any exchange component of that gain or loss is recognised in surplus or deficit.

Cash flows arising from transactions in a foreign currency are recorded in Rands by applying to the foreign currency amount the exchange rate between the Rand and the foreign currency at the date of the cash flow.

1.3. Events after the reporting date

Recognised amounts in the annual financial statements are adjusted to reflect events arising after the reporting date that provide evidence of conditions that existed at the reporting date. Events after the reporting date that are indicative of conditions that arose after the reporting are dealt with by way of a note.

1.4. Property, plant and equipment

Property, plant and equipment are tangible non-current assets that are held for use in the supply of goods or services or for administrative purposes, and are expected to be used during more than one period.

Carrying amounts

All property, plant and equipment are stated at cost less accumulated depreciation and accumulated impairment losses.

The cost of an item of property, plant and equipment is recognised as an asset when:

- It is probable that future economic benefits or service potential associated with the item will flow to the entity; or
- The cost or fair value of the item can be measured reliably.

The cost of an item of property, plant and equipment is the purchase price and other costs attributable to bring the asset to the location and condition necessary for it to be capable of operating in the manner intended by management.

Trade discounts and rebates are deducted in arriving at the cost.

Where an item of property, plant and equipment is acquired at no cost, or for a nominal cost, its cost is its fair value as at date of acquisition.

Where an item of property, plant and equipment is acquired in exchange for a non-monetary asset or monetary assets, or a combination of monetary and non-monetary assets, the asset acquired is initially measured at fair value (the cost). If the acquired non-monetary asset's fair value is not determinable, its deemed cost is the carrying amount of the asset given up.

Cost includes costs incurred initially to acquire or construct an item of property, plant and equipment and costs incurred subsequently to add to, or to replace a part of, or service it. If a replacement cost is recognised in the carrying amount of an item of property, plant and equipment, the carrying amount of the replaced part is derecognised.

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Accounting Policies (continued)

1.4. Property, plant and equipment (continued)

Finance costs directly associated with the construction or acquisition of major assets are capitalised at interest rates relating to loans specifically raised for that purpose, or at the average borrowing rate where the general pool of borrowings is utilised.

Derecognition

The carrying amount of an item of property, plant and equipment is derecognised on disposal or when no future economic benefits are expected from its use.

The gain or loss arising from the derecognition of an item of property, plant and equipment is determined as the difference between the net disposal proceeds, if any, and the carrying amount of the item. Such difference is recognised in the surplus or deficit when the item is derecognised.

Depreciation

Depreciation is charged so as to write off the depreciable amount of the assets, other than land, over their estimated useful lives to estimated residual values, using the straight line method to write off the cost of each asset that reflects the pattern in which the asset's future economic benefits are expected to be consumed by the entity.

Where significant parts of an item have different useful lives to the item itself, these parts are depreciated over their estimated useful lives.

The following methods and rates are used during the year to depreciate property, plant and equipment to estimated residual values:

Item	Average useful life
Furniture, fittings and communication equipment	2 – 15 years
Office equipment	5 years
Computer equipment	3 years
Motor Vehicles	5 years
Leasehold improvements	Over the period of the lease

Each part of an item of property, plant and equipment with a cost that is significant in relation to the total cost of the item is depreciated separately.

The methods of depreciation, useful lives and residual values are reviewed annually.

1.5. Intangible assets

An asset is identified as an intangible asset when it:

- Is capable of being separated or divided from an entity and sold, transferred, licensed, rented or exchanged, either individually or together with a related contract, assets or liability; or
- Arises from contractual rights or other legal rights, regardless whether those rights are transferable or separate from the entity or from other rights and obligations. An intangible asset is an identifiable non-monetary asset without physical substance.

Initial recognition

An intangible asset is recognised when:

- It is probable that the expected future economic benefits or service potential that are attributable to the asset will flow to the entity and
- The cost or fair value of the asset can be measured reliably.

Cost

Intangible assets are initially recognised at cost if acquired separately or internally generated or at fair value if acquired as part of a business combination. If assessed as having an indefinite useful life, the intangible asset is not amortised but tested for impairment annually and impaired if necessary. If assessed as having a finite useful life, it is amortised over its useful life using a straight line basis and tested for impairment if there is an indication that it may be impaired.

Research

Expenditure on research (or on the research phase of an internal project) is recognised as an expense when it is incurred.

Development costs

Development costs are capitalised only if they result in an asset that can be identified, and it is probable that the asset will generate future economic benefits and the development cost can be reliably measured. Otherwise it is recognised in surplus or deficit.

Derecognition

Intangible assets are derecognised on disposal, or when no future economic benefits or service potential are expected from its use or disposal.

South African National Energy Development Institute
Annual financial statements for the year ended 31 March 2016
Accounting Policies (continued)

1.5. Intangible assets (continued)

The gain or loss arising from the derecognition of an intangible asset is determined as the difference between the net disposal proceeds, if any, and the carrying amount of the intangible asset. Such a difference is recognised in surplus or deficit when the intangible asset is derecognised.

Amortisation is recognised in profit and loss, on a straight line basis, to their residual values as follows:

Item	Useful life
Computer software	2 years

1.6. Non-current assets held for sale and disposal groups

Non-current assets and disposal groups are classified as held for sale if their carrying amount will be recovered principally through a sale transaction rather than through continuing use. This condition is regarded as met only when the sale is highly probable and the asset (or disposal group) is available for immediate sale in its present condition. Management must be committed to the sale, which should be expected to qualify for recognition as a completed sale within one year from the date of classification.

Non-current assets held for sale (or disposal group) are measured at the lower of their carrying amount and fair value less costs to sell.

A non-current asset is not depreciated (or amortised) while it is classified as held for sale, or while it is part of a disposal group classified as held for sale.

Interest and other expenses attributable to the liabilities of a disposal group classified as held for sale are recognised in surplus or deficit.

1.7. Impairment of non-cash-generating assets

Cash-generating assets are those assets held by the entity with the primary objective of generating a commercial return. When an asset is deployed in a manner consistent with that adopted by a profit-orientated entity, it generates a commercial return.

Non-cash-generating assets are assets other than cash-generating assets.

Identification

The entity assesses at each reporting date whether there is any indication that a non-cash-generating asset may be impaired. If any such indication exists, the entity estimates the recoverable service amount of the asset.

Recoverable service amount is the higher of a non-cash-generating asset's fair value less costs to sell and its value in use.

When the carrying amount of a non-cash-generating asset exceeds its recoverable service amount, it is impaired.

Irrespective of whether there is any indication of impairment, the entity also tests a non-cash-generating intangible asset with an indefinite useful life or a non-cash-generating intangible asset not yet available for use for impairment annually by comparing its carrying amount with its recoverable service amount. This impairment test is performed at the same time every year. If an intangible asset was initially recognised during the current reporting period, that intangible asset is tested for impairment before the end of the current reporting period.

Value in use

Value in use of an asset is the present value of the asset's remaining service potential.

The present value of the remaining service potential of an asset is determined using the following approaches:

Depreciated replacement cost approach

The present value of the remaining service potential of a non-cash-generating asset is determined as the depreciated replacement cost of the asset. The replacement cost of an asset is the cost to replace the asset's gross service potential. This cost is depreciated to reflect the asset in its used condition. An asset may be replaced either through reproduction (replication) of the existing asset or through replacement of its gross service potential. The depreciated replacement cost is measured as the reproduction or replacement cost of the asset, whichever is lower, less accumulated depreciation calculated on the basis of such cost, to reflect the already consumed or expired service potential of the asset.

The replacement cost and reproduction cost of an asset is determined on an "optimised" basis. The rationale is that the entity would not replace or reproduce the asset with a like asset if the asset to be replaced or reproduced is an overdesigned or overcapacity asset. Overdesigned assets contain features which are unnecessary for the goods or services the asset provides. Overcapacity assets are assets that have a greater capacity than is necessary to meet the demand for goods or services the asset provides. The determination of the replacement cost or reproduction cost of an asset on an optimised basis thus reflects the service potential required of the asset.

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Annual financial statements for the year ended 31 March 2016
Accounting Policies (continued)

Restoration cost approach

Restoration cost is the cost of restoring the service potential of an asset to its pre-impaired level. The present value of the remaining service potential of the asset is determined by subtracting the estimated restoration cost of the asset from the current cost of replacing the remaining service potential of the asset before impairment. The latter cost is determined as the depreciated reproduction or replacement cost of the asset, whichever is lower.

Recognition and measurement

If the recoverable service amount of a non-cash-generating asset is less than its carrying amount, the carrying amount of the asset is reduced to its recoverable service amount. This reduction is an impairment loss.

An impairment loss is recognised immediately in surplus or deficit.

After the recognition of an impairment loss, the depreciation (amortisation) charge for the non-cash-generating asset is adjusted in future periods to allocate the non-cash-generating asset's revised carrying amount, less its residual value (if any), on a systematic basis over its remaining useful life.

Reversal of an impairment loss

The entity assesses at each reporting date whether there is any indication that an impairment loss recognised in prior periods for a non-cash-generating asset may no longer exist or may have decreased. If any such indication exists, the entity estimates the recoverable service amount of that asset.

An impairment loss recognised in prior periods for a non-cash-generating asset is reversed if there has been a change in the estimates used to determine the asset's recoverable service amount since the last impairment loss was recognised. The carrying amount of the asset is increased to its recoverable service amount. The increase is a reversal of an impairment loss. The increased carrying amount of an asset attributable to a reversal of an impairment loss does not exceed the carrying amount that would have been determined (net of depreciation or amortisation) had no impairment loss been recognised for the asset in prior periods.

A reversal of an impairment loss for a non-cash-generating asset is recognised immediately in surplus or deficit.

After a reversal of an impairment loss is recognised, the depreciation (amortisation) charge for the non-cash-generating asset is adjusted in future periods to allocate the non-cash-generating asset's revised carrying amount, less its residual value (if any), on a systematic basis over its remaining useful life.

Re-designation

The redesignation of assets from a cash-generating asset to a non-cash-generating asset or from a non-cash-generating asset to a cash-generating asset only occurs when there is clear evidence that such a redesignation is appropriate.

1.8. Leases

A lease is classified as a finance lease if it transfers substantially all the risks and rewards incidental to ownership. A lease is classified as an operating lease if it does not transfer substantially all the risks and rewards incidental to ownership.

Operating lease payments are recognised as an expense on a straight line basis over the lease term. The difference between the amounts recognised as an expense and the contractual payments are recognised as an operating lease asset or liability.

The aggregate benefit of incentives is recognised as a reduction of rental expense over the lease term on a straight line basis over the lease term.
Any contingent rent is recognised separately as an expense when paid or payable and is not straight lined over the lease term.

1.9. Financial instruments

A financial instrument is any contract that gives rise to a financial asset of one entity and a financial liability or a residual interest of another entity. A financial asset is:

- Cash;
- A residual interest of another entity; or
- A contractual right to:
  – Receive cash or another financial asset from another entity; and
  – Exchange financial assets or financial liabilities with another entity under conditions that are potentially favourable to the entity.

A financial liability is any liability that is a contractual obligation to:

- Deliver cash or another financial asset to another entity; or
- Exchange financial assets or financial liabilities under conditions that are potentially unfavourable to the entity.

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Annual financial statements for the year ended 31 March 2016
Accounting Policies (continued)

1.9. Financial instruments (continued)

Financial instruments at amortised cost are non-derivative financial assets or non-derivative financial liabilities that have fixed or determinable payments, excluding those instruments that:

- The entity designates at fair value at initial recognition; or
- Are held for trading.

Financial instruments at fair value comprise financial assets or financial liabilities that are:

- Derivatives;
- Combined instruments that are designated at fair value; and
- Instruments held for trading.

A financial instrument is held for trading if:

- It is acquired or incurred principally for the purpose of selling or repurchasing it in the near-term; or
- On initial recognition is part of a portfolio of identified financial instruments that are managed together and for which there is evidence of a recent actual pattern of short term profit-taking;
- Non-derivative financial assets or financial liabilities with fixed or determinable payments that are designated at fair value at initial recognition; and
- Financial instruments that do not meet the definition of financial instruments at amortised cost or financial instruments at cost. Financial assets and financial liabilities are recognised on the entity's statement of financial position when the entity becomes a party to the contractual provisions of the instrument.

Financial assets

The entity's principal financial assets are accounts receivable as cash and cash equivalents.

The entity has the following types of financial assets (classes and category) as reflected on the face of the statement of financial position or in the notes thereto:

Class	Category
Loans receivable	Financial asset measured at amortised cost
Trade and other receivables	Financial asset measured at amortised cost
Cash and cash equivalents	Financial asset measured at amortised cost
Investments	Financial asset measured at amortised cost

Financial liabilities

The entity has the following types of financial liabilities (classes and category) as reflected on the face of the statement of financial position or in the notes thereto:

Class	Category
Trade and other payables	Financial liability measured at amortised cost

Initial recognition

The entity recognises a financial asset or a financial liability in its statement of financial position when the entity becomes a party to the contractual provisions of the instrument.

Initial measurement

The entity measures a financial asset and financial liability at amortised cost initially at its fair value, plus transaction costs that are directly attributable to the acquisition or issue of the financial asset or financial liability.

Subsequent measurement

The entity measures all financial assets and financial liabilities after initial recognition using the following category:

- Financial instruments at amortised cost.

All financial assets measured at amortised cost, or cost, are subject to an impairment review.

The amortised cost of a financial asset or financial liability is the amount at which the financial asset or financial liability is measured at initial recognition, minus principal repayments, plus or minus the cumulative amortisation using the effective interest method of any difference between that initial amount and the maturity amount, and minus any reduction (directly or through the use of an allowance account) for impairment or uncollectability.

Gains and losses

For financial assets and financial liabilities measured at amortised cost or cost, a gain or loss is recognised in surplus or deficit when the financial asset or financial liability is derecognised or impaired, or through the amortisation process.

Trade and other receivables

Trade receivables are measured at initial recognition at fair value, and are subsequently measured at amortised cost using the effective interest rate method.

South African National Energy Development Institute
Annual financial statements for the year ended 31 March 2016
Accounting Policies (continued)

1.9. Financial instruments (continued)

Appropriate allowances for estimated irrecoverable amounts are recognised in profit or loss when there is objective evidence that the asset is impaired. Significant financial difficulties of the debtor, probability that the debtor will enter bankruptcy or financial reorganisation and default or delinquency in payments (more than 30 days overdue) are considered indicators that the trade receivable is impaired. The allowance recognised is measured as the difference between the asset's carrying amount and the present value of estimated future cash flows discounted at the effective interest rate computed at initial recognition.

The carrying amount of the asset is reduced through the use of an allowance account, and the amount of the loss is recognised in the income statement within operating expenses. When a trade receivable is uncollectable, it is written off against the allowance account for trade receivables. Subsequent recoveries of amounts previously written off are credited against operating expenses in the income statement.

Trade and other receivables are classified as loans and receivables.

Trade and other payables

All financial liabilities are measured at amortised cost, comprising original debt less principal payments and amortisations.

Cash and cash equivalents

Cash and cash equivalents comprise cash on hand and demand deposits, and other short-term highly liquid investments that are readily convertible to a known amount of cash and are subject to an insignificant risk of changes in value. These are initially and subsequently recorded at fair value.

Derecognition

The entity derecognises financial assets using trade date accounting. The entity derecognises a financial asset only when:

- The contractual rights to the cash flows from the financial asset expire, are settled or waived;
- The entity transfers to another party substantially all of the risks and rewards of ownership of the financial asset; or
- The entity despite having retained some significant risks and rewards of ownership of the financial asset, has transferred control of the asset to another party and the other party has the practical ability to sell the asset in its entirety to an unrelated third party, and is able to exercise that ability unilaterally and without needing to impose additional restrictions on the transfer.

In this abovementioned case, the entity:

- Derecognises the asset and
- Recognises separately any rights and obligations created or retained in the transfer.

The carrying amounts of the transferred asset are allocated between the rights or obligations retained and those transferred on the basis of their relative fair values at the transfer date. Newly created rights and obligations are measured at their fair values at that date. Any difference between the consideration received and the amounts recognised and derecognised is recognised in surplus or deficit in the period of the transfer.

On derecognition of a financial asset in its entirety, the difference between the carrying amount and the sum of the consideration received is recognised in surplus or deficit.

Financial liabilities

The entity removes a financial liability (or a part of a financial liability) from its statement of financial position when it is extinguished, i.e. when the obligation specified in the contract is discharged, cancelled, expires or is waived.

The difference between the carrying amount of a financial liability (or part of a financial liability) extinguished or transferred to another party and the consideration paid, including any non-cash assets transferred or liabilities assumed, is recognised in surplus or deficit. Any liabilities that are waived, forgiven or assumed by another entity by way of a non-exchange transaction are accounted for in accordance with the Standard of GRAP on revenue from non-exchange transactions (taxes and transfers).

Fair value measurement considerations

The best evidence of fair value is quoted prices in an active market. If the market for a financial instrument is not active, the entity establishes fair value by using a valuation technique. Valuation techniques include using recent arm's length market transactions between knowledgeable, willing parties, if available, reference to the current fair value of another instrument that is substantially the same, discounted cash flow analysis and option pricing models. If there is a valuation technique commonly used by market participants to price the instrument and that technique has been demonstrated to provide reliable estimates of prices obtained in actual market transactions, the entity uses that technique. The chosen valuation technique makes maximum use of market inputs and relies as little as possible on entity-specific inputs. It incorporates all factors that market participants would consider in setting a price and is consistent with accepted economic methodologies for pricing financial instruments.

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Annual financial statements for the year ended 31 March 2016
Accounting Policies (continued)

1.9. Financial instruments (continued)

Periodically, an entity calibrates the valuation technique and tests it for validity using prices from any observable current market transactions in the same instrument (i.e. without modification or repackaging) or based on any available observable market data.

1.10. Provisions

Provisions are recognised when:
- The entity has a present obligation as a result of a past event;
- It is probable that an outflow of resources embodying economic benefits will be required to settle the obligation; and
- A reliable estimate can be made of the obligation

The amount of a provision is the best estimate of the expenditure expected to be required to settle the present obligation at the reporting date. Where the effect of time value of money is material, the amount of a provision is the present value of the expenditures expected to be required to settle the obligation. The discount rate is a pre-tax rate that reflects current market assessments of the time value of money and the risks specific to the liability.

Where some or all of the expenditure required to settle a provision is expected to be reimbursed by another party, the reimbursement is recognised when, and only when, it is virtually certain that reimbursement will be received if the entity settles the obligation. The reimbursement is treated as a separate asset. The amount recognised for the reimbursement does not exceed the amount of the provision.

Provisions are reviewed at each reporting date and adjusted to reflect the current best estimate. Provisions are reversed if it is no longer probable that an outflow of resources embodying economic benefits or service potential will be required to settle the obligation.

Where discounting is used, the carrying amount of a provision increases in each period to reflect the passage of time. This increase is recognised as an interest expense.

A provision is used only for expenditures for which the provision was originally recognised. Provisions are not recognised for future operating deficits.If an entity has a contract that is onerous, the present obligation (net of recoveries) under the contract is recognised and measured as a provision.

Contingent assets and contingent liabilities

Contingent assets and contingent liabilities are not recognised, but disclosed in the notes.

1.11. Revenue

1.11.1 Revenue from exchange transactions exchange

Exchange transactions are transactions in which one entity receives assets or services, or has liabilities extinguished, and directly gives approximately equal value (primarily in the form of cash, goods, services, or use of assets) to another entity in exchange.

Measurement revenue is measured at the fair value of the consideration received or receivable, net of trade discounts and volume rebates.

Sale of goods

Revenue from the sale of goods is recognised when all the following conditions have been satisfied:
- The entity has transferred to the purchaser the significant risks and rewards of ownership of the goods;
- The entity retains neither continuing managerial involvement to the degree usually associated with ownership nor effective control over the goods sold;
- The amount of revenue can be measured reliably;
- It is probable that the economic benefits or service potential associated with the transaction will flow to the entity; and
- The costs incurred or to be incurred in respect of the transaction can be measured reliably

Rendering of services

When the outcome of a transaction involving the rendering of services can be estimated reliably, revenue associated with the transaction is recognised by reference to the stage of completion of the transaction at the reporting date. The outcome of a transaction can be estimated reliably when all the following conditions are satisfied:
- The amount of revenue can be measured reliably;
- It is probable that the economic benefits or service potential associated with the transaction will flow to the entity;
- The stage of completion of the transaction at the reporting date can be measured reliably; and
- The costs incurred for the transaction and the costs to complete the transaction can be measured reliably.

When services are performed by an indeterminate number of acts over a specified time frame, revenue is recognised on a straight line basis over the specified time frame unless there is evidence that some other method better represents the stage of completion. When a specific act is much more significant than any other acts, the recognition of revenue is postponed until the significant act is executed.

South African National Energy Development Institute
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Accounting Policies (continued)

When the outcome of the transaction involving the rendering of services cannot be estimated reliably, revenue is recognised only to the extent of the expenses recognised that are recoverable.

Service revenue is recognised by reference to the stage of completion of the transaction at the reporting date. Stage of completion is determined by services performed to date as a percentage of total services to be performed.

Interest, royalties and dividends

Revenue arising from the use by others of entity assets yielding interest, royalties and dividends is recognised when:

- It is probable that the economic benefits or service potential associated with the transaction will flow to the entity; and
- The amount of the revenue can be measured reliably.

Interest is recognised in surplus or deficit, using the effective interest rate method.

1.11.2 Revenue from non-exchange transactions

Non-exchange transactions are transactions that are not exchange transactions. In a non-exchange transaction, an entity either receives value from another entity without directly giving approximately equal value in exchange, or gives value to another entity without directly receiving approximately equal value in exchange.

Stipulations on transferred assets are terms in laws or regulation, or a binding arrangement imposed upon the use of a transferred asset by entities external to the reporting entity.

Conditions on transferred assets are stipulations that specify that the future economic benefits or service potential embodied in the asset is required to be consumed by the recipient as specified or future economic benefits or service potential must be returned to the transferor.

Restrictions on transferred assets are stipulations that limit or direct the purposes for which a transferred asset may be used, but do not specify that future economic benefits or service potential is required to be returned to the transferor if not deployed as specified.

Recognition

An inflow of resources from a non-exchange transaction recognised as an asset is recognised as revenue, except to the extent that a liability is also recognised in respect of the same inflow.

As the entity satisfies a present obligation recognised as a liability in respect of an inflow of resources from a non-exchange transaction recognised as an asset, it reduces the carrying amount of the liability recognised and recognises an amount of revenue equal to that reduction.

Measurement

Revenue from a non-exchange transaction is measured at the amount of the increase in net assets recognised by the entity.

When, as a result of a non-exchange transaction, the entity recognises an asset, it also recognises revenue equivalent to the amount of the asset measured at its fair value as at the date of acquisition, unless it is also required to recognise a liability. Where a liability is required to be recognised it will be measured as the best estimate of the amount required to settle the obligation at the reporting date, and the amount of the increase in net assets, if any, recognised as revenue. When a liability is subsequently reduced, because the taxable event occurs or a condition is satisfied, the amount of the reduction in the liability is recognised as revenue.

Gifts and donations, including goods and services in-kind, including goods in-kind, are recognised as assets and revenue when it is probable that the future economic benefits or service potential will flow to the entity and the fair value of the assets can be measured reliably.

Services in-kind are not recognised.

Membership fees

Revenue from membership fees are recognised as revenue from non-exchange revenue and are recognised and measured in accordance with GRAP 23.

Conditional grants and receipts

Revenue received from conditional grants, donations and funding are recognised as revenue to the extent that the entity has complied with any of the conditions embodied in the agreement. To the extent that the conditions have not been met a liability is recognised.

Irregular expenditure as defined in section 1 of the PFMA is expenditure incurred in contravention of, or that is not in accordance with:

- A requirement of the Public Finance Management Act, 1999 (Act No. 29 of 1999) (PFMA); or
- A requirement of the State Tender Board Act, 1986 (Act No.86 of 1986), or any regulations made in terms of the Act; or
- A requirement in any provincial legislation providing for procurement procedures in that provincial government.

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Annual financial statements for the year ended 31 March 2016
Accounting Policies (continued)

1.11. Revenue (continued)

All expenditure relating to irregular expenditure is recognised as an expense in the statement of financial performance in the year that the expenditure was incurred. The expenditure is classified in accordance with the nature of the expense, and where recovered, it is subsequently accounted for as revenue in the statement of financial performance.

Fruitless expenditure means expenditure which was made in vain and would have been avoided had reasonable care been exercised. All expenditure relating to fruitless and wasteful expenditure is recognised as an expense in the statement of financial performance in the year that the expenditure was incurred. The expenditure is classified in accordance with the nature of the expense, and where recovered, it is subsequently accounted for as revenue in the statement of financial performance.

Unauthorised expenditure means:
- Overspending of a vote or a main division within a vote; and
- Expenditure not in accordance with the purpose of a vote or, in the case of a main division, not in accordance with the purpose of the main division.

All expenditure relating to unauthorised expenditure is recognised as an expense in the statement of financial performance in the year that the expenditure was incurred. The expenditure is classified in accordance with the nature of the expense, and where recovered, is subsequently accounted for as revenue in the statement of financial performance.

When the Accounting Authority determines the appropriateness of disciplinary steps against an official, the Accounting Authority must take into account:
- The circumstances of the transgression;
- The extent of the expenditure involved and
- The nature and seriousness of the transgression

All unauthorised, irregular or fruitless and wasteful expenditures are disclosed as a note to the annual financial statements of the entity.

1.12. Borrowing costs

Borrowing costs directly attributable to the acquisition, construction or production of qualifying assets are added to the cost of those assets, until the assets are substantially ready for their intended use or sale. Qualifying assets are assets that necessarily take a substantial period to get ready for their intended use or sale. Investment income earned on the temporary investment of specific borrowings pending their expenditure on qualifying assets is deducted from the cost of those assets.
Other borrowing costs are recognised as an expense in the period in which they are incurred.

1.13. Key accounting judgments and key sources of estimation uncertainty

In preparing the annual financial statements, management is required to make estimates and assumptions that affect the amounts represented in the annual financial statements and related disclosures. Use of available information and the application of judgment are inherent in the formation of estimates. Actual results in the future could differ from these estimates which may be material to the annual financial statements.

Significant judgment includes:

Going concern

Management considers key financial metrics in its approved medium-term budgets, together with its existing term facilities, to conclude that the going concern assumption used in the compiling of its annual financial statements is relevant.

Other provisions

For other provisions, estimates are made of legal or constructive obligations resulting in the raising of provisions, and the expected date of probable outflow of economic benefits to assess whether the provision should be discounted.

Impairment testing

The recoverable (service) amounts of individual assets and cash-generating units have been determined based on the higher of value-in-use calculations and fair values less costs to sell. These calculations require the use of estimates and assumptions.

The entity reviews and tests the carrying value of assets when events or changes in circumstances suggest that the carrying amount may not be recoverable.

If there are indications that impairment may have occurred, estimates are prepared of expected future cash flows for each group of assets.

Useful lives of property, plant and equipment and intangible assets

The entity's management determines the estimated useful lives and related depreciation charges for property, plant and equipment and intangible assets.

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Accounting Policies (continued)

1.13. Key accounting judgments and key sources of estimation uncertainty (continued)

This estimate is based on the condition and use of the individual assets, in order to determine the remaining period over which the asset can and will be used.

Fair value estimation

The fair value of financial instruments traded in active markets (such as trading and available-for-sale securities) is based on quoted market prices at the end of the reporting period. The quoted market price used for financial assets held by the entity is the current bid price.

The fair value of financial instruments that are not traded in an active market (for example, over-the counter derivatives) is determined by using valuation techniques. The entity uses a variety of methods and makes assumptions that are based on market conditions existing at the end of each reporting period. Quoted market prices or dealer quotes for similar instruments are used for long-term debt. Other techniques, such as estimated discounted cash flows, are used to determine fair value for the remaining financial instruments. The carrying values of trade receivables and payables are assumed to approximate their fair values.

1.14. Employee benefits

Short-term employee benefits

Short-term employee benefits are employee benefits (other than termination benefits) that are due to be settled within twelve months after the end of the period in which the employees render the related service. Short-term employee benefits include items such as:

- wages, salaries and social security contributions;
- short-term compensated absences (such as paid annual leave and paid sick leave) where the compensation for the absences is due to be settled within twelve months after the end of the reporting period in which the employees render the related employee service;
- bonus, incentive and performance related payments payable within twelve months after the end of the reporting period in which the employees render the related service and non-monetary benefits (for example, medical care, and free or subsidised goods or services such as housing, cars and cellphones) for current employees.

When an employee has rendered service to the entity during a reporting period, the entity recognises the undiscounted amount of short-term employee benefits expected to be paid in exchange for that service:

- as a liability (accrued expense), after deducting any amount already paid. If the amount already paid exceeds the undiscounted amount of the benefits, the entity recognises that excess as an asset (prepaid expense) to the extent that the prepayment will lead to for example, a reduction in future payments or
- a cash refund and
- as an expense, unless another Standard requires or permits the inclusion of the benefits in the cost of an asset.

The expected cost of compensated absences is recognised as an expense as the employees render services that increase their entitlement or, in the case of non-accumulating absences, when the absence occurs. The entity measures the expected cost of accumulating compensated absences as the additional amount that the entity expects to pay as a result of the unused entitlement that has accumulated at the reporting date.

The entity recognises the expected cost of bonus, incentive and performance related payments when the entity has a present legal or constructive obligation to make such payments as a result of past events and a reliable estimate of the obligation can be made. A present obligation exists when the entity has no realistic alternative but to make the payments.

Post-employment benefits: Defined contribution plans

When an employee has rendered service to the entity during a reporting period, the entity recognises the contribution payable to a defined contribution plan in exchange for that service: as a liability (accrued expense), after deducting any contribution already paid. If the contribution already paid exceeds the contribution due for service before the reporting date, an entity recognise that excess as an asset (prepaid expense) to the extent that the prepayment will lead to, for example, a reduction in future payments or a cash refund; and as an expense, unless another Standard requires or permits the inclusion of the contribution in the cost of an asset.

1.15. Related parties

The entity operates in an economic sector currently dominated by entities directly or indirectly owned by the South African Government. As a consequence of the constitutional independence of the three spheres of government in South Africa, only entities within the national sphere of government are considered to be related parties.

South African National Energy Development Institute
Annual financial statements for the year ended 31 March 2016
Accounting Policies (continued)

1.15. Related parties (continued)

Key management are those persons responsible for planning, directing and controlling the activities of the entity, including those charged with the governance of the entity in accordance with legislation, in instances where they are required to perform such functions.

Close members of the family of a person are considered to be those family members who may be expected to influence, or be influenced by, that management in their dealings with the entity. Only transactions with related parties not at arm's length or not in the ordinary course of business are disclosed.

1.16. Budget information

A reconciliation between the statement of financial performance and the budget has been included in the annual financial statements, as the recommended disclosure as determined by National Treasury, as the annual financial statements and the budget are not on the same basis of accounting. Refer to note 23 - Reconciliation between budget and statement of financial performance.

1.17. Prior period error

Prior period errors are omissions from, and misstatements in, the entity's financial statements for one or more prior periods arising from a failure to use, or misuse of, reliable information that was available and could reasonably be expected to have been obtained and taken into account in preparing these financial statements. Such errors result from mathematical mistakes, mistakes in applying accounting policies, oversights and/or misinterpretations of facts.

A prior period error shall be corrected by retrospective restatement except to the extent that it is impracticable to determine either the period-specific effects or the cumulative effect of the error.

Any prior period error affecting the third set of comparable financial statements shall be disclosed as a narrative note to the prior period error note. The statement of changes in net assets will be amended in the prior year comparative financial statements as one line item.

1.18. New standards and interpretations

Standards and interpretations effective and adopted in the current year

In the current year, the entity has adopted the following standards and interpretations that are effective for the current financial year and that are relevant to its operations:

1. GRAP 20: Related party disclosures
2. GRAP 109 Accounting by Principals and Agents

Standards and interpretations not yet effective or relevant

The following approved Standards of GRAP that have been issued, but are not yet effective, are likely to affect the annual financial statements when they are adopted as these Standards will be used to formulate and inform the accounting policies and disclosures:

1. GRAP 32: Service concession arrangements: grantor; and
2. GRAP 108: Statutory receivables

Adoption of the amendments to the Standards of GRAP issued in 2012 and various interpretations of the Standards of GRAP did not have a significant effect on the financial statements.

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Notes to the Annual Financial Statements

2. Property, plant and equipment

	2016			2015		
	COST	ACCUMULATED DEPRECIATION	CARRYING VALUES	COST	ACCUMULATED DEPRECIATION	CARRYING VALUES
Furniture and fixtures	1 615	(930)	685	1 630	(674)	956
Office equipment	269	(117)	152	223	(79)	144
Computer equipment	4 209	(3 260)	949	3 601	(2 123)	1 478
Leasehold improvements	74	(65)	9	74	(50)	24
Communication equipment	288	(166)	122	288	(109)	179
Vehicles	211	(13)	198	–	–	–
Total	**6 666**	**(4 551)**	**2 115**	**5 816**	**(3 035)**	**2 781**

Reconciliation of property, plant and equipment – 2016

	OPENING BALANCE	ADDITIONS	DISPOSALS/ IMPAIRMENTS	DEPRECIATION	TOTAL
Furniture and fixtures	956	-	(5)	(266)	**685**
Office equipment	144	52	(1)	(43)	**152**
Computer equipment	1 478	616	(2)	(1 143)	**949**
Leasehold improvements	24	–	–	(15)	**9**
Communication equipment	179	–	–	(57)	**122**
Vehicles	–	211	–	(13)	**198**
Total	**2 781**	**879**	**(8)**	**(1 537)**	**2 115**

Reconciliation of property, plant and equipment – 2015

	OPENING BALANCE	ADDITIONS	DISPOSALS/ IMPAIRMENTS	DEPRECIATION	TOTAL
Furniture and fixtures	1 219	4	–	(267)	**956**
Office equipment	108	67	–	(31)	**144**
Computer equipment	2 338	333	(133)	(1 060)	**1 478**
Leasehold improvements	42	–	–	(18)	**24**
Communication equipment	219	15	–	(55)	**179**
Total	**3 926**	**419**	**(133)**	**(1 431)**	**2 781**

Management has reviewed useful lives at 31 March 2016 and concluded that they fairly reflect the expected usage of assets.

South African National Energy Development Institute
Annual financial statements for the year ended 31 March 2016
Notes to the Annual Financial Statements (continued)

3. Intangibles assets

31 March 2016

	2016			2015		
	COST	ACCUMULATED DEPRECIATION	CARRYING VALUES	COST	ACCUMULATED DEPRECIATION	CARRYING VALUES
Computer software	**7 906**	**(7 670)**	**236**	**7 840**	**(5 514)**	**2 326**

Reconciliation of intangibles assets – 2016

	OPENING BALANCE	ADDITIONS	AMORTISATION	TOTAL
Computer software	**2 326**	**67**	**(2 157)**	**236**

Reconciliation of intangibles assets – 2015

	OPENING BALANCE	ADDITIONS	AMORTISATION	TOTAL
Computer software	4 366	1 375	(3 415)	2 326

4. Receivables from exchange transactions

	2016 R'000	RESTATED 2015 R'000
Financial assets at amortised cost		
Receivables from exchange transactions	2 271	7 883
Recoverable from Project Expenses	787	20
Employee costs in advance	13	–
Prepayments	1 063	75
Project prepayments	1 318	2 883
PAYE control	–	34
UIF control	–	3
Provision for bad debts	(868)	(5 180)
Recoverable fruitless and wasteful expenditure	23	12
Interest receivable	1 567	1 076
	6 174	**6 806**

Trade and other receivables are not pledged as security. The entity does not hold any collateral as security.

Trade and other receivables past due but not impaired

Trade and other receivables which are less than 3 months past due are not considered to be impaired however conditions should not exist that indicate impairment.

South African National Energy Development Institute
Annual financial statements for the year ended 31 March 2016
Notes to the Annual Financial Statements (continued)

4. Receivables from exchange transactions (continued)

At 31 March 2016 R0.165 million (2015: R1.7 million) were past due but not impaired.

	2016 R'000	RESTATED 2015 R'000
The ageing of amounts past due but not impaired is as follows:		
1 – 3 months past due	165	–
3 – 6 months past due	–	1 131
6 – 12 months past due	–	538

Trade and other receivables impaired

The amount of the provision was R0.868 million as of 31 March 2016 (2015: R5.180 million)

The ageing of these receivables is as follows:		
Over 6 months	868	5 180
Reconciliation of provision for impairment of trade and other receivables:		
Opening balance	5 180	4 646
Amounts written off as uncollectable	(4 542)	–
Additional provision	568	534
Amounts Recovered	(338)	–
Provision for doubtful debts	**868**	**5 180**

The creation and release of provision for impaired receivables have been included in operating expenses in surplus. The maximum exposure to credit risk at the reporting date is the fair value of each class of receivable mentioned above.

5. Cash and cash equivalents

	2016 R'000	RESTATED 2015 R'000
Cash and cash equivalents consist of:		
Cash on hand	5	10
Bank balances	371 010	364 842
	371 015	**364 852**

There are no restrictions placed on the realisation or usability of cash balances. The entity does not have access to any additional undrawn facilities.

South African National Energy Development Institute
Annual financial statements for the year ended 31 March 2016
Notes to the Annual Financial Statements (continued)

6. Unspent conditional grants and third party funds

	2016 R'000	RESTATED 2015 R'000
Unspent conditional grants and receipts comprises of:		
Unspent grants and third party funds	110 134	115 890
Movement during the year		
Balance at the beginning of the year	115 870	129 618
Prior period error	–	(116 930)
Additions during the year and interest	223 512	148 358
Income recognition during the year	(123 473)	(40 857)
Reclassified to receivable from non-exchange	787	–
Transfers*	(106 562)	(4 299)
	110 134	**115 890**

*An amount of R106 million was repaid, on 30 April 2015, to the RDP Fund for the EU AID demo project and the Danish renewable energy programme.

These amounts are invested in money market accounts and interest accrues to the invested money.

Unspent conditional grants and receipts comprises of:		
Danish Commercial Building Project	–	460
European Union Project (COCATE)	326	457
FP7	39	135
Centre For Energy Systems And Research	5 059	4 984
SA Road Map	557	522
SDC EE Monitoring And Implementation Project	355	–
EU Aid Demo Project	77 410	94 343
REEEP	–	431
REEEP Switch Africa	159	–
Wind Resource Mapping (WASA 1)	–	415
Danish Renewable Energy Programme	21 577	13 589
EEDSM HUB	129	179
WASA Support	1 025	–
Solar Technology Roadmap	3 000	–
Green Transport SACN	208	375
Austin Off Shore	290	–
	110 134	**115 890**

South African National Energy Development Institute
Annual financial statements for the year ended 31 March 2016
Notes to the Annual Financial Statements (continued)

6. Unspent conditional grants and third party funds (continued)

Reconciliation of unspent conditional grants and third party funds at 31 March 2016

	OPENING BALANCE R'000	ADDITIONAL RECEIPTS R'000	DEFERRED INCOME RECOGNISED R'000	GRANT REPAYMENTS R'000	OTHER ADJUSTMENTS R'000	INTEREST EARNED R'000	CLOSING BALANCE 2016 R'000
Danish Commercial Building Project	460	–	–	(462)	–	2	–
European Union Project (COCATE)	457	–	(162)	–	–	31	326
FP7	135	–	(102)	–	–	6	39
CESAR	4 984	2 150	(2 455)	–	–	380	5 059
SA Coal Roadmap	522	–	(1)	–	–	36	557
SDC EE Monitoring & Implementation Project	–	2 865	(2 598)	–	(20)	108	355
EU Aid Demo Project	94 343	151 592	(80 767)	(93 639)	–	5 881	77 410
REEEP	431	–	(435)	–	–	4	–
REEEP SWICTH Africa	–	187	(29)	–	–	1	159
Wind Resource Mapping (WASA 1)	415	–	–	(415)	–	–	–
Danish Renewable Energy Programme	13 589	31 078	(12 369)	(12 046)	–	1 325	21 577
EEDSM Hub	179	3 000	(3 058)	–	–	8	129
WASA Support	–	1 154	(188)	–	–	59	1 025
Solar Tech Roadmap	–	3 000	–	–	–	–	3 000
Green Transport SACN	375	250	(417)	–	–	–	208
Green Transport ECO	–	3 200	(3 200)	–	–	–	–
RECORD	–	450	(456)	–	–	6	–
SAIREC	–	16 288	(17 135)	–	787	60	–
Austin Off Shore	–	391	(101)	–	–	–	290
TOTAL	**115 890**	**215 605**	**(123 473)**	**(106 562)**	**767**	**7 907**	**110 134**

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Notes to the Annual Financial Statements (continued)

6. Unspent conditional grants and third party funds (continued)

Reconciliation of unspent conditional grants and third party funds at 31 March 2015

	OPENING BALANCE R'000	ADDITIONAL RECEIPTS R'000	DEFERRED INCOME RECOGNISED R'000	GRANT REPAYMENTS R'000	OTHER ADJUSTMENTS R'000	INTEREST EARNED R'000	CLOSING BALANCE 2016 R'000
Danish Commercial Building Project	454	–	(40)		-	46	460
European Union Project (COCATE)	524	–	(99)		-	32	457
FP7	67	100	(38)	–	–	6	135
CESAR	4 098	2 000	(1 410)	–	–	296	4 984
SA Coal Roadmap	752	–	(19)	–	(233)	22	522
SDC EE Monitoring & Implementation Project	940	2 970	(2 667)	–	(1 380)	137	–
EU Aid Demo Project	4 288	117 000	(28 034)	(4 299)	–	5 388	94 343
REEEP	–	947	(407)	–	(151)	42	431
REEEP SWICTH Africa	–	–	–	–	–	–	–
Wind Resource Mapping (WASA 1)	4 221	–	(1 967)	–	(1 915)	76	415
Danish Renewable Energy Programme	–	15 101	(2 176)	–	–	664	13 589
EEDSM Hub	1 023	3 000	(4 000)	–	–	156	179
WASA Support	–	-	–	–	–	–	–
Solar Tech Roadmap	–	–	–	–	–	–	–
Green Transport SACN	–	375	–	–	–	–	375
Green Transport ECO	–	–	–	–	–	–	–
RECORD	–	–	–	–	–	–	–
SAIREC	–	–	–	–	–	–	–
Austin Off Shore	–	–	–	–	–	–	–
TOTAL	**16 367**	**141 493**	**(40 857)**	**(4 299)**	**(3 679)**	**6 865**	**115 890**

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Notes to the Annual Financial Statements (continued)

7. Provisions

Reconciliation of provisions – 2016

	OPENING BALANCE R'000	UTILISED R'000	ADDITIONS R'000	CLOSING R'000
Bonus provision	7 511	(24)	9 970	17 457
SANERI Tax Provision	20 803	–	–	20 803
Total Provisions	**28 314**	**(24)**	**9 970**	**38 260**

Reconciliation of provisions – 2015

	OPENING BALANCE R'000	UTILISED R'000	ADDITIONS R'000	CLOSING R'000
Bonus provision	7 266	(7 266)	7 511	7 511
SANERI Tax Provision	20 803	–	–	20 803
Total Provisions	**28 069**	**(7 266)**	**7 511**	**28 314**

The bonus provision is calculated based on a percentage of the entity's performance and the individual performance ratings of staff members. The SANERI Tax provision relates to the SANERI Tax liability that was taken over by SANEDI. All assets and liabilities vested in SANERI prior to enactment of National Energy Act no 34 of 2008 now vests with SANEDI and consequently the VAT liability due to SARS has been accounted for by SANEDI in its books.

8. Payables from exchange transactions

	2016 R'000	RESTATED 2015 R'000
Trade payables	473	745
Accruals	14 522	11 825
PAYE control	671	–
WCA	36	93
UIF control	15	6
SDL control	26	–
Salary control	–	28
Spouse Life Cover	2	–
Pension Fund	186	–
Funeral Fund	1	–
Social Club	5	–
Garnishee control	–	29
Medical aid fund control	27	20
Operating Lease Accrual	95	–
Leave Accrual	2 345	2 350
	18 404	**15 096**

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Annual financial statements for the year ended 31 March 2016
Notes to the Annual Financial Statements (continued)

9. Revenue

	2016 R'000	RESTATED 2015 R'000
9.1 Revenue non-exchange is made up as follows:		
MTEF allocation	64 860	162 685
Recognition of unspent conditional grants	123 473	47 811
	188 333	**210 496**
9.2 Revenue from exchange transactions is made up as follows:		
Interest received	15 477	10 783
Membership fees and sponsorships	3 860	5 512
Other income	77	77
Gains on Foreign exchange on Foreign exchange	265	–
	19 679	**16 372**
	208 012	**226 868**

Interest is earned on monies in invested in money market accounts with various banks through CEF (SOC) Limited per the service level agreement.

9.2.1 Other Income		
Income from tenders	44	19
Other debtors written-off	–	–
Income from current account	–	–
Profit on sale of assets	–	–
Refund	33	–
PV of creditors	–	58
	77	**77**

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Annual financial statements for the year ended 31 March 2016
Notes to the Annual Financial Statements (continued)

10. Operating expenses

	2016 R'000	RESTATED 2015 R'000
Administration	2 252	1 857
Advertising	198	258
Audit costs	1002	818
Bank charges	60	30
Computer services	334	263
Board expenses	43	-
Conferences	220	1 364
Consulting and legal fees	1 635	228
Catering and Entertainment	149	186
Lease payments	3 121	3 070
Marketing and promotional expenditure	887	1 512
Insurance	227	283
Other office running expenses	287	284
Printing and stationery	509	658
Subscriptions and membership fees	1 531	1 931
Telephone	577	563
Travel and accommodation	1 501	2 058
Water and electricity	464	505
	14 997	**15 868**

11. Employee related costs

	31 417	29 135
Basic	9 970	7 796
Bonus	617	450
Medical aid – entity contributions	92	77
UIF	68	51
WCA	312	358
SDL	6	6
Other payroll levies	–	164
Leave pay provision charge	354	425
Employee welfare and training	3	96
Recruitment and relocation costs	1 366	1 144
Provident and pension contributions	292	253
Travel, motor car, accommodation, subsistence and other allowances	**44 497**	**39 955**
Directors Remuneration	146	197
Total Employee Related Costs	**44 643**	**40 152**

South African National Energy Development Institute
Annual financial statements for the year ended 31 March 2016
Notes to the Annual Financial Statements (continued)

11. Employee related costs (continued)

In terms of SANEDI's leave pay policy, employees are entitled to accumulated vested leave pay benefits not taken within a leave cycle, provided that any leave pay benefits not taken within a period of one year after the end of the leave cycle are forfeited.

12. Cash generated from operations

	2016 R'000	RESTATED 2015 R'000
Surplus (Deficit) adjustments for:	(3 525)	113 363
Depreciation and amortization	3 693	4 846
Impairments	8	(7)
Foreign exchange transactions	(265)	–
Other Non-Cash Movements	(24)	2 146
Movement on bonus provision	9 947	245
Loss on Fair value Adjustments	58	–
Provision for Bad Debts	568	–
Provision for bad debts reversal	(337)	–
Changes in working capital:	**(3 015)**	**94 777**
Trade and other receivables	(566)	(3 157)
Payables from exchange transactions	3 308	5 566
Unspent conditional grants and receipts	(5 757)	92 368
	7 109	**215 370**

13. Commitments

Operating lease commitments: CEF (SOC) Limited		
Minimum lease payments due –		
Within one year	**475**	**408**

Block C, Upper Grayston Office Park, 152 Ann Crescent, Strathavon, Sandton.

The entity has leased Portion 13, remaining Extent of Erf 14, Portion 1 of Erf 14 Simba Township, together with the building erected thereon from CEF (SOC) Limited. The agreement commenced on 1 April 2012 and the rent payable shall annually, on the anniversary date, escalate by 10% or alternatively, shall escalate in accordance with the CPI, whichever is greater. Either party shall be entitled to terminate this lease on six months' written notice to the other party.

South African National Energy Development Institute
Annual financial statements for the year ended 31 March 2016
Notes to the Annual Financial Statements (continued)

13. Commitments (continued)

Operating lease commitments: City Square Trading 522 (Pty) Ltd

	2016 R'000	RESTATED 2015 R'000
Minimum lease payments due –		
Within one year	3 399	2 589
Second to fifth year inclusive	922	3 567
	4 321	**6 156**

Block E, Upper Grayston Office Park, Erf 20 Simba Township, Sandton.

SANEDI leased units 9 – 12 on the second floor of Block E, Upper Grayston Office Park, located at Erf 20 Simba Township, Sandton, from City Square Trading 522 (Pty) Ltd. The lease commenced on 1 May 2012 and the rent payable shall annually, on the anniversary date, escalate by 8.25%. The lease terminates on 30 April 2017. SANEDI has the option to extend the lease for another 5 years.

SANEDI also leased unit 1 on the ground floor of Block E, Upper Grayston Office Park, located at Erf 20 Simba Township, Sandton, from City Square Trading 522 (Pty) Ltd. The lease commenced on 1 January 2013 and the rent payable shall annually, on the anniversary date, escalate by 8.25%. The lease terminates on 31 December 2017. SANEDI has the option to extend the lease for another five years.

Printing equipment

Operating lease commitments for printing equipment

Minimum lease payments due –		
Within one year	111	59
Second to fifth year inclusive	73	50
	184	**109**

SANEDI has entered into 2 lease agreements for photocopiers, one lease being for a 36 months' ending 31 December 2016. This lease has no escalation clause and is payable monthly in advance. Another lease agreement ends June 2016 for one copier with the same supplier. The second lease is for a 24 month period ending 30 November 2017 for 4 Printers.

Defaults and breaches

There was no default during the period of principal, interest, sinking fund or redemption terms of loans payable. No terms were renegotiated before the financial statements were authorised for issue.

Contractual commitments

Within one year	78 523	149 212
Second to fifth year inclusive	2 988	6 688
	81 511	**155 900**

South African National Energy Development Institute
Annual financial statements for the year ended 31 March 2016
Notes to the Annual Financial Statements (continued)

13. Commitments (continued)

SANEDI has entered into various contracts with service providers for the achievement of its key deliverables for the Danish renewable energy programme; working for energy (WfE) programme; the Centre for Energy Systems Research, the Hub for energy efficiency and demand side management and various projects under the clean energy programme.

Capital commitments approved not contracted for

Within one year	**964**	**840**

These are capex commitments budgeted for and approved by the board but not contracted for.

14. Contingencies

Surplus funds

SANEDI has a cash surplus of R371.015 for the year ended 31 March 2016 (Cash Surplus 2015: R364.852 million). A request has been submitted to National Treasury to retain the surplus, in terms of Section 53 of the Public Finance Management Act.

15. Related parties

Compensation to key management – 31 March 2016

INCOME SOURCE	BASIC SALARY	ALLOWANCES	PERFORMANCE BONUS	SUBSISTENCE AND TRAVEL	LEAVE	ENTITY CONTRIBUTIONS	2016 R'000
Mr KM Nassiep - Chief Executive Officer	1 832	89	–	119	315	22	2 377
Ms L Manamela -Chief Financial Officer	1 075	24	–	1	13	13	1 126
Dr AD Surridge	1 254	73	–	33	143	15	1 518
Mr Dr T Mali	1 206	49	–	77	116	15	1 463
Dr M Bipath	1 189	59	–	25	85	15	1 373
Mr C Snyman	1 124	24	–	51	117	15	1 331
Mr D Mahuma	1 308	24	–	63	257	17	1 669
Mr B Bredenkamp	1 249	24	–	48	138	15	1 474
	10 237	**366**	**–**	**417**	**1 184**	**127**	**12 331**

South African National Energy Development Institute
Annual financial statements for the year ended 31 March 2016
Notes to the Annual Financial Statements (continued)

31 March 2015

INCOME SOURCE	BASIC SALARY	ALLOWANCES	PERFORMANCE BONUS	SUBSISTENCE AND TRAVEL	LEAVE	ENTITY CONTRIBUTIONS	2016 R'000
Mr KM Nassiep - chief executive officer	1 825	132	717	97	182	32	2 985
Ms L Manamela -chief financial officer	1 064	24	-	-	29	15	1 132
Dr AD Surridge	1 191	108	537	2	45	92	1 975
Mr D Batte	1 242	24	426	-	136	21	1 849
Dr M Bipath	1 122	84	499	-	51	183	1 939
Dr T Mali	1 141	66	423	51	(44)	181	1 818
Mr C Snyman	1 068	24	310	32	61	18	1 513
Mr D Mahuma	1 242	24	356	7	118	20	1 767
Mr B Bredenkamp	1 183	24	499	85	88	182	2 061
	11 078	**510**	**3 767**	**274**	**666**	**744**	**17 039**

South African National Energy Development Institute
Annual financial statements for the year ended 31 March 2016
Notes to the Annual Financial Statements (continued)

15. Related parties (continued)

	2016 R'000	RESTATED 2015 R'000
Directors Remuneration	**146**	**197**

Board Members' emoluments

Committee fees		
Mr J Marriott	16	31
Ms N Mlonzi	27	44
Ms M Modise*	–	–
Mr M Vilana*	–	–
Dr D Hilderbrant	14	25
Mr M Gordon*	–	–
Prof E Meyer*	–	–
Ms D Ramalope*	–	–
Dr R Maserumule * (alternate director)	–	–
Ms P Motsielwa	48	34
Mr G Fourie*	–	–
Mr C Manyungwana*	–	–
Dr V Munsami*	–	–
	105	**134**

* These members are not remunerated in their personal capacity.

Board audit and Risk Committee

Committee fees:		
Ms P Motsielwa	23	22
Mr V Magan	-	28
Ms M Thomani	-	-
Ms M Nyathi	-	-
Dr C Sita*	-	-
Dr R Maserumule	-	-
Dr D Hildebrandt	4	13
	27	**63**

* These members are not remunerated in their personal capacity.

South African National Energy Development Institute
Annual financial statements for the year ended 31 March 2016
Notes to the Annual Financial Statements (continued)

15. Related parties (continued)

	2016 R'000	RESTATED 2015 R'000
Remuneration Committee		
Committee fees:		
Ms P Motsielwa	14	–
Mr V Magan	–	–
Ms M Thomani	–	–
Ms M Nyathi	–	–
Dr C Sita*	–	–
Dr R Maserumule	–	–
Dr D Hildebrandt	–	–
	14	**–**

SANEDI has been established by the Department of Energy and in terms of national legislation. SANEDI is ultimately controlled by the Department of Energy.

Grants Received

Department of Energy	64 860	162 685
Department of Science and Technology	8 000	5 100
Development Bank of South Africa	1 154	–

All transactions with related parties are arm's length and will not be disclosed separately.

16. Financial instruments

Introduction

The entity has a risk management and central treasury function that manages the financial risks relating to the entity's operations. The entity's liquidity, credit, foreign exchange and interest rate risks are monitored continually. Approved policies exist for managing these risks.

Risk profile

The entity utilises the services of risk management and the treasury department in CEF SOC Limited to manage the financial risks relating to the entity's operations.

South African National Energy Development Institute
Annual financial statements for the year ended 31 March 2016
Notes to the Annual Financial Statements (continued)

16. Financial instruments (continued)

Risk management objectives and policies

The entity's objective in using financial instruments is to reduce the uncertainty over future cash flows arising from movements in foreign exchange and interest rates. Throughout the year under review it has been, and remains, the entity's policy that no speculative trading in derivative instruments be undertaken.

Credit risk

Financial assets, which potentially subject the entity to concentrations of credit risk, pertain principally to trade receivables and investments in the South African money market. Trade receivables are presented net of the allowance for doubtful debts.

The exposure to credit risk with respect to trade receivables is not concentrated due to a large customer base.

The entity manages counter party exposures arising from money market and derivative financial instruments by only dealing with well-established financial institutions of a high credit rating. Losses are not expected as a result of non-performance by these counter parties.

Credit limits with financial institutions are revised and approved by the board quarterly.

Fair value

The entity's financial instruments consist mainly of cash and cash equivalents, trade receivables and trade payables.

As at 31 March 2016 no financial asset was carried at an amount in excess of its fair value and fair values could be reliably measured for all financial assets that are available for sale or held for trading.

The following methods and assumptions are used to determine the fair value of each class of financial instrument:

Cash and cash equivalents

The carrying amounts of cash and cash equivalents approximates fair value due to the relatively short term maturity of these financial assets.

Trade receivables

The carrying amounts of trade receivables net of provision for bad debt, approximates fair value due to the relatively short term maturity of this financial asset.

Trade payables

The carrying amounts of trade payables approximates fair value due to the relatively short-term maturity of these liabilities.

The carrying value of short-term borrowings approximates fair value due to the relatively short-term maturity of these liabilities. The fair values of other long term borrowings are not materially different from the carrying amounts.

South African National Energy Development Institute
Annual financial statements for the year ended 31 March 2016
Notes to the Annual Financial Statements (continued)

16. Financial instruments (continued)

Maturity profile

The maturity profiles of financial assets and liabilities at the statement of financial position date are as follows:

At 31 March 2016

	LESS THAN 1 YEAR	BETWEEN 1 AND 5 YEARS	OVER 5 YEARS	NON-INTEREST	TOTAL
Cash and cash equivalents	371 015	–	–	–	**371 015**
Trade and other receivables	6 174	–	–	–	**6 174**
VAT receivable	1 405	–	–	–	**1 405**
Total financial assets	**378 594**	**–**	**–**	**–**	378 594
Liabilities					
Trade and other payables	18 404	–	–	–	**18 404**

At 31 March 2015

	LESS THAN 1 YEAR	BETWEEN 1 AND 5 YEARS	OVER 5 YEARS	NON-INTEREST	TOTAL
Cash and cash equivalents	364 852	–	–	–	**364 852**
Trade and other receivables	6 806	–	–	–	**6 806**
VAT receivable	207	–	–	–	**207**
Total financial assets	**371 865**	**–**	**–**	**–**	371 865
Liabilities					
Trade and other payables	15 096	–	–	–	**15 096**

South African National Energy Development Institute
Annual financial statements for the year ended 31 March 2016
Notes to the Annual Financial Statements (continued)

16. Financial instruments (continued)

Financial instruments by category:

31 March 2016

	LOANS AND RECEIVABLES	FAIR VALUE THROUGH PROFIT AND LOSS – HELD FOR TRADING	FAIR VALUE THROUGH PROFIT AND LOSS – DESIGNATED	NON-INTEREST	TOTAL
Cash and cash equivalents	371 015	–	–	–	**371 015**
Trade and other receivables	6 174	–	–	–	**6 174**
VAT receivable	1 405	–	–	–	**1 405**
Total financial assets	**378 594**	**–**	**–**	**–**	378 594
Liabilities					
Trade and other payables	18 404	–	–	–	**18 404**

At 31 March 2015

	LOANS AND RECEIVABLES	FAIR VALUE THROUGH PROFIT AND LOSS – HELD FOR TRADING	FAIR VALUE THROUGH PROFIT AND LOSS – DESIGNATED	NON-INTEREST	TOTAL
Cash and cash equivalents	364 852	–	–	–	**364 852**
Trade and other receivables	6 806	–	–	–	**6 806**
VAT receivable	207	–	–	–	**207**
Total financial assets	**371 865**	**–**	**–**	**–**	371 865
Liabilities					
Trade and other payables	15 096	–	–	–	**15 096**

Liquidity risk

The entity manages liquidity risk through proper management of working capital, capital expenditure and actual versus forecasted cash flows. Adequate reserves and liquid resources are also maintained. The table below analyses SANEDI's financial liabilities based on the remaining period at the statement of financial position to the contractual maturity date. The amounts disclosed in the table are the contractual undiscounted cash flows. Balances due within 12 months equal their carrying balances as the impact of discounting is not significant.

South African National Energy Development Institute
Annual financial statements for the year ended 31 March 2016
Notes to the Annual Financial Statements (continued)

16. Financial instruments (continued)

At 31 March 2016

	LESS THAN 1 YEAR	BETWEEN 1 AND 5 YEARS	OVER 5 YEARS	NON-INTEREST	TOTAL
Liabilities					
Trade and other payables	18 404	–	–	–	**18 404**
Commitments	78 523	2 988	–	–	**81 511**
Total financial liabilities	**96 927**	**2 988**	**–**	**–**	**99 915**

At 31 March 2015

	LESS THAN 1 YEAR	BETWEEN 1 AND 5 YEARS	OVER 5 YEARS	NON-INTEREST	TOTAL
Liabilities					
Trade and other payables	15 096	–	–	–	**15 096**
Commitments	149 212	6 688	–	–	**155 900**
Total financial liabilities	**164 308**	**6 688**	**–**	**–**	**170 996**

Currency Risk

The entity is exposed to foreign currency risk to the extent on its foreign currency denominated receivables and trade payables relating to both Exchange and non-exchange transactions. Our Foreign currency policy provides for hedging however the foreign currency risk has been reviewed and assessed to not be significant in relation to our levels of exposure.

These exposure levels a monitored on an ongoing basis by the Treasury Department.

South African National Energy Development Institute
Annual financial statements for the year ended 31 March 2016
Notes to the Annual Financial Statements (continued)

17. Fruitless and wasteful expenditure

	2016 R'000	RESTATED 2015 R'000
Reconciliation of fruitless and wasteful expenditure		
Opening balance	36	2
Fruitless and wasteful expenditure – relating to current year	129	34
Less: Amounts condoned by the Board of Directors	(36)	–
Less: Amounts Recovered	(1)	–
Fruitless and wasteful expenditure awaiting condonation	**128**	**36**

Current year fruitless and wasteful expenditure is as a result of:

- Penalty paid to SARS as a result of late payment of the PAYE.
- Interest caused by delays with interbank transfers, resulting in payments being allocated late; and
- Late payments to supplier. Amount will be recovered from the employee(s)/persons who caused the fruitless and wasteful expenditure. The necessary steps have been taken to recover the money from employee(s)/persons who caused the fruitless and wasteful expenditure, with Staff members having signed an acknowledgement of debt and agreeing on re-payment terms with the entity.

18. Irregular expenditure

Reconciliation of irregular expenditure		
Opening balance	426	19 102
Irregular expenditure – relating to current year	420	426
Less: Amounts condoned by Board	(426)	(19 102)
Irregular expenditure awaiting condonation by board	**420**	**426**
Irregular expenditure not condoned by National Treasury		
Opening Balance	19 528	19 102
Irregular expenditure – relating to current year	–	426
Irregular Expenditure condoned by National Treasury	(15 682)	–
Irregular expenditure awaiting condonation by National Treasury	**3 846**	**19 528**

Contravention of legislation (Preferential Procurement Policy Framework Act)

Goods and services not evaluated

- Goods and services were procured without the evaluation of services providers as required by the PPPF Act. R0.044. (2015: R0).

Deviation not approved by the appropriate authority

- Goods and services amounting to R0.376 (2015: R0) were procured without deviations being approved by the appropriate authority.

Condonation of irregular expenditure

National Treasury has Condoned irregular expenditure amounting to R15.682 million relating to 2012/13 to 2013/14 financial years. An amount of R3.846 million from the previous financial year has not been condoned by National Treasury.

South African National Energy Development Institute
Annual financial statements for the year ended 31 March 2016
Notes to the Annual Financial Statements (continued)

19. Prior period errors

The correction of the error(s) results in adjustments as follows:

	RESTATED 2015 R'000
Statement of financial position	
Prepayments	43
Accruals	(197)
Deferred Income	223 129
Retained Earnings	(202 131)
Provisions	(20 803)
Statement of financial performance	
Revenue From non –exchange	105 679
Revenue from exchange	9 951
Employee Related Costs	197
Project Costs	(43)

Prepayments were understated by R0.043 million and as a result project related expenses were overstated by the same figure. The deferred income balances for SACCCS, WFE and Shale Gas have been written back to Accumulated surplus for a total figure of R219.582 million. These were previously ring fenced, however National Treasury confirmed during the financial year that earmarked funds are only earmarked in the year they were allocated. Employee related costs adjustment relates to directors fees paid in 2015/16 financial year but that related to 2014/15 amounting to R0.197 million.

Impact on 2014/15 opening balances

The deferred income balances for Wind resource mapping project (R1.915 million) was overstated as a result of expenditure incurred in the 2013/14 financial year. SA Coal Road Map (R0.233 million) and SDC Project (R1.399 million) were overstated during the 2012/13 reporting period. Of the adjustment for directors fees R0.038 million relates to an adjustment for the 2013/14 financial year.

The impact of the SACCCS and Shale Gas balances written back on 2014/15 opening balances for Revenue from non-Exchange is R103.330 million. This relates to income allocated from MTEF for the Year 2014/15 that was not recognized in that year but deferred.

An adjustment of R20.803 million has been made to Provisions to bring in the SANERI tax liability that now vests with SANEDI as all assets and liabilities that were under SANERI were transferred to SANEDI on coming into effect of the Energy Act of 2008.

Adjustments to Commitments

The commitments have been adjusted upwards for the 2014/15 financial year by R0.457 million. This relates to contracts that were wrongly included in the opening figure in cases where there were no actual signed contracts. There was also a duplication for Working for Energy (WFE) commitments and additional commitments for the Danish Renewable Programme were identified during the current year that affected the opening balances.

South African National Energy Development Institute
Annual financial statements for the year ended 31 March 2016
Notes to the Annual Financial Statements (continued)

20. Events after balance sheet date

Subsequent to the financial year, on 06 May 2016, an amount of R74 million was repaid to the RDP fund for the EU AID demo project and another R24 million on 10 May 2016 for the Danish Energy Renewable project.

Bonuses for the Financial year ended 2014/15 were paid out to staff on the 21 April 2016.

21. Statement of comparative and actual information

	NOTES	ORIGINAL BUDGET	BUDGET ADJUSTMENTS	FINAL BUDGET	FINAL OUTCOME	VARIANCE	ACTUAL OUTCOME AS A PERCENTAGE OF ORIGINAL BUDGET	ACTUAL OUTCOME AS A PERCENTAGE OF FINAL BUDGET
Financial performance								
Grants and other receipts	1	403 550	–	403 550	208 012	195 538	51%	51%
Total income		**403 550**	**–**	**403 550**	**208 012**	**195 538**	**51%**	**51%**
Employee costs	2	45 836	–	45 836	44 643	1 193	97%	97%
Depreciation and asset impairment		–	–	–	3 693	(3 693)	No Budget	No Budget
Project costs	3	343 189	–	343 189	147 296	195 893	43%	43%
Operating expenditure	**4**	**14 525**	**–**	**14 525**	**15 905**	**(1 380)**	**109%**	**109%**
Total expenditure		**403 550**	**–**	**403 550**	**211 537**	**192 013**	**52%**	**52%**
Surplus for the year					**(3 525)**			

South African National Energy Development Institute
Annual financial statements for the year ended 31 March 2016
Notes to the Annual Financial Statements (continued)

21. Statement of comparative and actual information (continued)

Notes

1. The variance between budgeted figures and the actual revenue recognised was as a results of under expenditure in the EU Smart metering project due to challenges experienced with some municipalities with the implementation of the project agreements. In total, an amount of R151.952 million was received during the year and an amount of R71 million was surrendered back to the RDP fund.

The finalisation of the financing agreement with the world bank for the Carbon Capture and Storage pilot is behind schedule. Although some fieldwork is being undertaken by staff, the majority of the costs will be incurred once the financing agreement has been signed. At present the world bank is busy with institutional capacity assessments and the procurement process to appoint consultants to work on the project.

2. The variance in employee costs expenditure was as a result of salary increases approved by the board being lesser than what was budgeted for as well as vacancies within the SANEDI board at the end of the financial year. As a result of the vacancies, an additional amount of 0, 6% for salary increases was recommended to be paid by the Remuneration Committee but had not yet been approved by board at end of the financial year. Once the vacancies are filled, the additional 0.6% as recommended will be submitted to the board for consideration and approval.

3. The variance in projects expenses was mainly as a result of delays in the EU smart metering project and SACCCS projects.

4. Some of the operating expenditure relating to the establishment of the Human Resource Department was funded from prior period roll over funds as approved by the National Treasury. An amount of R2 million was approved towards the establishment of an HR department.

5. Correction of prior period errors resulted in a reported surplus as a result of expenditure (including HR costs above) still being funded by accumulated surpluses

Notes

Notes

sanedi

South African National Energy
Development Institute

A state-owned entity established under Section 7 of the National Energy Act 2008, (Act No. 34 of 2008)

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