Necsa Overview

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South African Nuclear Energy
Corporation SOC Limited

NECSA LEGISLATIVE MANDATE

State-owned company established in terms of the **Nuclear Energy Act 46 of 1999**, reporting into **Department of Electricity and Energy**

To undertake and promote research and development in the field of nuclear energy and radiation sciences and technology and to make these generally available.

To process source material, special nuclear material and restricted material and to reprocess and enrich source material and nuclear material.

To cooperate with any person or institution in matters falling within these functions.

NECSA AT A GLANCE – LEGISLATIVE & POLICY FRAMEWORK

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United Nations Sustainable Development Goals

- Goal 3: Good health and well being
- Goal 7: Affordable and clean energy
- Goal 8: Decent work and economic growth
- Goal 9: Industry, innovation and infrastructure
- Goal 13: Climate Action

Nuclear Energy Act (NEA; Act No. 46 of 1999)

- To **undertake and promote research and development in the field of nuclear energy and radiation sciences and technology** and to make these generally available
- To **process source material**, special nuclear material and restricted material and to reprocess and enrich source material and nuclear material
- To c**o-operate** with any person or institution in matters falling within these functions
- Execute institutional responsibilities on behalf of government, e.g. operation and utilization of **SAFARI-1**, decommissioning and waste management, international obligations

Nuclear Energy Policy of 2008

- Anchor for **nuclear energy Research, Development and Innovation** in South Africa
- Participation in the uranium value chain:
  - development of **uranium conversion capabilities**
  - explore viable means to establish uranium enrichment capabilities
  - a strategy to **develop nuclear fuel fabrication capabilities**

National Nuclear Regulator Amendment Act 26 of 24

- **Nuclear Authorisation** and regulations relating to licences
- **Financial security and liability** for license holders
- **Safety and emergency measures** for protection of persons, property and the environment

Necsa's strategy is guided by its mandate rooted in the Nuclear Energy Act and it draws further from other related policies (NEP 2008, IRP 2019, NIP 2050), Government's National Development Plan (NDP), Shareholder Ministry's strategic plans, AU's Agenda 2063, UN's Social Development Goals in its quest of using nuclear technology for development, industrialising and decarbonising our economy

NECSA AT A GLANCE

Since 1948

1970s

Nuclear fuel production for PWR

1 614

Total employees

1965

SAFARI-1

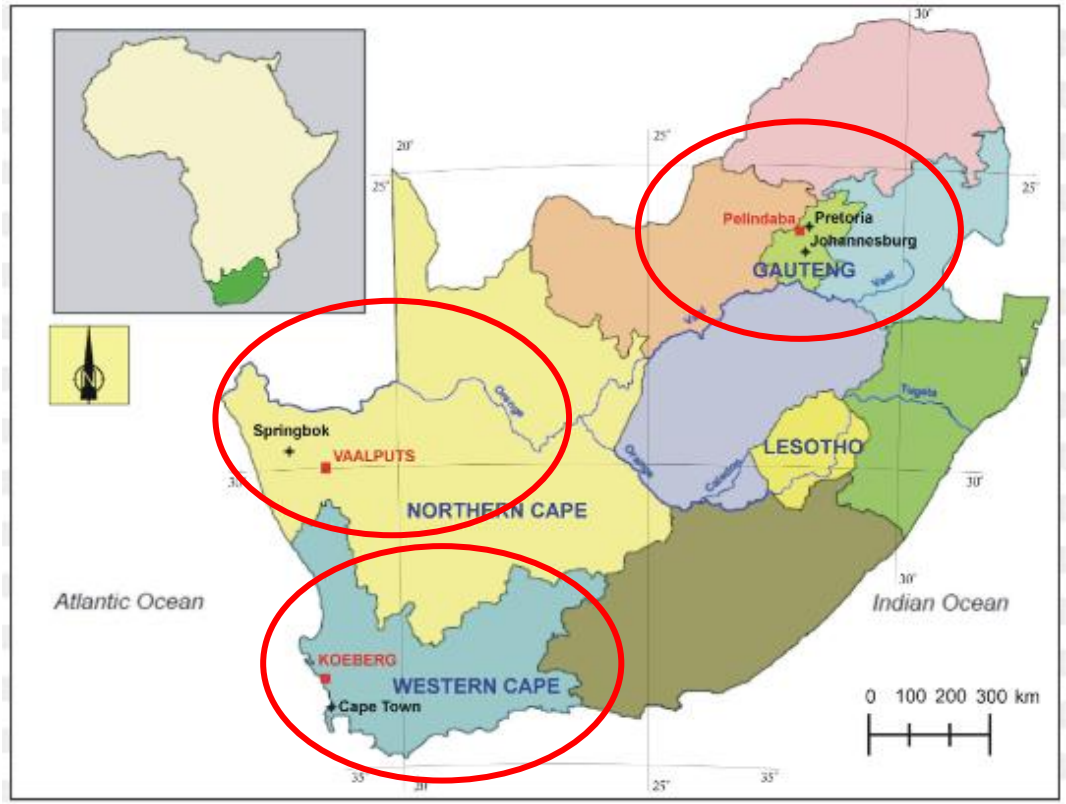
NECSA Learning Academy (NLA)

South Africa signs Non-Proliferation of Nuclear Weapons Treaty

NTP & Pelchem incorporated as fully-owned subsidiaries

2024
Revenue R2.7bn

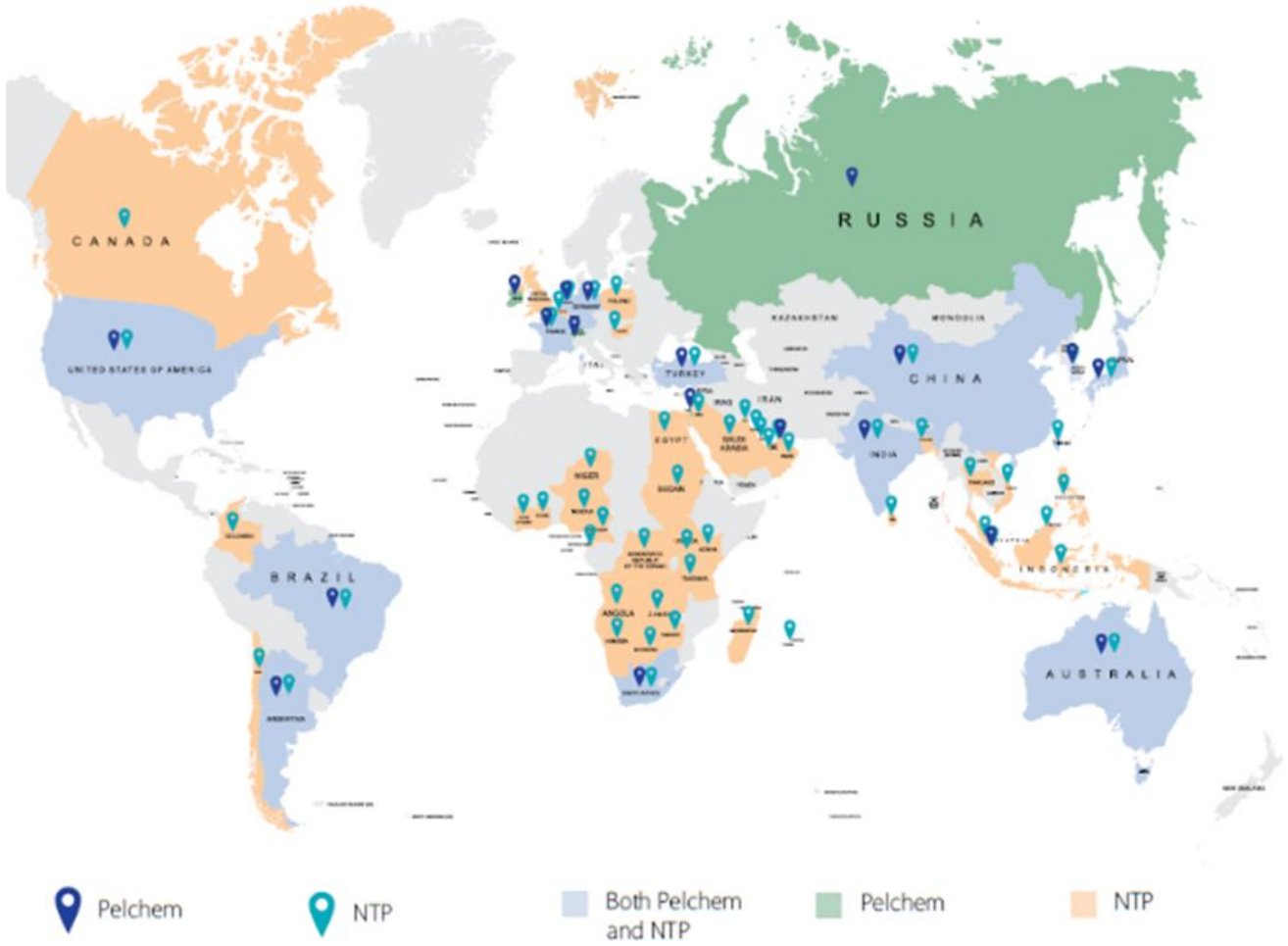
Necsa Site
2361 hectares



Nuclear Operations in RSA

- *20MW Research Reactor at Pelindaba*
- *Two x 980MW Power Reactors at Koeberg*
- *Nuclear Waste Disposal Site at Vaalputs*
- *National Nuclear Regulator (NNR)*

NECSA'S GLOBAL FOOTPRINT



NTP Products & Services

- Radiochemicals (Active Pharmaceutical Ingredients - APIs) - Molybdenum-99, Iodine-131, Lutetium-177
- Therapeutic Radiopharmaceuticals - Iodine Iodine-131 Capsules, for thyroid cancer and metastatic disease, Lutetium-177, for prostate cancer and neuroendocrine cancer
- Radioactive Sealed Sources & Irradiated - Iridium-192, Cesium-137, Silicon Doping
- Diagnostic Radiopharmaceuticals - **NovaTec-P®** Technetium-99 Generator, Labelling Cold kits (Registered), Six (6) cold kit for labeling available, **Gluscan®** (F18 FDG), for diagnosis and staging of cancers, **F18-PSMA**, for diagnosis and staging of prostate cancer, **Iodine-131 capsules®**, for diagnosis of thyroid cancer and hyperthyroidism

Pelchem Products & Services

- Anhydrous Hydrofluoric Acid (AHF)
- Hydrogen Fluoride (20-70% purity HF)
- Fluorine Salts
- 100% Fluorine
- Fluorine/Nitrogen Gas Mixtures (10-20%)
- Xenon Difluoride (XeF2)
- Surface Fluorination (Plastic coating)

Advanced Manufacturing (ASME III)

- Manufacturing of mechanical components for nuclear and general industry

Nuclear Research & Development

Training – Skills Development for nuclear and general industry

STRATEGY APPROVED IN 2021 TO ACHIEVE STABILITY

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VALUES: Excellence, Accountability, Safety First, Integrity and Innovation (EASII)

MISSION: To develop and safely utilize nuclear, radiation and related technologies to make socio-economic impact in diverse global markets through commercial and non-commercial technologies, in an environmentally responsible manner

VISION: To be a global nuclear and related technology leader, positively touching people's lives socio-economically

MANDATE: To develop, utilise and manage nuclear technology for national and regional socio-economic development through: Applied R&D; commercial application of nuclear and associated technology; contributing to the development of skills in science and technology

EXECUTIVE COMMITTEE FOR LEADERSHIP ACCOUNTABILITY

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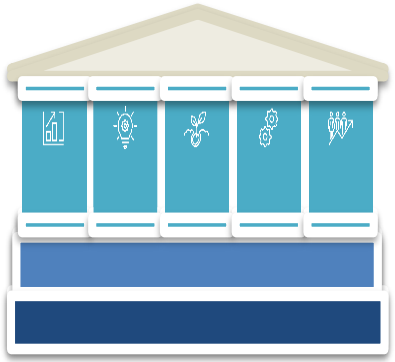

MINISTER

NECSA BOARD

Cosec

Group CEO

Integrated Assurance (Audit & Risk)

Office of the GCEO

Financial Capital

Human Capital

Strategy & Business Enablement

Nuclear Operations & Advanced Manufacturing

Research & Innovation

Nuclear Radioisotopes

Chemicals

Power & Industry

An organisational (functional) structure was designed and approved to support the delivery of the strategic framework and enable Necsa to operate and function as one Group while respecting Governance and Legal Structures of individual subsidiaries

FROM STABILITY TO GROWTH

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HIGH IMPACT PROGRAMMES

- Re-establishing Front-end Fuel Supply
- Positioning For Power Generation Leading With Small Modular Reactors (SMRs)
- Solidify Neutron Source Generation
- Increasing The Footprint For The Radioisotope Production And Services
- Stabilising The Fluorochemical Operations/Business And Repositioning On The Beneficiation Curve With Low Volume And High Value
- Capacitating And Strengthening Skills Development As A Service Offering

ADVANCED MANUFACTURING

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Manufacturing Facilities

- 51 000 m^2 of manufacturing area
- Handling capacity of up to 140 tons
- Rolling and bending capability of up to 70mm thickness
- Welding of all grades of stainless steels, aluminium, titanium, duplex steels, carbon steels and other high alloys
- “Clean room” facility for fabrication of high exotic material equipment
- Workshop area 12 600 m^2 capability of equipment fabricated under roof at present is 25m long x 6m dia.
- Sandblasting & Painting bays

Approved supplier for Nuclear Manufacture of ASME III components!!!

Necsa Training Capabilities

Since 1983, Necsa has trained thousands of youth in technical trades such as draughting, boiler making, welding, electrical work, turning & fitting, etc. This includes a programme for engineering graduates in training and at universities.

The Necsa Group has the capability to to train in the following nuclear specific programmes:

- ❑ Nuclear Security
- ❑ Nuclear Safeguards
- ❑ Reactor Operator Training
- ❑ SHEQ Training
- ❑ Radiation Protection
- ❑ Non Destructive Testing
- ❑ Nuclear Liability Management

CONCLUSION

- Necsa has a long history of strong capabilities in the nuclear value chain and is signatory to international conventions for peaceful use of nuclear under the country agreements.
- Necsa continues to operate under robust regulatory oversight, maintaining compliance with IAEA safety and security standards.
- Investing in human capital & capacity building remains one of Necsa's priority.
- Necsa continues to be innovative in alignment with global nuclear trends.

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THANK YOU