

# ICAT Namibia Final Validation Workshop Report



# Initiative for Climate Action Transparency - ICAT ICAT Namibia Final Validation Workshop Report

Deliverable #4.0 and 4.1

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# EXECUTIVE SUMMARY

The ICAT Namibia Validation Workshop confirmed strong national support for the development of a robust, transparent, and integrated climate transparency system aligned with the Paris Agreement’s Enhanced Transparency Framework. Stakeholders validated six key ICAT deliverables—covering diagnostic assessments, new energy scenario modelling, REFIT policy impact evaluation, data quality and institutional arrangements, and NDC tracking templates—affirming their technical soundness, national relevance, and alignment with Namibia’s policy context.

The workshop highlighted significant progress in strengthening national capacity for GHG reporting, policy impact assessment, and NDC tracking, while identifying persistent challenges such as data gaps, fragmented institutional roles, limited technical capacity, and the absence of formalised data-sharing protocols. Participants emphasised the need for a centralised climate data coordination mechanism, formal QA/QC systems, continuous capacity building, and institutionalisation of roles through policy or regulation.

Overall, the ICAT programme has delivered a strong technical foundation for Namibia’s future Biennial Transparency Reports and long-term mitigation planning. The next steps focus on establishing coordinated data systems, integrating ICAT tools into national MRV frameworks, and mobilising resources to sustain transparency efforts beyond the project’s lifespan.

# 1 INTRODUCTION

## 1.1 Context and Background of the ICAT Work

The Ministry of Environment, Forestry and Tourism (MEFT), in partnership with the Environmental Investment Fund (EIF) and with technical support from the Initiative for Climate Action Transparency (ICAT), is implementing a comprehensive programme to strengthen Namibia's national systems for climate transparency, policy assessment, and Nationally Determined Contribution (NDC) tracking. The programme supports the development of methodologies, tools, institutional arrangements, and data management frameworks that enable Namibia to meet the requirements of the Enhanced Transparency Framework (ETF) of the Paris Agreement.

Since 2023, a series of ICAT-supported technical assessments and workshops have been conducted to analyse greenhouse gas (GHG) emissions, evaluate the impacts of energy-sector policies, develop new energy scenarios, assess data quality and institutional arrangements, and design NDC tracking and monitoring systems. These include, among others:

- *Diagnostic Report on Namibia's Energy and AFOLU Sectors*
- *New Energy Scenario Modelling Report*
- *REFIT Renewable Energy Policy Assessment Report*
- *Data Quality, Institutional Arrangements and Management Report*
- *NDC Tracking Templates Workshop Report*
- *ICAT Policy Impacts Validation Workshop Report*
- *Inception and GACMO Training Workshop Summary*

These deliverables collectively provide the technical basis for developing a robust, transparent, and nationally owned MRV system capable of supporting NDC tracking, policy reporting, and future Biennial Transparency Reports (BTRs).

The Validation Workshop was convened to review, refine, and confirm the accuracy, credibility, and national relevance of these deliverables, ensuring that the final outputs align with Namibia's policy context, data environment, and institutional priorities.

## 1.2 Purpose, Structure and Agenda of the Validation Workshop

The Validation Workshop was held in partnership with MEFT, EIF, and ICAT, following the agenda contained in the uploaded documents.

### 1.2.1 Workshop Objectives

The workshop aimed to:

1. Present and validate the full set of ICAT-supported deliverables, including policy impact results, energy scenarios, MRV templates, and data-quality assessments.
2. Review and confirm modelling assumptions, methodologies, scenario parameters, and data sources.
3. Assess the implications of the deliverables for Namibia's NDC tracking and overall MRV system design.
4. Strengthen national ownership of the technical findings through structured stakeholder engagement.
5. Identify refinements, additional inputs, and recommended improvements prior to finalisation of the reports.

### 1.2.2 Workshop Agenda

The workshop followed a full-day programme combining presentations, plenary discussions, breakout groups, and validation sessions.

Key agenda items included:

- Opening remarks and workshop objectives
- Presentation of ICAT deliverables
- Scenario modelling and GHG impact analysis
- Sustainable Development (SD) co-benefits assessment
- Data quality and institutional arrangements
- NDC tracking and MRV integration
- Stakeholder group discussions
- Validation, consensus building and way forward

# 2 WORKSHOP DIALOGUE AND ENGAGEMENT

## 2.1 Presentation of Deliverables

The workshop commenced with a consolidated presentation of all deliverables produced under the ICAT Namibia Transparency Support Programme. The lead consultant and technical team presented six core deliverables, each forming a critical component of Namibia's emerging climate transparency system. The presentations enabled stakeholders to interrogate assumptions, validate methodologies, and provide refinements to ensure national relevance and alignment with the Enhanced Transparency Framework (ETF).

### 2.1.1 Deliverable 1: Diagnostic Assessment of the Energy and AFOLU Sectors

The diagnostic assessment provided the foundational analytical overview for the ICAT project. The presentation highlighted:

#### 2.1.1.1 Key Technical Content Presented

- Historical GHG emissions trends (1990–2022), including sectoral contributions from Energy, AFOLU, IPPU, and Waste.
- Identification of highest emitting sub-sectors, including diesel combustion in transport, grid electricity generation, and livestock enteric fermentation.
- Analysis of mitigation opportunities across renewable energy, transport efficiency, biomass utilisation, land restoration, and sustainable agricultural practices.
- Detailed review of data availability, reliability, and completeness, including sector-level inconsistencies.
- Assessment of institutional arrangements, mapping reporting flows between MEFT, MME, NSA, NamPower, ECB, and local authorities.

#### 2.1.1.2 Key Observations

- Persistent data gaps and inconsistencies limit the accuracy of GHG inventories and NDC progress tracking.
- QA/QC procedures are not standardised across institutions and remain largely ad hoc.
- Limited inter-institutional coordination constrains the flow of data and information for climate reporting.
- Stakeholders emphasised the need for a centralised climate data coordination mechanism to streamline data management.

## 2.1.2 Deliverable 2: New Energy Scenario Modelling (2024–2040)

This deliverable presented modelled scenarios designed to support long-term mitigation planning within the energy sector.

### 2.1.2.1 Key Technical Content Presented

Stakeholders were taken through three scenarios:

1. Business-as-Usual (BAU) – assuming continuation of current policies and energy infrastructure pathways.
2. Low-Carbon Scenario – incorporating moderate renewable energy expansion, efficiency measures, and improved grid integration.
3. Transformational Scenario – reflecting accelerated renewable deployment, clean transport uptake, and ambitious mitigation actions.

### 2.1.2.2 Highlighted Assumptions

- Technology-specific capital expenditure (CAPEX) and cost declines to 2040.
- Capacity factors for solar PV, wind, biomass, and hydropower under Namibian conditions.
- Projected electricity demand growth and the role of green hydrogen developments.
- Assumptions around grid emission factors, transmission losses, and regional power imports.
- Integration of distributed renewable energy systems, mini-grids, and standalone systems.

### 2.1.2.3 Stakeholder Reflections

- The need to validate capacity factors with NamPower and ECB.
- Recommendations to improve projections for off-grid systems and battery storage.
- Requests to integrate new policy developments (e.g., IPP licensing updates, Green Hydrogen Strategy).

## 2.1.3 Deliverable 3: REFIT Renewable Energy Policy Impact Assessment

This assessment applied ICAT's Policy Impact Assessment methodology to evaluate the mitigation and sustainable development effects of Namibia's Renewable Energy Feed-In Tariff (REFIT) programme.

### 2.1.3.1 Key Technical Content Presented

- Estimation of cumulative mitigation potential of 2.8–3.2 MtCO<sub>2</sub>e by 2040 across supported technologies (solar PV, wind, biomass).
- Evaluation of REFIT contributions to grid decarbonisation, reduced diesel dependence, and diversification of the electricity mix.
- Application of causal chains (GHG and SD) to map policy outcomes.

- Quantification of SD benefits including:
  - Employment creation in construction and O&M
  - Energy security improvements
  - Gender-inclusive opportunities
  - Local economic spillovers

#### 2.1.3.2 Key Observations

- REFIT remains an important driver for IPP participation.
- SD indicators offer powerful justification for expanding REFIT or designing future incentive schemes.
- Stakeholders recommended strengthening links between REFIT modelling and the updated National Integrated Resource Plan (NIRP).

### 2.1.4 Deliverable 4: Data Quality, Data Collection and Institutional Arrangements Report

This deliverable provided a comprehensive analysis of Namibia's climate data systems and institutional governance arrangements.

#### 2.1.4.1 Key Technical Content Presented

- Review of existing data systems, including sectoral databases, administrative datasets, and informal spreadsheets.
- Identification of gaps in completeness, periodicity, and documentation of methodologies.
- Review of institutional roles and mandates across MEFT, NSA, MME, NamPower, ECB, and local authorities.
- Assessment of inter-agency coordination mechanisms and their limitations.
- Proposal of a three-phase roadmap for improving data quality and governance (short-term, medium-term, long-term).

#### 2.1.4.2 Key Observations

- Namibia's climate data system remains fragmented, with several institutions collecting data in isolation.
- A formal QA/QC framework is urgently required to standardise methodologies.
- Stakeholders agreed on the need for a central coordinating entity, potentially supported through a Climate Data Management System (CDMS).

### 2.1.5 Deliverable 5: NDC Tracking Templates and MRV System Design

This deliverable introduced standardised tools for tracking progress on NDC mitigation actions and sustainable development co-benefits.

### 2.1.5.1 Key Technical Content Presented

- Proposed GHG mitigation indicators, including sectoral activity data, emissions factors, and progress metrics.
- SD indicators covering employment, gender, water, biodiversity, and socio-economic benefits.
- Assignment of institutional roles and data responsibilities for MEFT, MME, NSA, ECB, NamPower, municipal authorities, and private sector data providers.
- Proposed reporting cycles, data collection pathways, and validation procedures.

### 2.1.5.2 Key Observations

- Indicators and templates provide a practical starting point for national MRV institutionalisation.
- Stakeholders requested:
  - More sector-specific guidance for transport indicators.
  - Clear metadata templates for data documentation.
  - Integration with national statistical systems (NSA).

## 2.1.6 Deliverable 6: Policy Impacts and Preliminary Validation Results

This session presented preliminary validation results of policy impact calculations conducted prior to this workshop.

### 2.1.6.1 Key Technical Content Presented

- Policy screening and prioritisation process used to identify policies suitable for ICAT assessment.
- Detailed causal chains mapping short-, medium-, and long-term impacts.
- GHG quantification methodology using model outputs and default emission factors.
- Sustainable Development (SD) scoring, identifying positive and negative co-impacts.
- Integration of policy-level results into the NDC tracking framework.

### 2.1.6.2 Key Observations

- Participants endorsed the methodological robustness of the assessment.
- Recommendations were provided for:
  - Strengthening assumptions on policy uptake rates
  - Expanding SD indicators for water and land-use impacts
  - Clarifying links to NIRP 2024 and other sectoral policies

## 2.2 Discussions, Clarifications and Stakeholder Inputs

Following each presentation, participants engaged in detailed discussions to interrogate assumptions, validate methodologies, and clarify data issues. Instead of a verbatim Q&A, key themes emerging from stakeholder inputs are summarised below.

### 2.2.1 Modelling Assumptions and Data Inputs

Stakeholders requested clarification on:

- Grid emission factors and the need to harmonise data with NSA.
- Capacity factors for solar and wind technologies.
- Treatment of off-grid, mini-grid, and distributed generation systems.
- Alignment with NamPower and ECB statistics.

### 2.2.2 Policy Coverage and Scenario Framework

Participants emphasised:

- Inclusion of clean cooking and off-grid systems in future modelling.
- Clear linkage between REFIT impacts and the National Integrated Resource Plan (NIRP).
- Need to explicitly address investment barriers affecting uptake of renewable technologies.

### 2.2.3 Sustainable Development Indicators

Key clarifications sought included:

- Feasibility of collecting gender-disaggregated data annually.
- Treatment of land-use impacts under solar and wind developments.
- Integration of SD indicators into the National Indicator Framework (NIF).

### 2.2.4 Institutional Arrangements and MRV Integration

Inputs focused on:

- Clarifying MEFT, NSA, ECB, NamPower roles within the MRV system.
- Establishing QA/QC protocols across institutions.
- Developing an Integrated Energy Data System (IEDS).

### 2.2.5 Recommendations for Final Refinements

Stakeholders recommended:

- Adding a sensitivity analysis for policy uptake rates.
- Clear documentation of assumptions in annexes.
- Strengthening references to Namibia's NDC (2023) and ETF requirements.

## 3 HIGHLIGHTS OF PROJECT RESULTS AND PROGRESS

The ICAT Namibia programme has achieved significant milestones in strengthening national systems for climate transparency, data governance, scenario modelling, policy assessment and NDC tracking. The Validation Workshop confirmed broad stakeholder agreement that the project has delivered substantial technical products, capacity-building outcomes, and institutional strengthening benefits that will support Namibia's compliance with the Enhanced Transparency Framework (ETF).

Drawing from the five major deliverables and associated workshops, key achievements include the following:

### 3.1 Development of a Comprehensive Diagnostic Assessment for Namibia's Energy and AFOLU Sectors

The Diagnostic Report provided the first integrated assessment combining the energy and AFOLU sectors, identifying emissions trends, mitigation opportunities, and institutional weaknesses across the data value chain. Major achievements include:

- Establishment of a clear baseline of Namibia's GHG emissions profile from 1990–2022.
- Identification of priority mitigation actions aligned with NDC commitments.
- Mapping of institutional roles and data flows across MEFT, MME, NSA, NamPower, ECB and other actors.
- Highlighting critical data gaps, methodological inconsistencies, and QA/QC deficiencies that hinder transparent reporting.

### 3.2 Production of New Energy Scenarios Supporting Long-Term Mitigation Planning

The New Energy Scenario Report developed BAU, Low-Carbon, and Transformational scenarios for Namibia's energy system. Key achievements:

- Introduction of quantitative scenario modelling to project emissions, renewable energy penetration and system-level changes to 2040.
- Inclusion of technology cost curves, energy demand projections, and grid expansion pathways.
- Integration of Namibia-specific data and consultations with sectoral institutions.
- Provision of a scenario framework that supports Namibia's Long-Term Low Emission and Development Strategy (LT-LEDS).

### 3.3 Assessment of the Policy Impacts of the REFIT Programme

The REFIT Assessment provided a detailed GHG and SD impact evaluation of renewable energy feed-in tariff policies. Achievements include:

- Quantification of the REFIT programme's potential to reduce 2.8–3.2 MtCO<sub>2</sub>e by 2040.
- Identification of strong SD co-benefits, including job creation, gender inclusivity, and improved energy security.
- Creation of a replicable ICAT-compliant methodology for evaluating future energy-sector policies.
- Provision of evidence to support potential updates to REFIT and Namibia's broader energy policy framework.

### 3.4 Development of Data Quality, QA/QC, and Institutional Arrangement Recommendations

The Data Quality and Institutional Arrangements Report produced a systematic review of data governance challenges and provided a detailed roadmap for improvement. Achievements include:

- Establishment of a nationally relevant QA/QC framework for climate data.
- Identification of institutional capacity needs across climate, statistics, energy and regulatory bodies.
- Proposals for a Central Data Coordination Entity or Climate Data Management System (CDMS).
- Provision of a three-phase roadmap (short-, medium-, and long-term) to strengthen Namibia's ETF readiness.

### 3.5 Creation of NDC Tracking Templates and Indicators for the Energy and Transport Sectors

The NDC Tracking Templates Workshop Report provided templates, methodologies, and institutional roles for Namibia's NDC tracking system. Key achievements:

- Development of standardised indicators for GHG mitigation, SD co-benefits, and enabling conditions.
- Proposed institutional roles for MEFT, MME, NSA, NamPower, and sector ministries.
- Mapping of data flows for annual monitoring and multi-year reporting.
- Establishment of a foundation for Namibia's future national MRV system.

### 3.6 Strengthening of National Capacity Through Workshops, Trainings and Knowledge Transfer

Across the ICAT project period, including inception, modelling, MRV template development and policy assessment workshops, substantial capacity gains were achieved:

- Training of stakeholders in GACMO, LEAP, scenario modelling and MRV design.
- Improved understanding of policy impact assessment using ICAT methodologies.
- Strengthened inter-agency collaboration through frequent technical consultations.
- Creation of a shared understanding on energy data challenges and institutional coordination needs.

### 3.7 Consolidation of Stakeholder Engagement and National Ownership

The Validation Workshop confirmed strong national ownership of ICAT outputs, demonstrated by:

- High-level participation from MEFT, MME, NamPower, NSA, ECB, academia and development partners.
- Consensus on the credibility and applicability of the deliverables.
- Alignment of ICAT outputs with national processes such as BTR, NC, NIRP and NDC implementation.

### 3.8 General Comment

Collectively, these achievements position Namibia to fulfil ETF requirements, enhance national transparency systems, and integrate climate data into policy design and tracking.

# 4 INSIGHTS EMERGING FROM THE DISCUSSIONS

The ICAT Validation Workshop provided an opportunity for stakeholders across government, utilities, regulators, academia, and development partners to reflect on the progress of Namibia's climate transparency efforts. Through presentations and discussions, participants identified what worked well, where gaps remain, and what is needed to strengthen national MRV and NDC tracking systems.

The key lessons emerging from this process are summarised under four thematic areas that collectively capture the technical, institutional, and systemic insights gained during the workshop.

## 4.1 Strengthening Namibia's Climate Transparency Architecture

This theme captures lessons relating to the need for a coordinated, robust national system for GHG reporting, NDC tracking, and ETF compliance.

### Core Lessons:

- Strong national demand exists for a coherent transparency framework that supports annual GHG tracking, policy assessment, and multi-year reporting cycles.
- The ICAT project was recognised as a catalyst for strengthening national transparency systems.
- Validation is an iterative process, not a single event MRV systems must be updated continuously as assumptions, data, and technologies evolve.
- Consensus exists that ICAT deliverables fill critical transparency gaps and are aligned with ETF requirements.
- Stakeholders emphasised the need for a long-term institutionalisation strategy for national MRV, including legal and policy support.

## 4.2 Data Systems, Quality Assurance and Institutional Coordination

This theme consolidates lessons on data availability, interoperability, institutional mandates, and governance of the transparency system.

### Core Lessons:

- Data availability remains the largest constraint across sectors: datasets are fragmented, incomplete, and not harmonised.

- QA/QC systems are not formally established, contributing to inconsistent and sometimes unverifiable reporting.
- Institutional mandates for climate data collection and sharing are unclear, resulting in ad-hoc or voluntary reporting.
- Stakeholders highlighted the need for a centralised coordinating entity for climate data management.
- Legally supported data-sharing protocols, standardised metadata templates, and clear focal points are essential for long-term sustainability.
- Improved collaboration and structured coordination were recognised as crucial for addressing systemic data challenges.

### 4.3 Technical Capacity, Modelling, and Policy Impact Assessment

This theme captures lessons on Namibia's technical readiness, capacity gaps, modelling needs, and use of ICAT methodologies.

#### Core Lessons:

- Technical capacity for modelling (LEAP, GACMO, analytics) and policy impact assessment is still limited to a few individuals, creating institutional vulnerability.
- Continuous capacity building is needed to ensure national ownership of modelling and policy evaluation.
- Scenario assumptions must be co-developed with national experts, particularly for emerging technologies, grid emission factors, and local cost curves.
- Policy impact results, scenario modelling outputs, and QA/QC findings must be integrated directly into NDC tracking and MRV architecture.
- ICAT methodologies demonstrated strong value for evidence-based evaluation, especially through the New Energy Scenario analysis and REFIT assessment.
- Modelling tools must be continuously adapted to local data, context, and evolving policy realities, such as green hydrogen developments.

### 4.4 Sustainable Development Metrics, Stakeholder Engagement, and National Ownership

This theme combines lessons on SD indicators, inclusive participation, and the behavioural and cultural aspects of MRV system development.

#### Core Lessons:

- Climate actions must show co-benefits beyond GHG reductions including jobs, gender, water, land, and socio-economic impacts.

- SD indicators require baseline data, methodological refinement, and integration into sector planning tools.
- Early engagement of stakeholders enhances credibility, transparency of assumptions, and cross-sector trust.
- Participatory processes help uncover hidden data gaps, harmonise assumptions, and improve institutional memory.
- Strong national ownership was demonstrated, with institutions expressing readiness to adopt and integrate ICAT outputs into national systems.
- The workshop confirmed that collaboration, dialogue, and transparency are central to sustaining Namibia's climate governance.

# 5 RECOMMENDATIONS AND CHALLENGES ENCOUNTERED

This section synthesises the key recommendations and challenges identified during the validation workshop, based on stakeholder discussions, deliverable presentations, and institutional reflections. The recommendations are aligned to Namibia's transparency needs and national priorities under the Enhanced Transparency Framework (ETF), while the challenges highlight systemic barriers that require continuous attention and institutional strengthening.

## 5.1 Recommendations

### 5.1.1 Establish a Centralised Climate Data Coordination Mechanism

Across all deliverables and workshop discussions, the strongest recommendation was the creation of a national climate data coordination mechanism housed within MEFT or jointly with NSA.

This should include:

- A Climate Data Management System (CDMS) for annual GHG, SD and sectoral reporting.
- Clear institutional mandates for MEFT, MME, NSA, NamPower, and other agencies.
- Legally supported data-sharing protocols and QA/QC procedures.

This recommendation is grounded in the Data Quality & Institutional Arrangements Report.

### 5.1.2 Formalise Institutional Roles Through Policy or Regulation

Stakeholders agreed on the need for formal, legally supported designation of focal points for NDC tracking and ETF reporting across all relevant institutions.

This should include:

- Defined responsibilities for data generation, verification and reporting.
- Standard operating procedures (SOPs) for data collection.
- Integration of reporting roles into ministerial organograms.

### 5.1.3 Strengthen Data Quality and Adopt National QA/QC Protocols

Stakeholders recommended:

- A national QA/QC framework aligned with IPCC 2006 guidelines.
- Metadata templates, standardised units, and harmonised reporting formats.
- Annual data quality audits coordinated by MEFT and NSA.

This aligns with Section 4 of the Data Quality Report.

### 5.1.4 Institutionalise Continuous Capacity Building

Participants emphasised the need for long-term capacity building in:

- LEAP and GACMO modelling
- Policy impact assessment
- Data management and digital tools
- Sustainable development indicator tracking
- ETF reporting and GHG inventory methodologies

The need for ongoing capacity building was also highlighted in the NDC Templates Workshop.

### 5.1.5 Integrate ICAT Tools into National MRV and Planning Frameworks

Stakeholders recommended:

- Using ICAT NDC Tracking Templates for annual monitoring.
- Embedding REFIT assessment methods into energy policy review cycles.
- Using scenario modelling outputs to inform the National Integrated Resource Plan (NIRP), LT-LEDS, and future NDCs.

This integration will improve Namibia's ability to generate consistent, comparable and transparent reporting.

### 5.1.6 Strengthen Cross-Sector Collaboration

Participants highlighted the need to strengthen inter-agency collaboration through:

- Regular technical working group meetings.
- Agreed timelines for data submission.
- Shared analytical tools and training resources.

Such mechanisms are essential for sustaining the work initiated through ICAT.

### 5.1.7 Improve Sustainable Development Indicator Systems

To enhance alignment with global and national reporting frameworks (SDGs, NDP7, NIF):

- Develop baseline datasets for SD indicators.
- Embed SD monitoring into sectoral planning tools.
- Strengthen gender-disaggregated data collection systems.

## 5.1.8 Produce an Integrated MRV System Prototype Before Finalisation

Stakeholders recommended producing a prototype that illustrates:

- Data flows
- Indicator reporting pathways
- Institutional responsibilities
- Annual reporting cycles

The prototype should serve as a test environment before national roll-out.

## 5.2 Challenges Encountered

### 5.2.1 Data Gaps and Inconsistencies

One of the most significant challenges identified throughout the project is the existence of substantial data gaps, including:

- Missing historical time series
- Incomplete activity data
- Inconsistent sectoral datasets
- Limited access to private sector data

These gaps hinder the accuracy of GHG projections and policy impact assessments.

### 5.2.2 Fragmented Institutional Arrangements

Challenges include:

- Lack of a central coordinating entity
- Overlapping mandates between ministries
- Absence of formal data-sharing agreements
- Limited cross-institutional feedback loops

This fragmentation limits Namibia's ability to sustain transparency efforts beyond project-funded periods.

### 5.2.3 Limited Technical Capacity

Stakeholders identified constraints in:

- Modelling skills (LEAP, GACMO, analytics)
- QA/QC implementation
- Policy impact assessment
- ETS and NDC tracking methodologies

This affects the depth and quality of assessments and national reports.

## 5.2.4 Resource and Funding Constraints

Namibia's climate transparency system remains heavily dependent on donor-funded projects. Challenges include:

- Lack of dedicated staff for MRV
- Limited budgets for data collection
- Dependence on temporary project-driven capacity

Sustainable funding mechanisms remain inadequate.

## 5.2.5 Technology and Systems Limitations

Challenges related to digital infrastructure include:

- Absence of a national climate data platform
- Incompatible datasets between institutions
- Limited automation of reporting systems
- Limited cloud-based or centralised storage

These constraints result in manual, time-consuming, and error-prone processes.

## 5.2.6 Policy and Regulatory Gaps

Stakeholders highlighted regulatory shortcomings such as:

- No legal requirement for institutions to submit climate data
- No penalties for non-reporting
- No formal mandates for climate data coordination
- Lack of a national directive on MRV or NDC tracking

A regulatory framework is urgently needed to sustain progress.

## 5.2.7 Weak Baselines for Sustainable Development Indicators

Due to limited historical data, some SD indicators require:

- Additional work to establish baselines
- Better data disaggregation
- Standardised methodologies

Without stronger baseline data, SD tracking remains difficult to operationalise.

## 5.2.8 Limited Awareness of the ETF and NDC Tracking Requirements

While technical officers are familiar with climate reporting needs, institutional leadership and decision-makers often lack full awareness of ETF obligations, resulting in:

- Low prioritisation of climate data

- Insufficient institutional investment
- Disconnection between national commitments and sectoral planning

## 6 REVIEW OF PROJECT OUTCOMES AGAINST INTENDED OBJECTIVES

This section evaluates the extent to which the ICAT Namibia project achieved its intended objectives, based on the deliverables produced, stakeholder engagement processes, and feedback received during the Validation Workshop. The evaluation reflects national perspectives on the relevance, quality, and usefulness of the ICAT work and its alignment with Namibia's climate transparency needs under the Enhanced Transparency Framework (ETF).

### 6.1 Objective 1: Strengthen Namibia's Capacity for Climate Transparency and ETF Readiness

#### Assessment: Achieved

Across all deliverables, stakeholders confirmed that the ICAT project has significantly enhanced Namibia's readiness to meet future ETF reporting obligations. Workshops, technical assessments, data diagnostics, and MRV template development were acknowledged as key contributions to building institutional understanding of:

- GHG inventory methodologies
- Policy impact assessment
- Modelling tool (GACMO)
- Sustainable development indicators
- Institutional arrangements for climate reporting

Participants highlighted that the project has laid a solid foundation for Namibia's upcoming Biennial Transparency Reports (BTRs) and future NDC updates.

### 6.2 Objective 2: Develop Robust Technical Deliverables for Policy Impact Assessment, Scenario Modelling, and NDC Tracking

#### Assessment: Achieved

The suite of deliverables produced under ICAT Diagnostic Report, Scenario Modelling, REFIT Assessment, Data Quality Report, and NDC Tracking Templates were confirmed as technically sound, nationally relevant, and aligned with international best practice.

### Evidence of achievement:

- The Diagnostic Report provided an in-depth assessment of current emissions, institutional arrangements, and data challenges.
- The New Energy Scenario Report established BAU and mitigation scenarios supporting long-term planning.
- The REFIT Assessment quantified GHG and SD impacts, demonstrating practical use of ICAT methodologies.
- The Data Quality Report proposed actionable institutional reforms and data governance improvements.
- The NDC Tracking Templates established standardised indicators and clear institutional roles.

Participants validated that these deliverables collectively support improved transparency, policy planning, and evidence-driven decision-making.

## 6.3 Objective 3: Improve National Coordination Across Institutions Involved in Climate Data, Energy Planning, and Reporting

### Assessment: Partially Achieved

The project significantly improved dialogue and cooperation between MEFT, MME, NSA, NamPower, ECB, and sectoral stakeholders. Workshops demonstrated enhanced institutional understanding of shared roles and the importance of coordinated data systems.

However, participants agreed that:

- Coordination structures remain informal.
- Roles are not yet formalised through policy or regulation.
- Data-sharing protocols lack legal backing.
- Institutional mandates overlap in some areas.

While progress is substantial, full achievement requires the next phase of work focusing on institutionalisation.

## 6.4 Objective 4: Build a Sustainable MRV and NDC Tracking Framework for the Energy and Transport Sectors

### Assessment: Partially Achieved

The ICAT project successfully developed:

- NDC indicators
- Data collection templates

- Reporting timelines
- Institutional mapping
- Preliminary MRV pathways

However, full operationalisation will require:

- Integration with national data systems
- Design of a working prototype MRV platform
- Continuous capacity building
- Long-term resource allocation
- Adoption of legal and policy instruments

Stakeholders acknowledged that ICAT has delivered the technical building blocks, but further work is needed to institutionalise the system within MEFT and sector ministries.

## 6.5 Objective 5: Enhance Capacity for Policy Impact Assessment and Integration of Sustainable Development Indicators

### Assessment: Achieved

The REFIT assessment and related workshops built strong capacity in:

- Causal chain development
- GHG impact quantification
- SD co-benefit scoring
- Interpretation of mitigation and development trade-offs

Institutions expressed increased confidence in applying ICAT methodologies to assess future energy policies and track SD impacts.

Notably, the validation workshop confirmed that stakeholders view SD indicators as crucial for demonstrating the co-benefits of climate action, especially in Namibia's development context.

## 6.6 Objective 6: Support Evidence-Based Policy Formulation and Long-Term Planning

### Assessment: Achieved

The outputs generated under ICAT especially the scenario modelling and policy impact assessments were recognised as valuable inputs for:

- The National Integrated Resource Plan (NIRP)
- Future NDC updates

- GHG inventory improvements
- BTR submissions
- Sectoral energy planning
- Climate finance proposals

Participants confirmed that the deliverables improve the analytical foundation underpinning national climate and energy policy planning.

## 6.7 Objective 7: Strengthen National Ownership of Climate Transparency Systems

### Assessment: Achieved

Strong national ownership was demonstrated during the workshop through:

- Active participation from all major institutions
- Agreement on priorities for future MRV development
- Collaborative revision of modelling assumptions
- Shared recognition of systemic data challenges

Stakeholders expressed commitment to embedding ICAT results into national processes beyond the life of the project.

## 6.8 Overall Evaluation of the ICAT Work

### Final Assessment:

The ICAT Namibia project largely achieved its objectives, delivering high-quality technical outputs, strengthening institutional capacity, and informing the development of a long-term transparency framework.

Some objectives particularly those relating to institutionalisation and long-term MRV system development are partially achieved and will require additional work and government commitment. Nonetheless, the project has provided Namibia with a solid and credible foundation to meet Paris Agreement reporting obligations and to strengthen national climate governance.

# 7 CLOSING SYNTHESIS AND NEXT STEPS

This section synthesises the overall outcomes of the Validation Workshop and outlines the recommended next steps toward institutionalising the ICAT work within Namibia’s national climate transparency architecture. It reflects stakeholder consensus and identifies priorities for sustaining progress under the Enhanced Transparency Framework (ETF).

## 7.1 Final Reflections

The Validation Workshop confirmed that the ICAT Namibia project has made substantial contributions to strengthening national climate transparency systems, developing robust analytical tools, and enhancing institutional capacity across government and sectoral stakeholders. The project’s deliverables including the Diagnostic Report, New Energy Scenario Modelling, REFIT Policy Assessment, Data Quality & Institutional Arrangements Review, and NDC Tracking Templates were validated as technically sound, nationally relevant, and aligned with international best practice.

Workshop participants acknowledged that these outputs collectively provide a credible and comprehensive foundation for Namibia’s future Biennial Transparency Reports (BTRs), National Communications, energy policy reviews, and NDC implementation. They further highlighted that the ICAT work has improved collaboration between MEFT, MME, NSA, NamPower, ECB, academia, and development partners, thereby strengthening national ownership and addressing long-standing data and coordination challenges.

At the same time, stakeholders recognised that full institutionalisation of climate transparency systems requires sustained effort beyond the ICAT project, particularly in formalising coordination structures, improving data quality, harmonising methodologies, and establishing a legally supported MRV system. Despite these ongoing needs, the project has set Namibia on a clear, practical, and achievable path to meeting its commitments under the Paris Agreement.

## 7.2 Next Steps

Based on the workshop deliberations and validated recommendations, the following next steps are proposed to guide the implementation and institutionalisation of the ICAT outputs:

### 7.2.1 Establish a National Climate Data Coordination Mechanism

- Create a central coordinating structure or Climate Data Management System (CDMS) under MEFT or jointly with NSA.
- Formalise data-sharing protocols and reporting responsibilities across ministries and agencies.

### 7.2.2 Institutionalise the NDC Tracking System

- Integrate the ICAT-developed indicators and templates into annual reporting cycles.

- Develop a prototype MRV platform and conduct pilot testing with sector ministries.

### 7.2.3 Implement a National QA/QC Framework

- Adopt the QA/QC protocols recommended in the Data Quality Report.
- Require annual QA/QC checks across institutions supplying climate and energy data.

### 7.2.4 Formalise Institutional Mandates Through Policy or Regulation

- Establish legal requirements for climate data submission, MRV participation, and institutional roles.
- Incorporate reporting responsibilities into ministry organograms and job descriptions.

### 7.2.5 Strengthen Human and Institutional Capacity

- Expand training in modelling tools (LEAP, GACMO), MRV methodologies, SD indicators, and policy impact assessment.
- Create a continuous learning programme to build long-term institutional expertise.

### 7.2.6 Align ICAT Outputs With National and International Reporting Processes

- Integrate scenario modelling into the National Integrated Resource Plan (NIRP) and LT-LEDS updates.
- Use policy impact results to inform future NDC revisions and sectoral action plans.
- Prepare for upcoming BTR submissions using ICAT tools and templates.

### 7.2.7 Resource Mobilisation and Sustainability

- Develop a long-term financing strategy to sustain MRV operations beyond donor-funded projects.
- Engage development partners (UNDP, GIZ, IRENA, NDC Partnership) to support implementation of the CDMS and MRV frameworks.

### 7.2.8 Closing Remarks

Participants concluded the workshop by emphasising the importance of continuing the momentum generated by the ICAT project. MEFT, MME, NSA, NamPower, and other stakeholders expressed appreciation for the technical support provided and reaffirmed their commitment to strengthening Namibia's transparency systems.

The workshop closed with a shared understanding that:

- ETF readiness is an ongoing process that requires strong collaboration.
- ICAT outputs represent a major step toward building a nationally owned MRV system.
- With sustained commitment and investment, Namibia can become a regional leader in transparent, data-driven, and sustainable climate governance.

The Validation Workshop thus marks an important milestone in advancing Namibia’s efforts under the Paris Agreement and reinforces the collective responsibility of all institutions to support a transparent, accountable, and ambitious climate response.

# Appendices

## Validation Workshop Agenda

**Title:** Validation Workshop for Namibia’s Energy Sector NDC Tracking Framework under the Initiative for Climate Action Transparency (ICAT)

**Date:** 3 December 2025

**Venue:** MEFT Head Office, Windhoek, Namibia

**Facilitator:** Tendai M. Nzuma

### Workshop Objectives

- Validate deliverables developed under ICAT Namibia related to the energy and AFOLU sectors.
- Review the REFIT Renewable Energy Assessment and new energy scenarios.
- Assess institutional and data management readiness for NDC tracking.
- Confirm stakeholder inputs on the Data Quality Management and Tracking Templates.
- Achieve consensus on action items and institutional responsibilities.

### Agenda

| Time          | Session   | Lead / Facilitator         |
|---------------|---|----------------------------|
| 08:30 – 09:00 | Arrival and Registration  | MEFT                       |
| 09:00 – 09:15 | Opening Remarks and Welcome   | MEFT Representative        |
| 09:15 – 09:30 | Overview of Workshop Objectives and Expected Outputs                | Facilitator                |
| 09:30 – 10:00 | Presentation: Diagnostic Report for Energy and AFOLU Sectors        | Consultant                 |
| 10:00 – 10:30 | Presentation: New Energy Scenario for Projections                   | Consultant                 |
| 10:30 – 10:45 | Tea / Coffee Break  | -                          |
| 10:45 – 11:30 | Presentation and Validation: REFIT Renewable Energy Assessment      | Consultant / MME / ECB     |
| 11:30 – 12:15 | Presentation and Discussion: NDC Tracking Templates Workshop Report | Facilitator / Stakeholders |

| <b>Time</b>          | <b>Session</b>  | <b>Lead / Facilitator</b> |
|----------------------|---|---------------------------|
| <b>12:15 – 13:00</b> | Breakout Session 1: Energy Indicators and Emissions Projections       | Breakout Groups           |
| <b>13:00 – 14:00</b> | Lunch Break   | -                         |
| <b>14:00 – 14:45</b> | Presentation: Data Quality Management Framework                       | Consultant                |
| <b>14:45 – 15:30</b> | Breakout Session 2: Institutional Roles and Data Management Practices | Breakout Groups           |
| <b>15:30 – 15:45</b> | Tea / Coffee Break  | -                         |
| <b>15:45 – 16:15</b> | Plenary: Consolidation of Feedback on All Deliverables                | Facilitator / Rapporteur  |
| <b>16:15 – 16:45</b> | Next Steps and Workshop Closure                                       | MEFT / Facilitator        |

### **Key Deliverables for Validation**

- 0.1 Diagnostic Report for Energy and AFOLU Sectors
- 1.2.2 New Energy Scenario for Emission Projections Report
- 2.1.1 REFIT Renewable Energy Assessment Report
- 3.2 NDC Tracking Templates Workshop Report
- 3.1.1 Data Quality Management Report

