sanedi
South African National Energy Development Institute (SOC) Ltd.

SANEDI

Working-level dialogue between emerging and developing economies on commercializing clean energy innovations

The Energy Transition

ENERGY INNOVATION FOR LIFE

The Act provides in detail for SANEDI's Mandate

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,** promote energy research and technology **innovation** as well as undertake measures to promote **energy efficiency** throughout the economy.

OBJECTIVE

- To present and discuss the **key energy transition priorities** and **energy innovation challenges** and **opportunities** relevant to the RSA.
- **Priority clean energy technologies** and **challenges to be addressed** (e.g. energy storage, urban mobility, hydrogen, smart grids or affordable energy access)
- **Support programmes** for energy innovators bringing energy products to market
- Interest in cooperation between participating countries on market development and investment for energy innovators

Key Transition Priorities

Energy

Energy Security

Energy Access

Optimal energy Mix

Science and Innovation

coherent, inclusive National System of Innovation

Enabling innovation

Expand capabilities

Financing STI

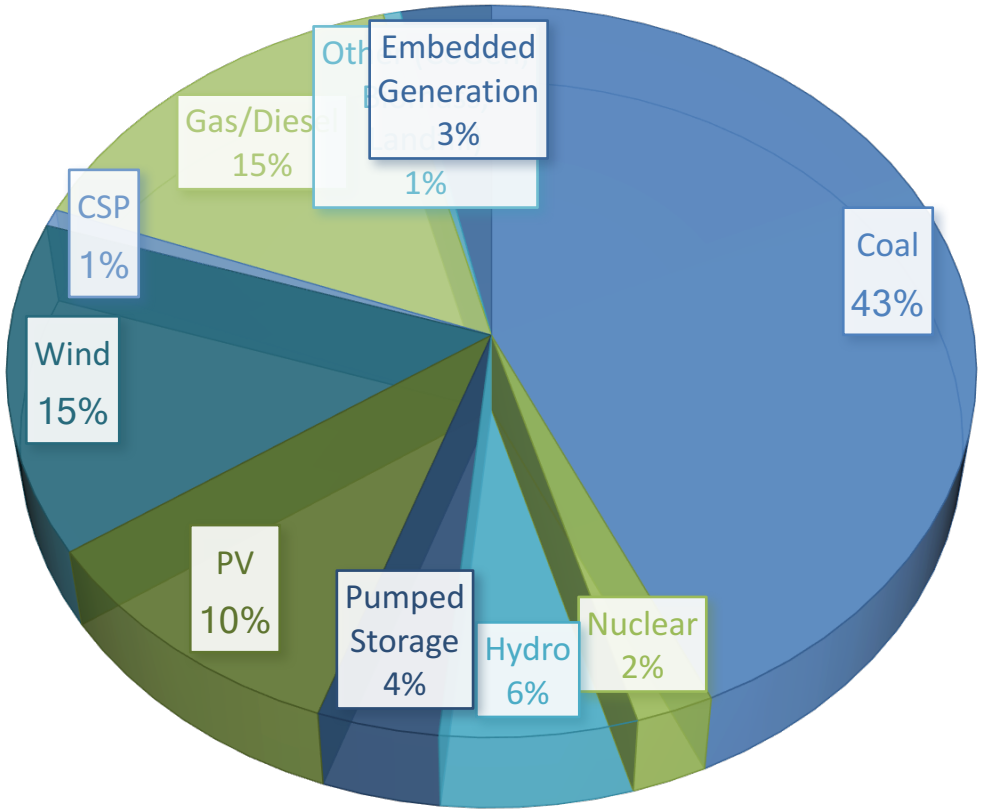
Environmental

Just transition

Climate resilient society

Current Landscape: Energy Mix

IRP 2019 ALLOCATIONS PROJECTED FOR 2030 ENERGY MIX



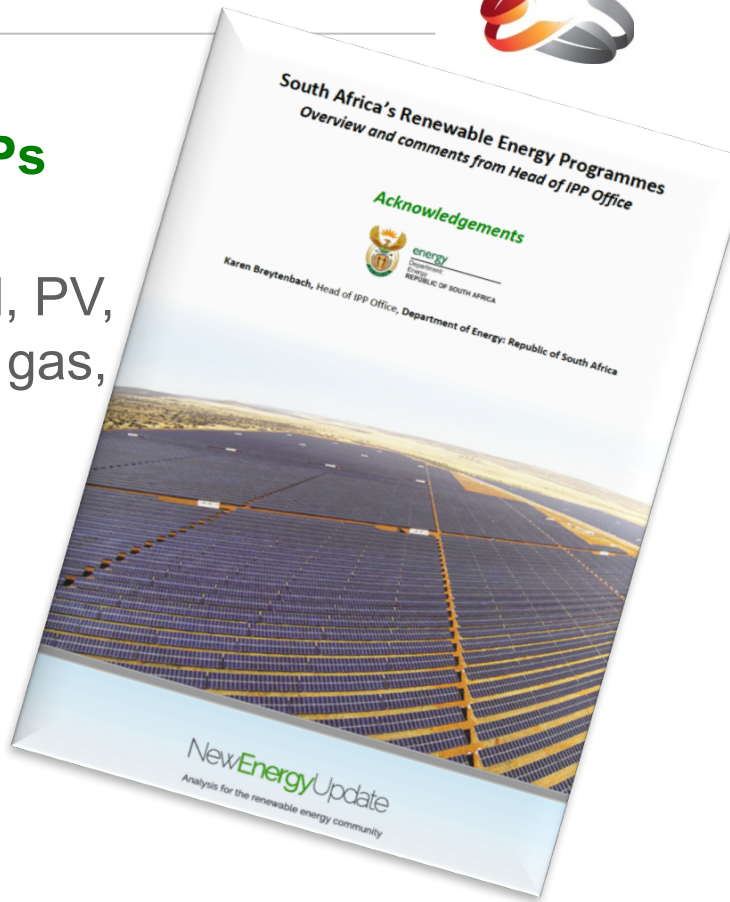
Coal still predominately a major contributor to the energy mix 43%

With a increase in PV and Wind @ 25%

Gas /Diesel @ 15%

REIPPP programme

- REIPPP programme signed **6,422 MW** of generating capacity from **112 renewable IPPs** across seven bid windows (BWs)
  - Capacity includes a mix of onshore wind, PV, concentrated solar power (CSP), landfill gas, biomass and hydropower.
- **First five** BWs (1, 2, 3, 3.5 & 4) yielded **92 projects**
  - 62 = combined capacity of 3,776 MW connected to national grid begun commercial operations
  - 2 projects still under construction
  - 26 projects from BW 4, and Redstone Solar CSP project from BW 3.5 signed off in April 2018
  - Many have reached financial close, remaining will by latest end January 2019



STI landscape

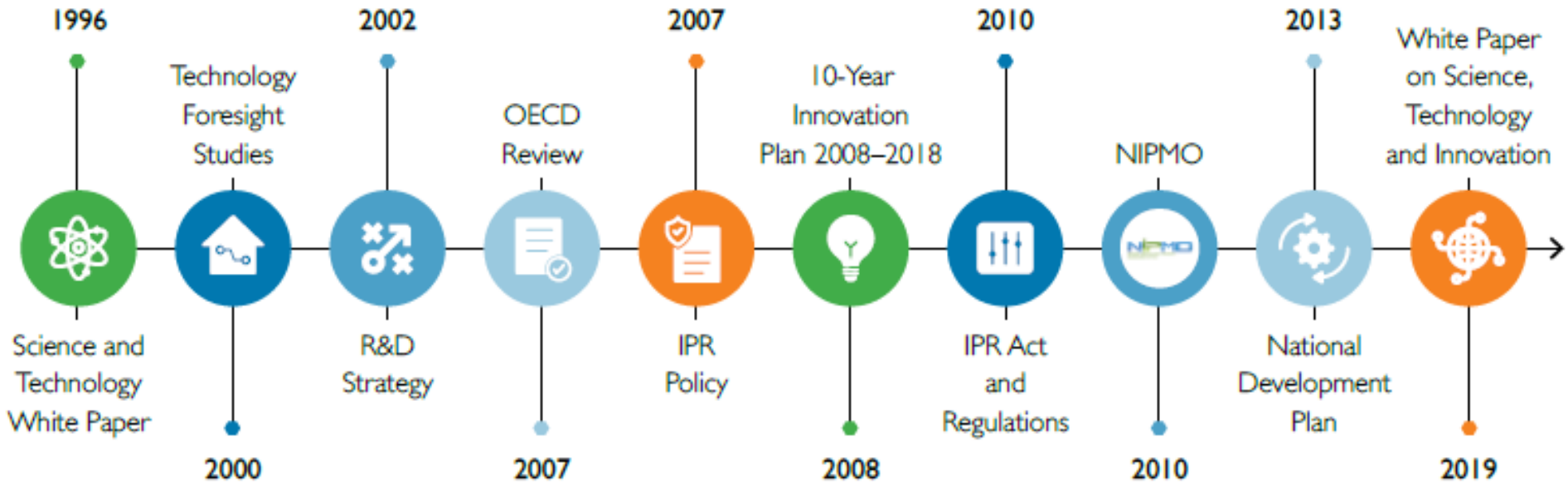


Figure 1: Timeline of South Africa's innovation policy evolution

National System progressing towards coherence and inclusivity

Source :SOUTH AFRICAN NATIONAL SURVEY OF INTELLECTUAL PROPERTY AND TECHNOLOGY TRANSFER AT PUBLICLY FUNDED RESEARCH INSTITUTIONS

Key challenges

Energy

Optimal energy Mix

Just Energy Transition

Grid stability

Integration of RE to Grid

Underfunding

Science and Innovation

Lack of capabilities

Inadequate Funding of the STI

Capacity at TTOs

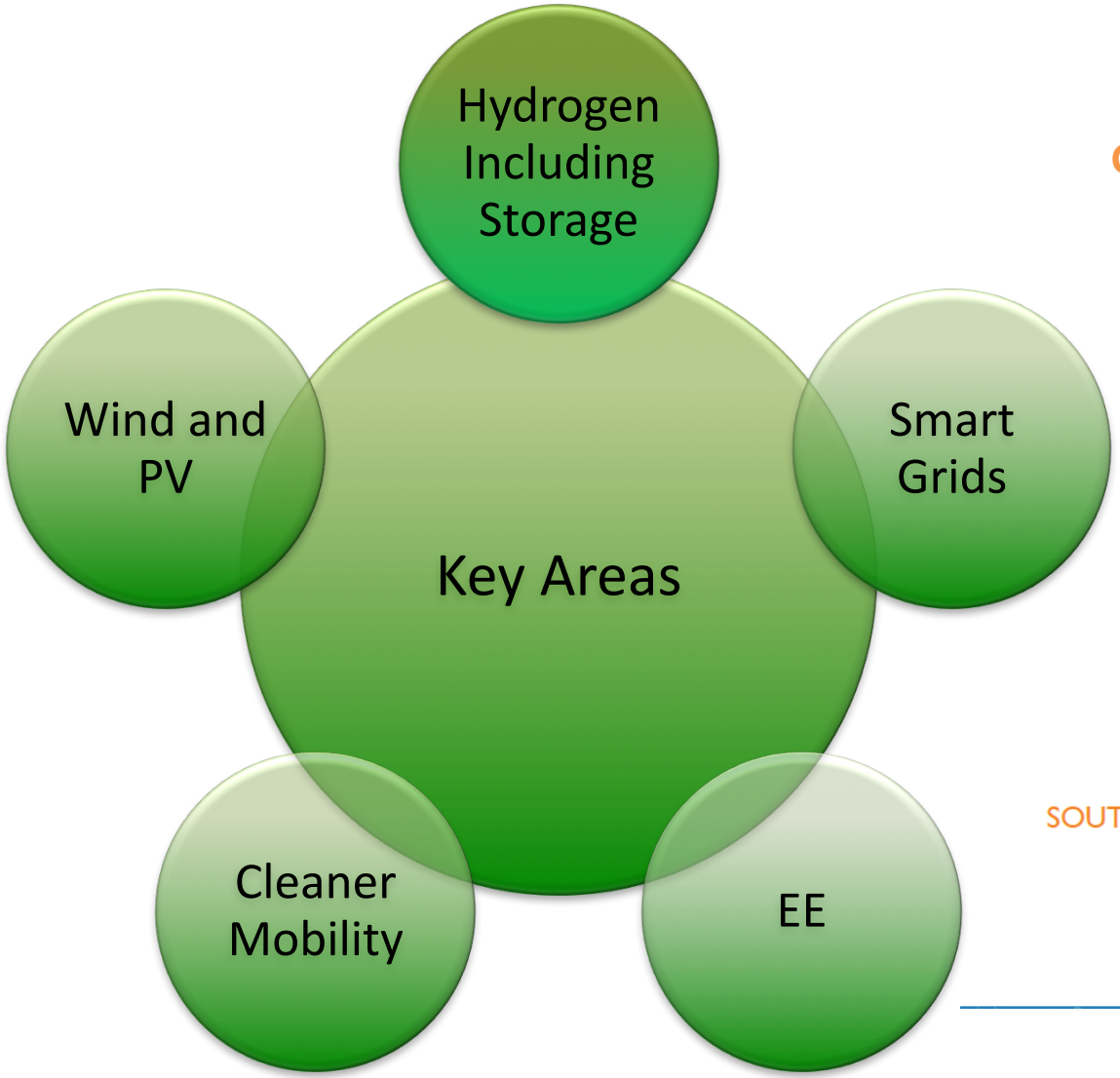
Low technology conversion rates (Below 10%)

Environmental

Underfunding

Lack of skills capacity

Priority clean energy technologies



Government through the DSI remains the main funder of Research and Development Activities

science & innovation
Department:
Science and Innovation
REPUBLIC OF SOUTH AFRICA

SOUTH AFRICAN NATIONAL SURVEY OF INTELLECTUAL PROPERTY AND TECHNOLOGY TRANSFER AT PUBLICLY FUNDED RESEARCH INSTITUTIONS

SECOND NATIONAL SURVEY: 2014 – 2018

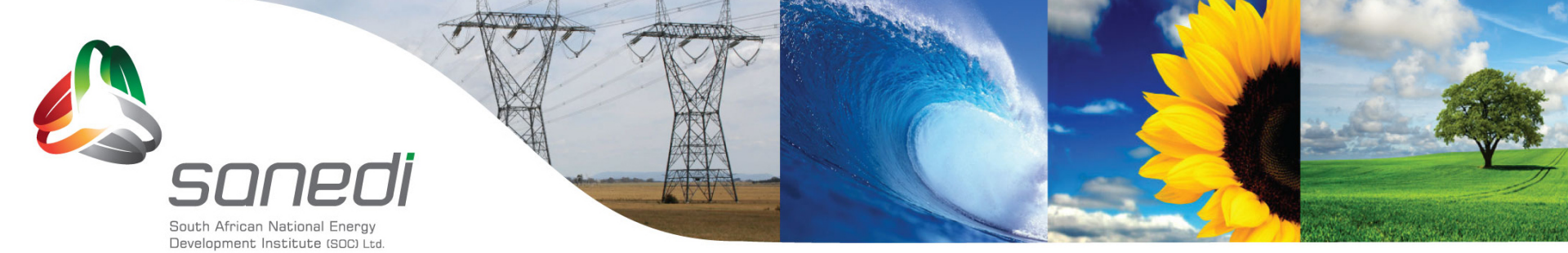
Support Programmes and Areas of possible collaboration

❑**DSI Energy Secretariat provides grants for research, technology development and deployment**

- Universities
- Research Councils and entities(Public Private)
- Private sector for technology demonstrations

❑ Interest in collaboration with international partners in the following areas:

- Development and exploitation of IP developed by SA entities
- Product development, manufacturing, marketing and distribution in international markets
- Knowledge sharing, skills development and training/Capacity development



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THANK YOU