



energy

Department:
Energy
REPUBLIC OF SOUTH AFRICA

Presentation to Bidders on International
Benchmark Study on Nuclear Research,
Development and Innovation

PRESENTATION TO BIDDERS INTERNATIONAL BENCHMARK STUDY ON NUCLEAR RESEARCH, DEVELOPMENT AND INNOVATION

Presented by: Mr Katse Maphoto

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PRESENTATION OUTLINE

- Problem Statement**
- Objectives of the Study**
- Scope of the Study**
- Conclusion**

PROBLEM STATEMENT (1/3)

- ❑ South Africa undertakes programmes, projects and activities in **power** applications of nuclear science and technology.
- ❑ The **Nuclear Energy Policy of 2008** provides government's vision for implementing **nuclear power** as part of the energy mix. The Policy outlines South Africa envisaged self-sufficiency in all aspects of the nuclear fuel cycle.
- ❑ The success of the Nuclear Energy Policy is premised on amongst others:
 - ✓ government's support of national nuclear research, development and innovation portfolio;
 - ✓ government's provision of funding to support technology development; and
 - ✓ recognition of the contribution of nuclear energy to economic growth, infrastructure development, job creation and skills development.
- ❑ There is therefore a need for South Africa to develop a **nuclear research, development and innovation policy and strategy** and concomitant **roadmap** for power applications of nuclear science and technology to ensure realisation of the objectives set-out in the Nuclear Energy Policy

PROBLEM STATEMENT (2/3)

- ❑ South Africa undertakes programmes, projects and activities in **non-power** applications of nuclear science and technology.
- ❑ This work is undertaken under the International Atomic Energy Agency Technical Framework currently as guided by the Country Programme Framework.
- ❑ Work undertaken in the IAEA Technical Cooperation is informed by and geared towards achieving amongst others, the United Nation's Sustainable Development Goals and in case of South Africa, the National Development Plan and the Medium Term Strategic Framework.
- ❑ Currently, South Africa lacks a policy that informs and guides non-power applications of nuclear science and technology. There is therefore a need for South Africa to develop a **nuclear research, development and innovation policy, strategy and roadmap for non-power applications** of nuclear science and technology to ensure realisation of the objectives set-out in the Nuclear Energy Policy

PROBLEM STATEMENT (3/3)

- ❑ The South African Nuclear Energy Corporation (Necsa) established under the Nuclear Energy Act 46 of 1999 is mandated to amongst others undertake and promote research and development in the field of nuclear energy and radiation sciences and technology
- ❑ In the absence of a national nuclear research, development and innovation policy, strategy and roadmap in power and non-power applications of nuclear science and technology, there are several risks:
 - ✓ Roles and responsibilities of different role-players not clearly defined leading to fragmentation of activities and duplication of efforts
 - ✓ Lack of synergy and collaboration amongst different role-players resulting in little optimisation and prioritisation of fiscal funding

OBJECTIVES OF THE STUDY

- The International Benchmark Study on nuclear research, development and innovation is required to inform the development of a national policy, strategy and roadmap on nuclear research, development and innovation both in power and non-power applications of nuclear science and technology.

SCOPE OF THE STUDY (1/3)

- ❑ The International Benchmark Study on nuclear research, development and innovation (power and non-power applications of nuclear science and technology) is divided into four phases:
 - ✓ **Phase 1** - policies and legislative framework;
 - ✓ **Phase 2** - strategies, roadmap and plans or pathways;
 - ✓ **Phase 3** - funding and financing models/ arrangement; and
 - ✓ **Phase 4** - governance structures and institutional arrangement for the nuclear research, development and innovation.

SCOPE OF THE STUDY (2/3)

- The Bidder is expected to review the following adequately and make recommendations to inform South Africa's Policy, Strategy and Roadmap on power and non-power applications of nuclear science and technology:
 - ✓ International current policies and legislative framework related to nuclear research, development and innovation;
 - ✓ Nuclear research, development and innovation strategies, roadmaps and plans as pursued by identified countries;
 - ✓ Various funding and financing models/arrangement for nuclear research, development and innovation in other countries. This should include lessons learned, successes and failures with regards to funding the nuclear research, development and innovation;
 - ✓ The governance structures and institutional arrangements for nuclear research, development and innovation as pursued by the identified countries;

SCOPE OF THE STUDY (3/3)

- ❑ The benchmark study should at least cover countries and the member countries of the following organisations:
 - ✓ Organisation for Economic Cooperation and Development (OECD) and the Nuclear Energy Agency (NEA);
 - ✓ The BRICS countries,
 - ✓ The nuclear vendor countries (Russian Federation, United States of America, South Korea, Japan and France) and the United Kingdom;
 - ✓ African countries seeking to embark on nuclear power;
 - ✓ Countries also embarking on nuclear power such as Vietnam, Indonesia, United Arab Emirates; and
 - ✓ A sample of countries on the same scale of nuclear (in terms of size of program) as South Africa.

CONCLUSION

- ❑ The study is anticipated to be completed within 12 weeks of entering into a binding Agreement with a successful bidder
- ❑ The successful bidder will be expected to deliver bi-weekly progress reports to the Department until such time as the project is completed
- ❑ The successful bidder is expected to provide the Department with reports after completion of each phase of the study

THANK YOU