NIGERIAN UPSTREAM PETROLEUM REGULATORY COMMISSION

NIGERIAN ENERGY FORUM (NEF) VIRTUAL WORKSHOP METHANE ABATEMENT

ACCELERATING METHANE ABATEMENT IN THE NIGERIAN UPSTREAM SECTOR

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Ejiro Ufondu (Mrs.), *FEnv*
Director Env, HostCom. & Sustainability

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INTRODUCTION

- The **Petroleum Industry Act (PIA), 2021** was signed into law to reform the Nigerian petroleum industry for sustainable growth. The Act empowers the Commission to regulate the technical, commercial and operational matters in the upstream petroleum sector.
- Section 6(d) and 6(i) enables the Commission to promote effective conduct of upstream petroleum operations in an environmentally acceptable and sustainable manner and implement environmental policies, laws and regulations for upstream petroleum operations.
- Central to this environmental objective is the reduction of carbon footprint from operations, which have significant climate change implications
- The Commission set agenda for sustainable dev. & **decarbonization of upstream operations** is a key objective.

Technical Regulation → NUPRC ← **Commercial Regulation**

- Increase crude oil reserves from 37 to 40 Billion Barrels and Gas Reserves from 206 to 250 TCF
- Entrench ESG Principles & Host Com. Development Agenda to foster sustainable dev. & harmonious co-existence in the oil producing region
- Increase crude oil production from current average of 1.6 to 3 Million Barrels per day
- Mitigate impact of Energy Transition and sustain needed investment to the Upstream sector
- Curtailment of Crude oil theft and upstream assets vandalism
- Full Digitalization of NUPRC operations
- Decarbonization of Upstream Operations

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BACKGROUND
-NDC Mitigation

Nigeria through the NDC sets national greenhouse(GHG) emissions reduction targets as;

20% BAU-unconditional reduction by 2030

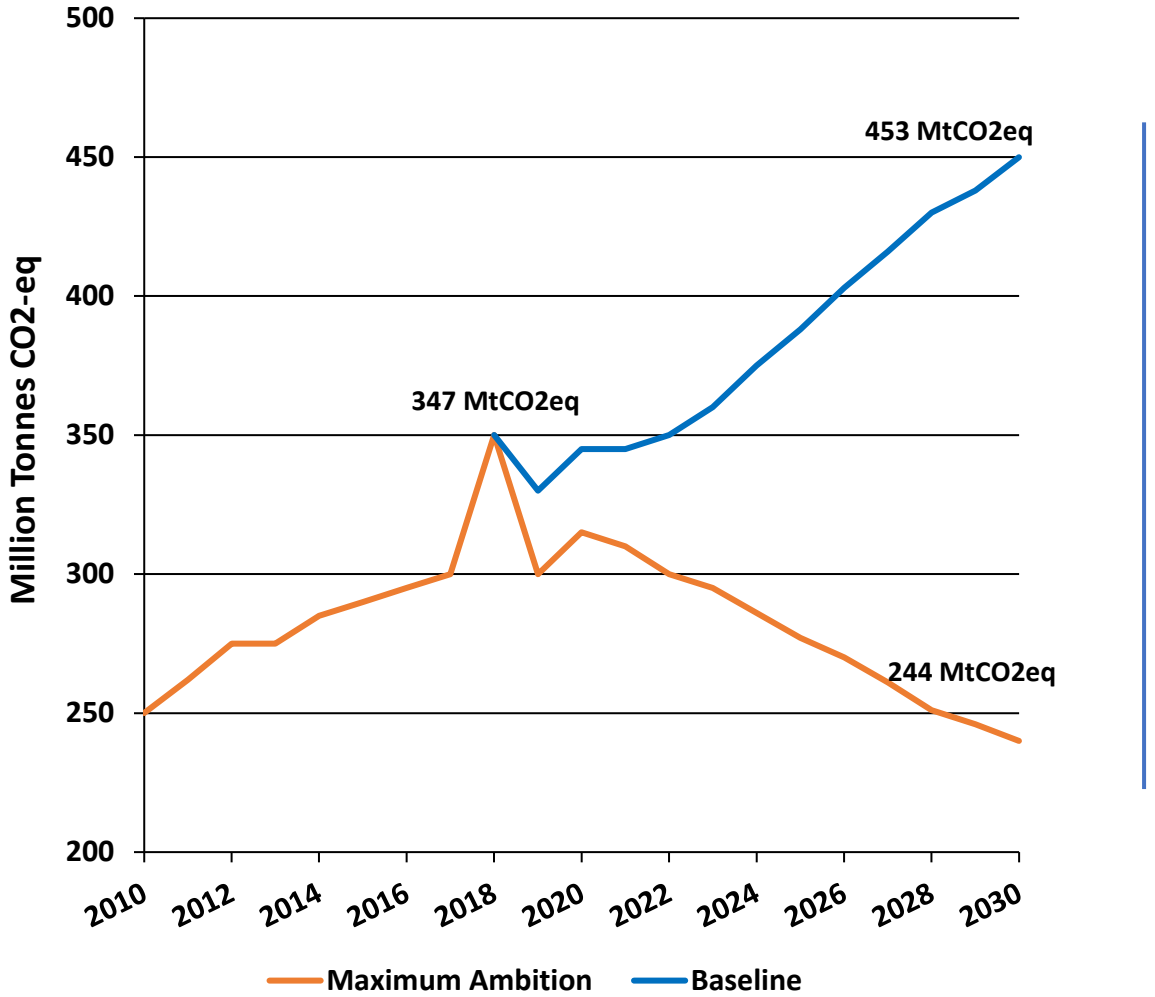
47% conditional (with int'l support) reduction by 2030

Net-zero by 2060

Oil and Gas Emission Reduction/Mitigation

Work towards ending gas flaring by 2030

60% Reduction in Fugitive Methane Emission by 2031



NDC 2021 the energy sector contributed 60% GHG emission and fugitive emission from the oil & gas accounted for 36% of the sectors emissions

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Nigeria's Energy Transition Plan (ETP)

Timeline and framework for the attainment of net emissions target across the 5 sectors contributing 65% of Nigeria's Total Emissions

Power(27%)
Industry(16%)

Transport (24%)

Oil & Gas (11%)

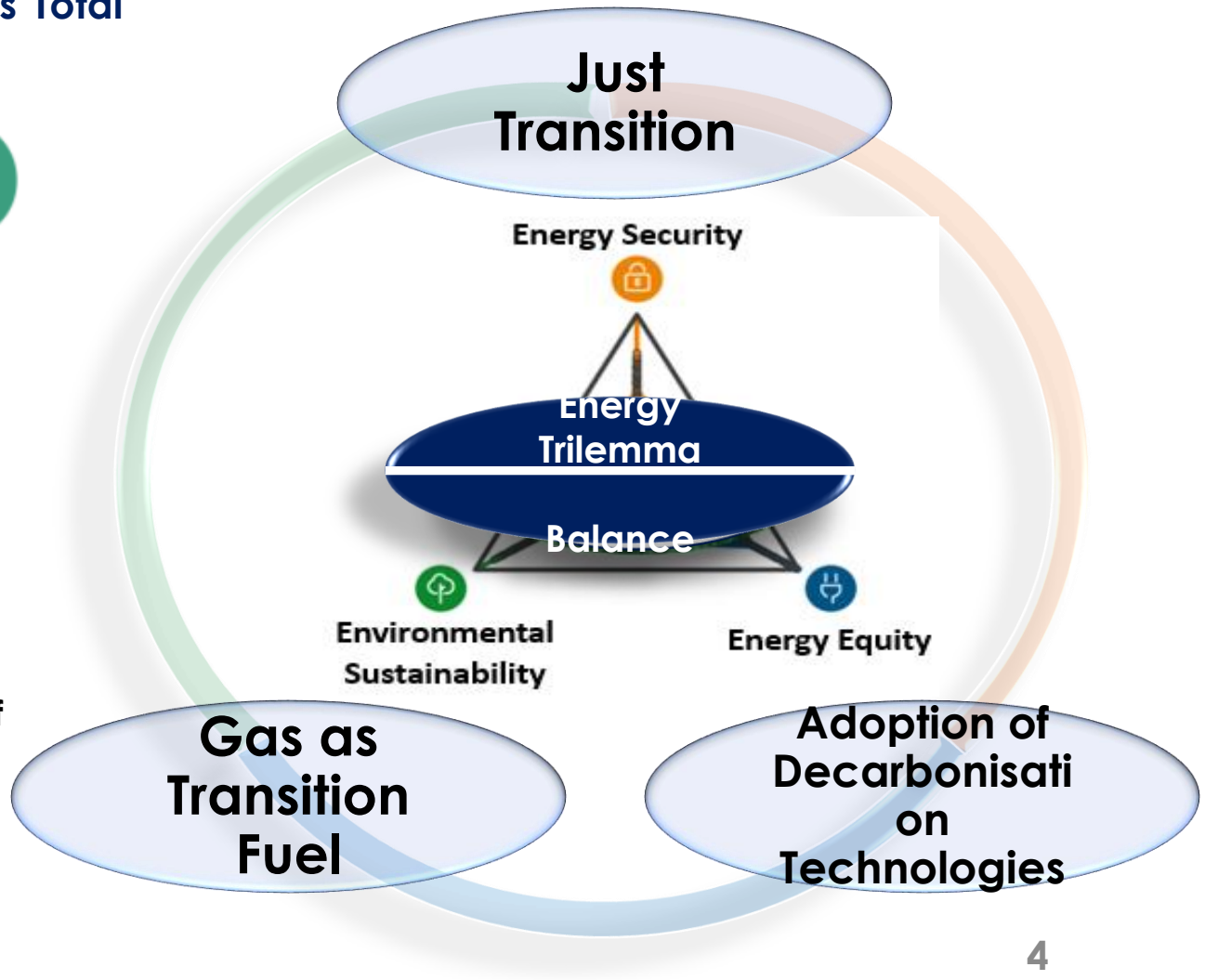
Cooking(22%)

2030

100% Reduction of routine flaring emissions

2050

95% Reduction of fugitive emissions



Source: https://energytransition.gov.ng/

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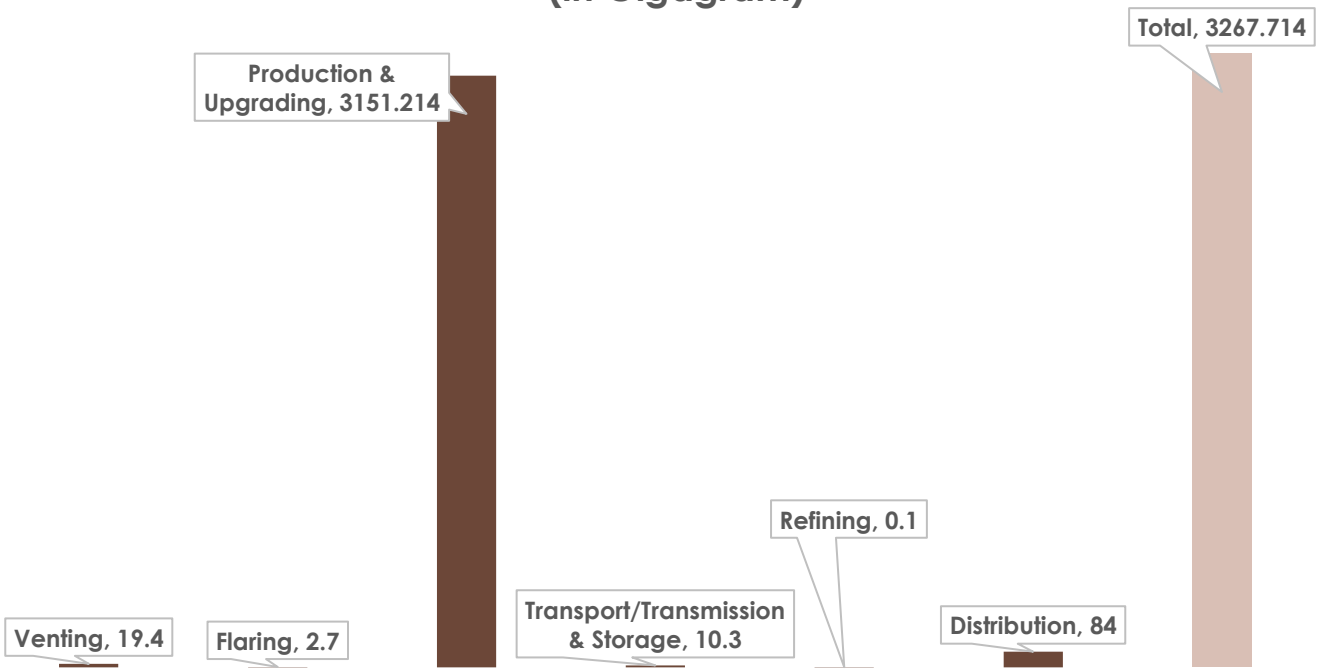
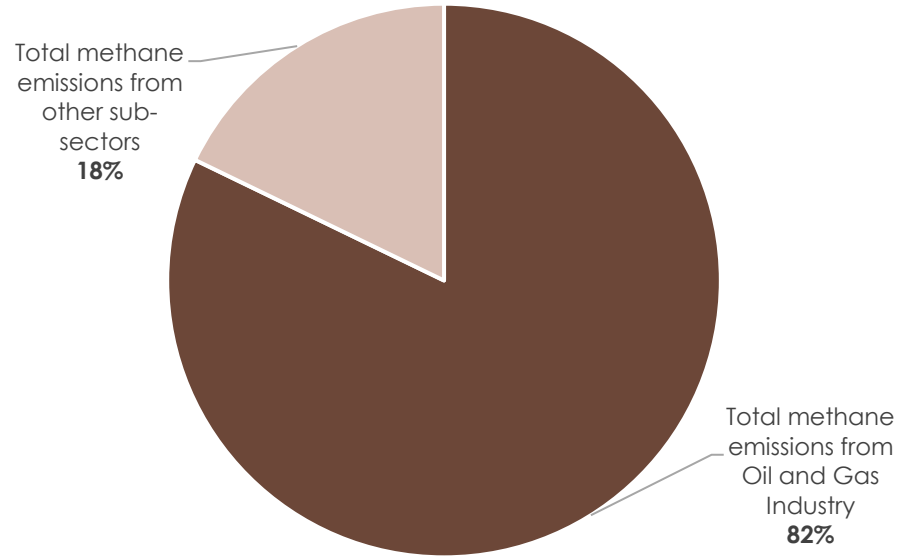
Methane Emission Profile

Oil and Gas Industry Methane Emissions Inventory (in Gigagram)



Sectorial Distribution of Methane emissions in Energy Sector



Source: National GHG Inventory Report (2021)

- ✓ Upstream petroleum sector accounted for over 90% of methane emissions ~ *oil and gas treatment and conditioning*
- ✓ Other sub sectors included manufacturing/construction, power, transport, mining, etc.

Global Warming Potential (GWP) for Methane is much higher than CO_2

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Approach in Accelerating Action

- Regulatory Framework
- Technology Adaptation and Innovation
- Capacity Building
- Transparency and Measurement Reporting & Verification
- Collaboration and Partnerships

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Key Enablers: Mandates, Obligations & Commitments to Environmental Sustainability

The Mandates to the Commission

Section 104 -108 PIA provisions on flare elimination,
Section 102 on Environmental Management and Section 103 on Financial contribution for remediation of environmental damage.

Responsibilities & Obligations

Gas Flaring, Venting and Methane Emission (Prevention of Waste & Pollution) Regulations, 2023

- Section 1(a)… reduce Envr. & social impact associated with flaring venting, and fugitive methane emissions)
- Sections 4(1-4) and 18 Submission and Reporting of Data

Guidelines for the Management of Fugitive Methane and Greenhouse Gas Emission in the Upstream Sector 2022

Commitments

Paris Agreement (2015) to keep global temp. rise within 1.5°C – 2 ° C

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MANAGEMENT OF FUGITIVE METHANE AND GHG EMISSIONS - GUIDELINES 2022

Background and Scope

Emission Management

- Requirement
- Compliance Directive

Monitoring, Mitigation and Control

- Control Requirement & Inspection
- Standard for Operations
- Standard for Equipment

GHG Inventory and Accounting

- Monitoring Requirement
- GHG Estimation and Accounting Methodologies
- Reporting Standard and Frequency

Appendix and Reference

- Details of Reporting Requirements
- Technical Descriptions
- Template for Reporting

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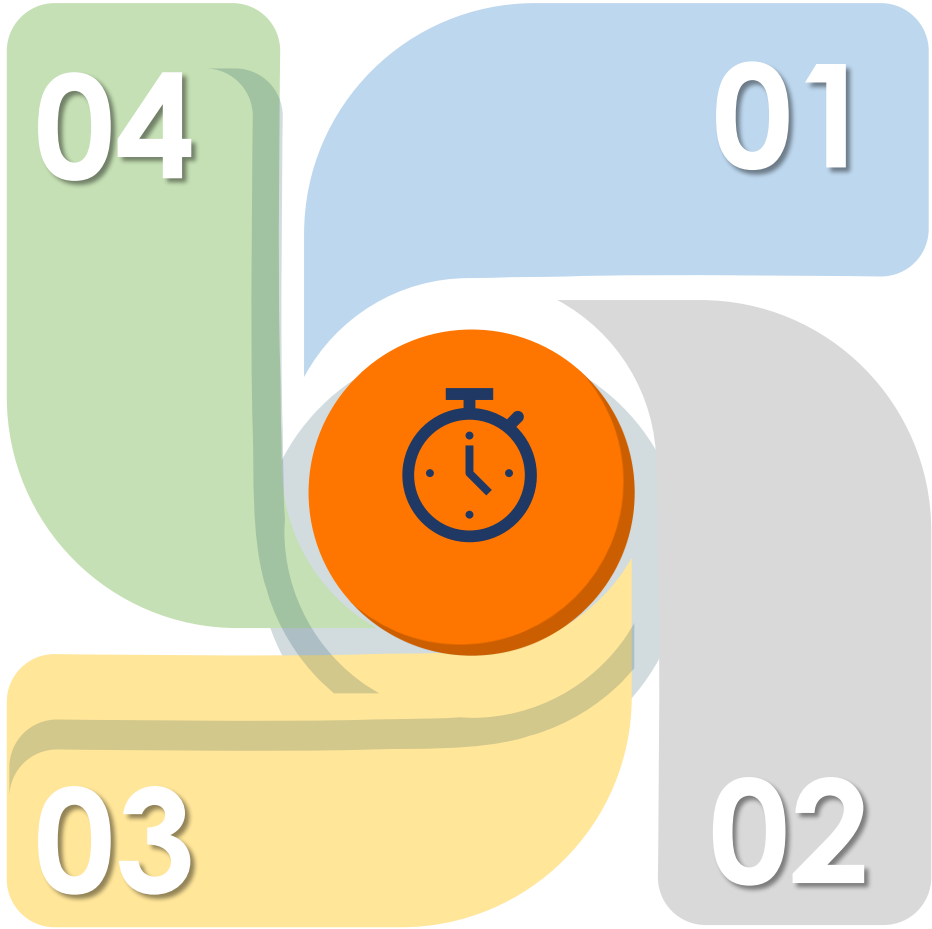
METHANE GUIDELINES KEY PROVISIONS & COMPLIANCE DIRECTIVES

Methane Leak Detection And Repair (LDAR)

- Set out five-year phase-out period for emission modules such as pneumatic, compressors etc.,
- Control requirement which shall include Inspection to be conducted within 90 days after start-up for new facilities; and within 90 days of enactment of guidelines for other facilities
- Standard for operations and equipment leaks in facilities.



- Emission management requirements during design, installation, and modification of facilities
- Submission of GHG management plan as part of FDP and FEED application for approval
- Requirement for Greenhouse Gas Inventory and Accounting
- Mandate submission of fugitive emissions and GHG monitoring/inventory reports to NUPRC on a quarterly basis.

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TIMELINES FOR IMPLEMENTATION

1

GHGEMP/FEIP

Six (6) Months from guidelines sanction Date (Nov 2022)

2

GHG Inventory

3 months for new facilities and a continuation for existing facilities.

3

LDAR Inspection

Year 1- one insp.
Year 2- 2 insp. @5 months intvl.
Year 3. Qtly. Insp.

Operators with multiple facility to ensure insp. covers 50% of facility in 2yrs

4

Annual Report on LDAR Inspection

Within 1st Qtr. of the new year.

5

Equip. Change Out

5yr phase-out for Pneumatic devices.

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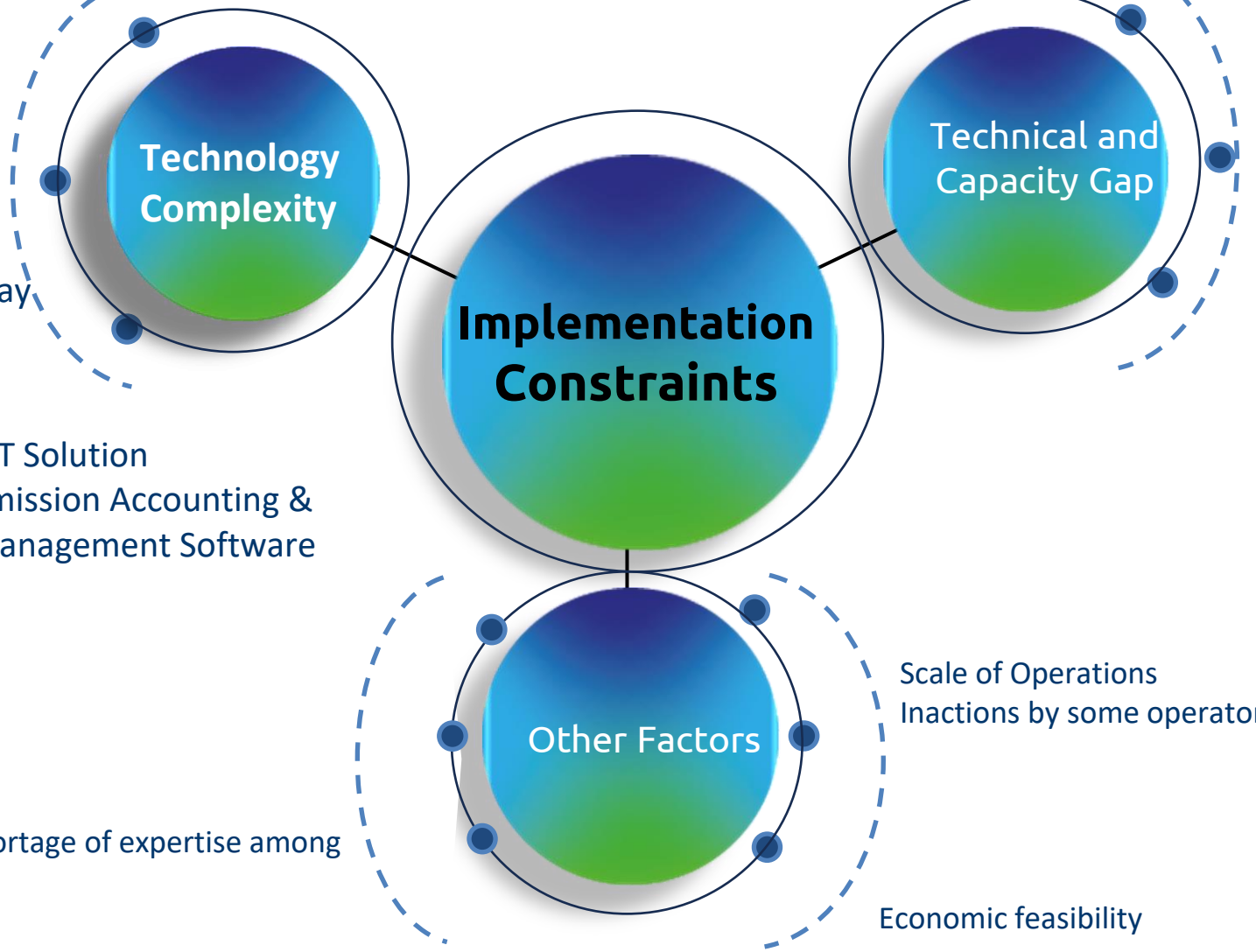
CHALLENGES AND OPPORTUNITY



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Support Strategy

DEVELOPMENT OF TEMPLATES FOR REPORTING

- INCENTIVES THROUGH CARBON CREDITS

PROMOTING TECHNOLOGY ADOPTION/ ADVANCEMENT

FLEXIBLE MRV PROGRAMME BASED ON RISKBASED APPROACH

COLLABORATION/ JOINT SCOPING ACTIVITIES

AUTOMATION OF REPORTING SYSTEM

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Conclusion

The time to act is now

- **Accelerating methane abatement in the Nigerian upstream sector is not just a moral obligation but a strategic imperative. This can be achieved through:**
  - **Embracing Technology & Innovation, strengthening regulations**
  - **Building capacity, fostering collaboration, and ensuring transparency**
- **We can not only reduce our environmental impact by mitigating methane emission, but also position our industry as a leader in sustainable and responsible energy development**

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THANK YOU