

NATIONAL REDD PLUS STRATEGY



Ministry of Natural Resources and Environment (NRE)

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Lastly, we wish to express our sincere thanks to all those who have in one way or another assisted NRE in making this endeavour a success.

ABBREVIATIONS

BUR	Biennial Update Report
BUR-ICA	Biennial Update Report International Consultation and Analysis
CBD	Convention on Biological Diversity
CFS	Central Forest Spine
CO ₂	Carbon Dioxide
COP	Conference of Parties
CPO	Crude Palm Oil
ETP	Economic Transformation Programme
FDPM	Forestry Department Peninsular Malaysia
FDS	Forest Department Sarawak
FMRS	Forest Monitoring System using Remote Sensing
FPIC	Free, Prior and Informed Consent
FRL	Forest Reference Level
FRIM	Forest Research Institute Malaysia
FWG	Finance Working Group
GHG	Greenhouse Gas
HoB	Heart of Borneo
IPCC	Intergovernmental Panel on Climate Change
LULUCF	Land use, land-use change and forestry
MC&I	National Criteria and Indicators for Sustainable Forest Management
MEXCOE	Meeting of Ministers of the Environment
MPOB	Malaysian Palm Oil Board
MRSA	Malaysia Remote Sensing Agency
MRWG	Measurement and Reporting Working Group
MRV	Measurement, Reporting and Verification
MSPO	Malaysian Sustainable Palm Oil
MTC	Malaysian Timber Council
MTCC	Malaysian Timber Certification Council
MyGAP	Malaysian Good Agriculture Practices



NAP	.....	National Agricultural Policy
NAPP	.....	National Action Plan for Peatlands
NACBES	.....	National Advisory Committee on Biodiversity and Ecosystem Services
NDC	.....	National Determined Contribution
NRS	.....	National REDD Plus Strategy
NSCREDD	.....	National Steering Committee on REDD Plus
NFA	.....	National Forestry Act
NFI	.....	National Forest Inventory
NFMS	.....	National Forest Monitoring System
NGO	.....	Non-governmental organisation
NRE	.....	Ministry of Natural Resources and Environment
PA	.....	Protected Areas
PFE	.....	Permanent Forest Estate
PFR	.....	Permanent Forest Reserved
PRF	.....	Permanent Reserved Forest
RBP	.....	Results Based Payments
REDD Plus	.....	Reducing Emissions from Deforestation and Forest Degradation, and the Role of Conservation, Sustainable Management of Forests and Enhancement of Forest Carbon Stocks in Developing Countries
RSPO	.....	Roundtable on Sustainable Palm Oil
SIS	.....	Safeguard Information System
SIS WG	.....	Safeguards Information System Working Group
TCREDD PLUS	.....	Technical Committee on REDD PLUS
TWG	.....	Technical Working Group
UNFCCC	.....	United Nations Framework Convention on Climate Change
VWG	.....	Verification Working Group



FOREWORD



The National REDD Plus Strategy marks a momentous milestone for climate change, biodiversity and forest policies. It is the next critical step in our journey to transform the sector to ensure the sinks are maintained in an inclusive and sustainable manner.

In line with the negotiation outcomes on REDD Plus under the UNFCCC, Malaysia has embarked on developing the National REDD Plus Strategy. The Strategy builds upon existing national and state policies which have been updated in line with Malaysia's Nationally Determined Contribution (NDC) submitted in 2015.

The Strategy is based on Malaysia's National Development Plans and relevant policies which focus on harnessing the natural capital of the forest while delivering high impact outcomes on green growth. It will proportionately focus on the environment, economy and people. The Strategy is also designed to enhance synergy and coherence between the Federal and State governments and other relevant stakeholders in addressing climate change, biodiversity and forestry in Malaysia. Clear targets, actions and key indicators have been identified for implementation up to 2030.

Let us therefore put our hearts and minds into making this Strategy a resounding success for our country.

Thank you.

A handwritten signature in black ink, consisting of several loops and a central scribbled area, representing the signature of Datuk Seri Dr. Haji Wan Junaidi Tuanku Jaafar.

Datuk Seri Dr. Haji Wan Junaidi Tuanku Jaafar
Minister of Natural Resources and Environment, Malaysia

EXECUTIVE SUMMARY

The National REDD Plus Strategy provides the framework to conserve our forest sinks and biodiversity in light of the increasingly complex challenges. This Strategy forms part of the REDD Plus requirement under the UNFCCC to access results based payments (RBP).

The National REDD Plus Strategy is presented in three major parts:

- (i) Actions to build synergies and coherence between Federal – State governments in addressing climate change, biodiversity and forest policies;
- (ii) Actions to reduce emissions and enhance sinks in forest and conservation of biological resources; and
- (iii) Develop a sustainable financing mechanism.

Part One describes the rationale, vision and challenges faced by the forest sector. Actions are proposed on cross-sectoral policies and their implementation. Malaysia views the implementation of REDD Plus activities and REDD Plus safeguards to be complementary.

The Second part deals on the emissions reduction potential resulting from the implementations of REDD Plus activities and how the REDD Plus safeguards are addressed and respected. The REDD Plus Safeguards builds upon the National Criteria and Indicators for Sustainable Forest Management (MC&I) and the Aichi Targets under the Convention on Biological Diversity. The Final part provides the means for implementation of the REDD Plus Strategy.

Measureable targets, actions and key indicators with time frame are also included, in order for the progress to be well-tracked.





CHAPTER 1

INTRODUCTION



1.1 RATIONAL

Reducing emissions from deforestation and forest degradation has assumed global significance in the climate change debate, as it is considered to be a cost-effective mitigation option (Stern, 2007). However, reducing the emissions from these activities do come with a cost especially in countries with good forest management history.

Consensus on REDD Plus was reached at the UNFCCC's Conference of Parties' (COP) 15th Session, which agreed on the need to provide positive incentives. This is followed by the Warsaw Framework for REDD Plus providing guidance on all the requirements to obtain RBP. The agreed REDD Plus to capture activities are:

- (i) Reduction of emissions from deforestation;
- (ii) Reduction of emissions from forest degradation;
- (iii) Conservation of forest carbon stocks;
- (iv) Pursuance of sustainable management of forests; and
- (v) Enhancement of forest carbon stock.

The UNFCCC's COP 16 (1/CP.16 paragraphs 71, 72 and 73) requests developing countries to develop the following elements when undertaking REDD Plus activities:

- (i) A national strategy or action plan;
- (ii) A national forest reference emission level and/or forest reference level;
- (iii) A robust and transparent national forest monitoring system for the monitoring and reporting of REDD Plus activities;
- (iv) A system providing information on how the safeguards are being addressed and respected throughout the implementation of the REDD Plus activities, while respecting sovereignty; and
- (v) National strategies or action plans, should address, inter alia, the drivers of deforestation and forest degradation, land tenure issues, forest governance issues, gender considerations and the safeguards, ensuring the full and effective participation of relevant stakeholders, inter alia indigenous peoples and local communities.



1.2 THE NATIONAL REDD PLUS STRATEGY

1.2.1 Background

The National REDD Plus Strategy (NRS) builds upon existing relevant policies. In the context of NRS, biodiversity refers to natural resources in the forest and their sustainable utilisation. The building block of the Strategy is based upon the best practices related to forest management systems in the country. This Strategy is updated in line with Malaysia's Nationally Determined Contribution under the Paris Agreement.

Malaysia's forests can be categorised according to the degree of protection and land use classification. Management of forest land falls under three broad categories:

- (i) Protected Areas/Totally Protected Area which consist of wildlife sanctuaries, nature reserves, national and state parks;
- (ii) Permanent Reserved Forests (PRFs) /Permanent Forest Estate (PFEs)/Permanent Forest Reserves (PFR), which are primarily natural forests to be maintained and managed sustainably, and
- (iii) Stateland forest which are forest land reserved for future development purposes.

The objective of forest management is to ensure the continuity of product flow while conserving complex ecosystems and flora and fauna. Malaysia has implemented a selective harvesting system - a technique to provide openings in the forest canopy, thus ensuring the natural regeneration of seedlings. The annual allowable cut has been monitored as of 1996 through the Seventh Malaysian Development Plan.

Malaysia's Biennial Update Report (BUR) submitted to UNFCCC in 2016, indicated that the Land use, Land-use Change and Forestry (LULUCF) sector was a net sink. The forest contributed to the highest sinks through *Forest Land Remaining Forest Land*.

Vision Statement

To assure that forest resources and their ecosystem services are secured, and the benefits are shared fairly and equitably among all stakeholders.

Goal

Forest will be regarded as natural capital taking into consideration the goods and services they provide by the year 2030.

1.2.2 Objectives

The main objectives are:

- (i) To promote consistency and synergies in the implementation of climate change, forest and biodiversity related policies between federal and state levels;
- (ii) To measure, report and verify (MRV) REDD Plus results and as part of efforts to achieve the Nationally Determined Contribution (NDC); and
- (iii) To develop a sustainable financing mechanism for REDD Plus implementation.

1.2.3 REDD Plus Actions

Implementing the Strategy will contribute to the following national targets:

- (i) Maintaining 50% forest cover;
- (ii) Achieving the NDC pledge made under the UNFCCC's Paris Agreement for the period between 2020-2030;
- (iii) Achieving National Policy on Biological Diversity (2016-2025); and
- (iv) Forest policies.

Malaysia's NRS aims at ensuring the forest resources and their ecosystem services are secured, and the benefits are shared fairly and equitably among all stakeholders. This is achieved by recognising the forest as natural capital. The NRS is an ambitious initiative that facilitates transformational change in the forestry sector. The forest would not merely be regarded as a source of timber and non-forest products, instead, their ecosystem services and rich biodiversity would be recognised and appreciated. This way, the full cost of deforestation, taking into account the value of ecosystem services and biodiversity lost will be considered.

In 2006, the government of Malaysia implemented landscape approach to the management of its natural ecosystems. The Central Forest Spine (CFS) in Peninsular Malaysia and the Heart of Borneo (HoB) in Sabah and Sarawak are the two projects implemented at national cost. These projects are enablers in increasing the connectivity between forests and to reduce fragmentation while improving natural resource management. The government has allocated about US\$ 52.93 million for these projects from 2010-2017.

The NRS aims at addressing the following:

- Identifying the primary drivers of deforestation and forest degradation;
- Identifying areas of synergy and coherence between the different policies at national and state levels;
- Enhancing the transparency and robustness of the existing MRV system and REDD Plus safeguards;
- Increasing ecosystem resilience to climate change through adaptation measures;
- Enhancing institutional arrangement for mainstreaming REDD Plus activities;
- Developing sustainable financing system for REDD Plus implementation; and
- Collaborating with relevant stakeholders to propose science-based conservation interventions such as legislation, incentive structures and capacity building.

1.3 CHALLENGES

Although Malaysia has put in place policies to prevent forest loss, we are still faced with a number of challenges as stated below:

1.3.1 Fragmentation

Although Malaysia still has a significant amount of forest cover, much of it is fragmented. This resulted in the loss of ecological connectivity which affects animal and plant populations. Many forest birds, especially those that inhabit the understorey, do not readily fly over open areas. Many animals are trapped in areas that are too small to provide the necessary resources for their survival. Even if they do survive, in the longer term, they face genetic isolation which causes extinctions of local populations. The maintenance of contiguous forests through the establishment of ecological corridors through landscapes of fragmented forest patches is a practical way to address this problem. Although long-term programmes such as the Central Forest Spine (CFS), HoB and the Kinabalu Ecolinc have been initiated to mitigate the problem of fragmentation, the problem is complex and will require substantial investments.

1.3.2 Population Pressure

The increasing population of our nation (estimated to reach close to 40 million by 2040) puts pressure on land and biological resources. There is ever increasing demand for food, water, houses, jobs, schools, healthcare, energy, transportation and other infrastructures – all of which has significant impact on forest. With increasing levels of disposable incomes, the consumption patterns are also changing – Malaysians are consuming more than ever. The competition for land is fierce – every sector clamours for the ever-shrinking land base. Waste and pollution too are increasing. Although many sectors are now more sensitive to the issue, our rapid economic growth means that it requires more effort to sustainably manage and conserve our biodiversity.

1.3.3 Climate change

The threat of climate change is well-established although its actual impacts on forest are not easily predicted. Climatic change can have severe impacts - an increase in precipitation or extended dry periods can destroy habitats. It also affects the phenological patterns of tropical rain forests. The widespread mast flowering of forest species is often traced to a small dip of about 2° C below mean night-time temperature for 4 or 5 nights (Appanah, 1993). Temperature changes may cause shifts in current ecosystems both latitudinal and altitudinal, meaning that species would have to migrate to climatise themselves with their optimal habitats – leading to changes in species distribution. In one well documented example, various species of moths native to Mount Kinabalu have been shown to be moving their ranges uphill, exactly as would be expected if they are following temperature zones that are also moving uphill due to climate change.

Assessment made on long-term forest ecological plots showed biomass accumulation was not consistent over the assessment periods. The 1997 strong *El Nino* was shown to have affected the productivity of the forest and increased mortality of large trees (Chave et al, 2008; Feeley et al (2007)).

1.3.4 Legacy Issues

Malaysia has a long forest management history. However, there are some areas of forest that have been degraded due to past management effects. Restoration and rehabilitation of these forests incurs high cost and nurturing. Furthermore, the advent of climate change has also highlighted another legacy in forest management, that is, the drained peatlands. In the 1960s and 70s, peatlands were considered a wasteland and draining them an effective rehabilitation to improve the productivity. Although measures are in place to further reduce degradation in drained peatlands, some of these areas remain susceptible to wildfires during the dry season. Research efforts are needed to better understand the peculiarities and attributes of peat in the tropics in order to manage them sustainably. It is also expensive to re-wet these areas.

1.4 CHANGES IN FOREST COVER BETWEEN 1990 TO 2014

The forest cover reduced by 5% between 1990 and 2014 (Table 1). The primary reduction occurred in the State land forest. The annual reduction in the forest between these periods is about 0.33%. There is more forest loss between 1990 -2000, than in the periods of 2009-2014. The reduction in deforestation rates is due to the implementation of CFS and HoB initiatives, 3rd National Agricultural Policy and Economic Transformation Programmes.

Table 1: Forest Cover Based on the category

Category	Year				
	1990	2000	2005	2010	2014
PRF/PFE	12.94	14.43	14.43	14.53	14.55
PA	1.09	1.83	1.86	1.86	1.86
State land	5.21	1.93	1.53	1.54	1.86
Total	19.23	18.19	17.82	17.93	18.27

Source: Ministry of Natural Resources and Environment

1.4.1 Drivers of Deforestation

The key drivers of deforestation have been identified as follows:

- (i) Expansion of settlements and infrastructure development including highways, gas pipelines, reservoirs, power lines;
- (ii) Population growth; and
- (iii) Agriculture expansion.

1.5 DRIVERS OF FOREST DEGRADATION

Drivers of forest degradation were identified through the overlaying of land use map and forest cover map. The drivers identified are:

- (i) Forest fragmentation;
- (ii) Encroachment from past activities like agriculture and settlements; and
- (iii) Legacy issues from past management and shifting cultivation.

1.6 FUTURE SCENARIOS

Malaysia is a growing economy and there are competing needs for land. The future scenarios are as follows:

(i) Development pathway

The projected economic growth for Malaysia has shifted from manufacturing into service orientated industries. Infrastructure will need to be improved and expanded.

(ii) Population growth

Population is projected to increase to about 32 million by 2020 and 36 million by 2030. These are expected to put pressure on forest through the increased demand for food, housing and infrastructure.

(iii) Impacts of climate change on food security

Impacts of climate change on food production and water resources are yet to be fully characterised and quantified. If impacts of climate change affect the food security, some re-alignment in land use may be needed and deforestation may increase periodically.

(iv) Expansion of agricultural areas

The 3rd Agriculture Policy (1998-2010) emphasised on enhancement of productivity and limiting the expansion of planted areas especially from forest. These actions were further taken up through the Economic Transformation Programmes (ETP) implemented between 2010-2020. Oil palm, rubber and paddy are the largest planted agricultural crops in Malaysia.

Suitable land for oil palm cultivation is limited to about 6 million ha (ETP, 2010). Oil palm planted area is projected to increase from 5.39 million ha in 2014 to 6 million ha by 2020 and 6.07 million ha by 2030 (Ministry of Plantation Industries and Commodities). The anticipated increase in demand for crude palm oil (CPO) will be met by increasing the productivity of CPO from 17 million tonnes in 2010 to 25.3 million tonnes by 2020 (National Commodity Policy, 2012). This is achieved through the implementation of the Code of Practice and the planting of high yielding clones. Matured oil palm cultivation will be re-planted.

In contrast, rubber planted area is projected to increase from 1 million ha in 2010 to 1.1 million in 2020. Average annual yield of natural rubber is expected to increase from 1.48 tonnes/ha in 2010 to 1.5 tonnes/ha by 2020 (Ministry of Plantation Industries and Commodities). Expansion of agricultural areas will primarily come from unproductive and abandoned agricultural lands.



CHAPTER 2

IMPLEMENTATION FRAMEWORK

2.1 GOVERNANCE

Given the enormous task of implementing the Strategy, a substantial amount of coordination will be required to ensure optimum utilisation of resources, reduce conflicts and maximise synergies between the various stakeholders.

At the national level, the National Steering Committee on REDD Plus (NSCREDD) was established in 2011 to formulate directions and strategies for REDD Plus implementation. The Secretary General of NRE chairs the NSCREDD, with membership from State Economic Planning Units, Forestry Departments, relevant Federal Ministries and NGO/CSO. NSCREDD is supported by a Technical Committee on REDD Plus (TCREDD Plus), chaired by the Deputy Secretary General (Environment) of NRE. The roles of this Technical Committee include providing methodological guidance on REDD Plus implementation and formulating national action plans. The TCREDD Plus coordinates and oversees the work of the Working groups. The Measurement and Reporting Working (MRWG) Group will be responsible for the results based actions while the Verification Working Group (VWG) will verify the methodology, and results. The Safeguards Information System Working Group (SISWG) will be responsible on the content of safeguards information system as well as producing the Safeguards summary report periodically. The finance Working Group (FWG) would evaluate the compliance for the payment of results. The structure is shown in Figure 1.

The REDD Plus Unit, NRE will monitor the implementation progress, and report to the NSCREDD. NRE collates all the baseline data necessary for tracking progress based on the methodologies agreed. Reports on the implementation of the Strategy will be published by NRE.

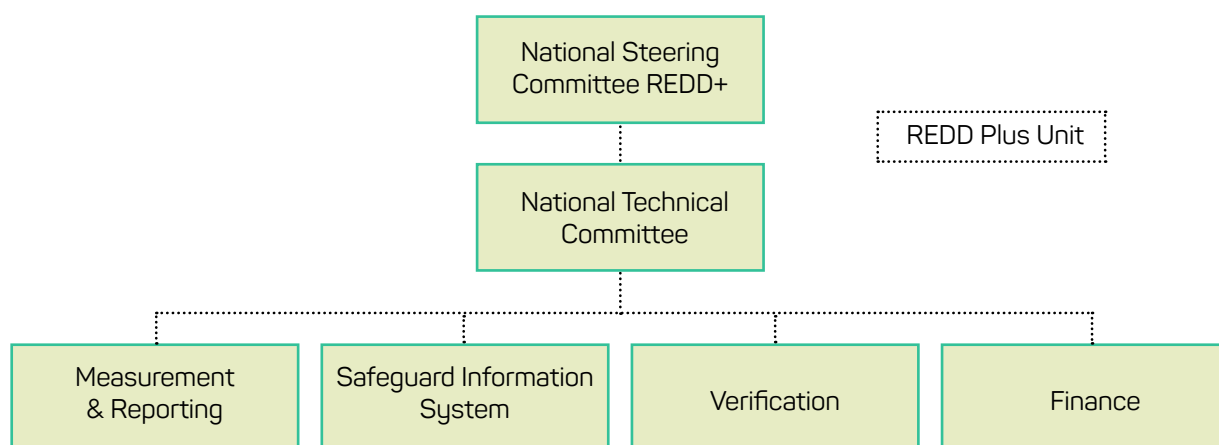
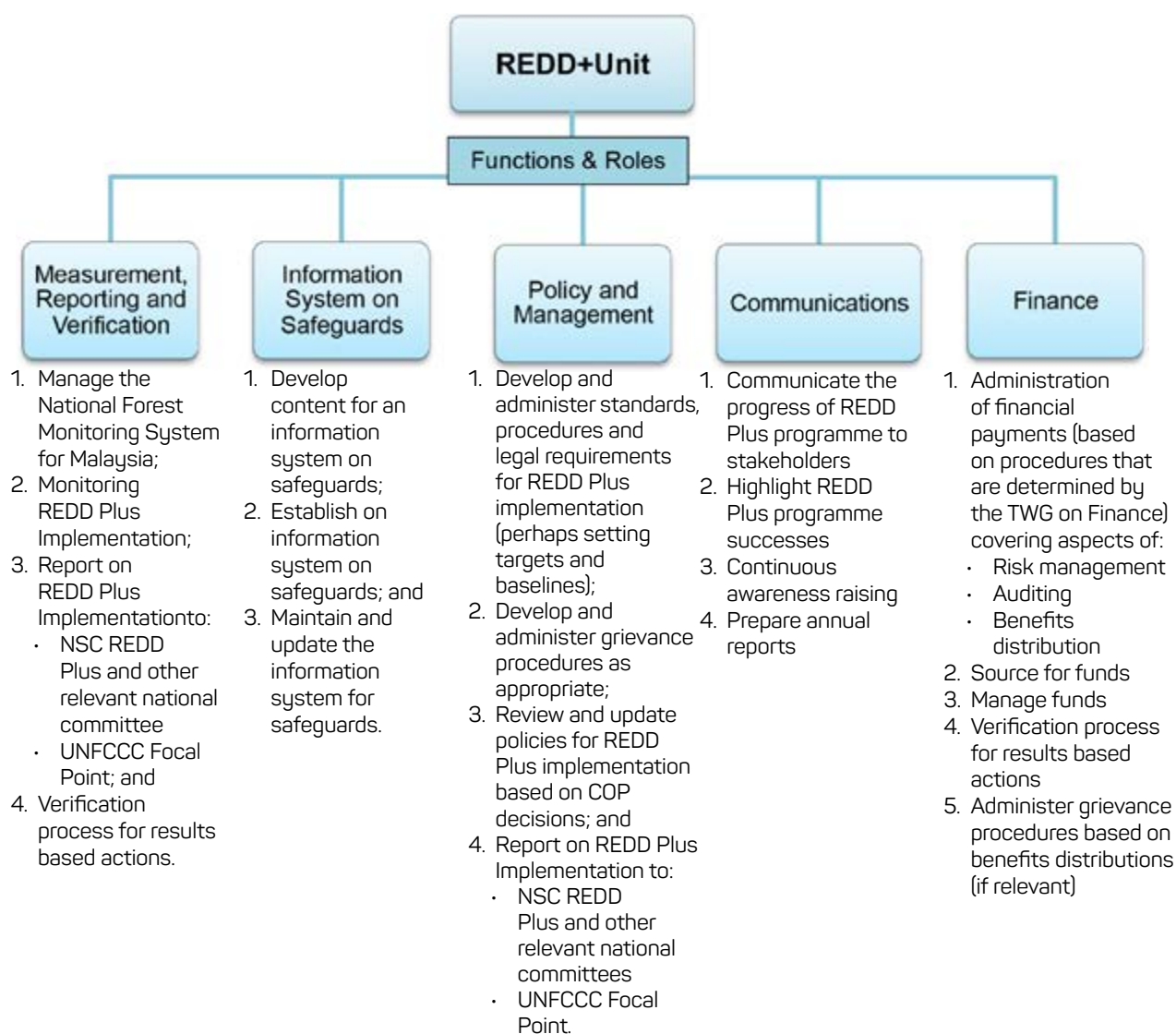


Figure 1: Governance Structure

The review of actions should take into account changing priorities at the national or state level and the global level (e.g. decisions of multilateral environmental agreements); as well as funding opportunities or challenges. The review will be coordinated by NRE. The findings of the review shall be presented to the NSCREDD Plus.

2.2 INSTITUTIONAL ARRANGEMENT AT NATIONAL LEVEL

The actions to be undertaken will not only improve the forest is management and resilience but also contribute towards achieving the climate change agenda in Malaysia. The results-based actions will contribute towards the achievement of the NDC under the Paris Agreement.



In general, the REDD Plus Institutional arrangement will be implemented as follows:

- (i) REDD Plus is linked with the national climate change actions while supporting some of the targets of the Convention on Biological Diversity (CBD);
- (ii) REDD Plus implementation is coordinated at national level while implementation of actions at state level as appropriate;
- (iii) REDD Plus actions reported and verified at national level; and
- (iv) Result based finance should be coordinated at national level for transparency, avoiding double finance and accounting.

2.3 REDD PLUS IMPLEMENTATION

2.3.1 National Level

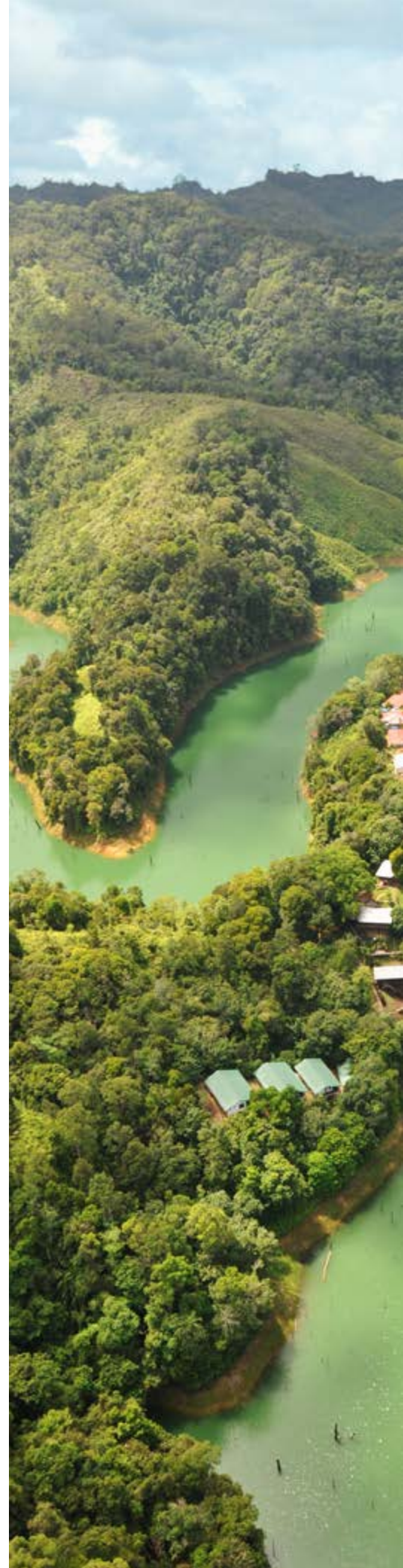
NRE, will play the leading role in implementing the Strategy. This includes undertaking the necessary coordination among stakeholders, establishing the appropriate institutional platforms, facilitating resource mobilisation and initiating review of the Policy, as necessary. NRE will be responsible for coordinating among the various Federal ministries and States for the implementation of this strategy.

2.3.2 State Governments

The State Governments and their agencies have jurisdiction over and responsibility for the management of *inter alia* land, water and forests and will therefore play important roles in delivering the actions under the Strategy. The State government will ensure that the REDD Plus actions are implemented effectively.

2.3.3 Civil Society

The Strategy provides many opportunities for civil society to participate, either on its own or in collaboration with other stakeholders. Given their vast knowledge and their aptitude to work with indigenous peoples and local communities as well as with regional and international networks, civil society will play a very important role in translating the Strategy into action.





2.3.4 Indigenous Peoples and Local Communities

The Strategy places emphasis on empowering and supporting indigenous peoples and local communities to undertake biodiversity conservation. They are envisaged to be active partners in managing our forest and the resources.

2.3.5 Private Sector

The private sector will play an important role in ensuring the objectives of the Strategy are met. Many of the actions identified in NRS can be undertaken by the private sector, either on its own or in collaboration with other stakeholder groups. A framework for public –private partnership will be established under this Strategy.

2.3.6 Research and Education

Implementing the Strategy will require the best available scientific expertise and knowledge. Malaysia has a large research community at our universities and research institutions. This community has an important role to play in ensuring that the results obtained are reliable. Educators may also make valuable contributions by increasing the community’s awareness on climate change through establishing practical partnerships and experiential learning.

2.4 MEASUREMENT, REPORTING AND VERIFICATION FRAMEWORK

Measurement, Reporting and Verification (MRV) framework involves a collaboration of multi-agencies. National experts developed the procedures and modalities for activity data generation and monitoring. Likewise, emission factors are derived from the National forest inventory and permanent sampling plots.

The MRV framework for REDD Plus as follows:

	Institution	Function
Measurement	Forest Research Institute Malaysia; Forestry Department Peninsular Malaysia; Sabah Forestry Department; and Sarawak Forest Department	Periodic ground based measurement through National Forest Inventory; Growth and Yield Plots and research plots; and Technical advisory on reference level/ emission factors.
Monitoring	Remote Sensing Department; Forestry Department Peninsular Malaysia (FDPM); Sabah Forestry Department; Sarawak Forest Department; and Departments of Agriculture.	National Forest Monitoring System - Land use maps
Reporting	Ministry of Natural Resources and Environment; Forest Research Institute Malaysia; Forestry Department Peninsular Malaysia; Sabah Forestry Department; and Sarawak Forest Department	Reference level and periodic submissions to UNFCCC; Technical annex for results based payments.
Verification	Malaysia Timber Certification Council (MTCC); and LULUCF Experts Working Group	Implement domestic verification process through the forest certification; and Verification of results.
BUR-ICA Process	UNFCCC	

2.5 TARGETS AND ACTIONS TO PROMOTE CONSISTENCY AND SYNERGIES IN THE IMPLEMENTATION OF CLIMATE CHANGE, FOREST AND BIODIVERSITY RELATED POLICIES ACROSS FEDERAL AND STATE LEVELS

Targets:

1. By 2025, capacity for implementation of national and subnational climate change, biodiversity, forest related strategies and other related MEA has significantly increased;

(a) Action:

Strengthen coordination and decision making at national level

Key indicator:

- By 2016, Meeting of Ministers of the Environment (MEXCOE) has incorporated biodiversity consideration



- 2018, at least 5 states have formulated and began implementing state level biodiversity strategies and action plan
2. By 2025, knowledge and the science based policy intervention, its values, functioning, status and trends and the consequences of forest loss are significantly improved and applied
- (a) Action:
Improve knowledge on the link between climate change and biodiversity
- Key indicator:
- By 2018, the resilience and vulnerability of all major ecosystems to climate change have been assessed
- (b) Action:
Improve the interface and communication between science and policy
- Key indicator:
- By 2018, the National Advisory Committee on Biodiversity and Ecosystem Services (NACBES) has been established

3. By 2025, more Malaysians are aware of the value of biodiversity and the steps can be taken to conserve and use it sustainably.

(a) Action:
Create awareness across all segments of society

Key indicator

- By 2025, the level of public awareness on the importance of biodiversity doubled compared to the 2016 level.

(b) Action:
Nurture participation amongst children and youth

Key indicator:

- By 2025, at least 500,000 youths and children are participating in nature based activities annually.

(c) Action:
Engage with the legislature and judiciary

Key indicator:

- By 2021, the Parliamentary Environmental Caucus has been established.

4. By 2025, the contributions of indigenous peoples and local communities and civil society to the conservation and sustainable utilisation of biodiversity have increased significantly

(a) Action:
Recognise, support and empower indigenous and local communities

Key indicator:

- By 2021, policy and legal provisions to empower indigenous peoples and local communities to be custodians of biodiversity developed.

(b) Action:
Enhance stakeholder participation in decision making processes

Key indicator:

- By 2016, the National Biodiversity Roundtable has been established and is represented in the National Steering Committee for National Policy on Biodiversity



CHAPTER 3
REDD PLUS
ACTIONS

The NRS aims endeavours to further reduce the emission from deforestation, forest degradation, and enhance sink through conservation of forest carbon stocks and sustainable management of forest by between -15 and -23 million tonnes CO₂ annually for period 2016-2030 against the forest reference level. It will support the following actions.

3.1 REDUCING EMISSIONS FROM DEFORESTATION

The deforestation rates in Malaysia between 1990-2010 are shown in Table 3. The deforestation rate dropped from 0.3% to 0.1% for the period 1990-2000 and 2001-2010 respectively. The reason for the drop of percentage is primarily due to improved forest management and the enhancement of agricultural crop production in 3rd National Agriculture Policy (NAP3). NAP3 (1998-2010) focused on new approaches to increase productivity and competitiveness, deepen linkages with other sectors, venture into new frontier areas as well as conserve and utilise natural resources on a sustainable basis. Miyamoto et al (2014) also reported that based on Regression models analysis, poverty rate affected forest area between 1970-1984 in Malaysia. The study also reported that poverty rate of 20% and below did not affect the forest area, while oil palm had a significant negative relationship with forest change.

Moving forward, Malaysia envisages that deforestation may increase due to the population increase, need for improved infrastructure and increased demand for energy.

Table 3: Deforestation Rates

Period (Year)	Deforestation rate (%)
1990 -2000	0.3
2000 -2010	0.1

Target:

1. By 2025, agriculture production are managed and harvested sustainably.

Action:

- (a) Strengthen agricultural planning and improve practices

Key Indicator:

- By 2025, 50% of all agricultural areas are sustainably managed, certified under schemes such as MSP0, RSPO, MyGAP, etc)

Potential emissions reduction

For results period 2016-2030, Malaysia will reduce emissions between 3-6 million tonnes CO₂/year from deforestation based on historical emissions.

3.2 REDUCING EMISSIONS FROM FOREST DEGRADATION

Malaysia has many vulnerable ecosystems and habitats that have yet to be given sufficient attention. These includes limestone forest that are the only habitats for many plants and invertebrates and wetlands that are particularly vital for a number of ecosystem services such as flood control, water filtration, erosion control, protection against storm surge and carbon storage. In addition, the wetlands also aid in community's adaptation to climate change. Despite their importance, the degradation of vulnerable ecosystems is continuing. Climate change presents a growing threat to ecosystems in general.

Targets:

1. By 2025, poaching, illegal harvesting and illegal trade of wildlife and plants are under control and significantly reduced.

Actions

- (a) Strengthen enforcement to eradicate poaching, illegal logging and illegal trade in wild animals and plants.

Key indicator

- By 2020, resources for enforcement are doubled compared to the 2016 level.

2. By 2025, vulnerable ecosystems and habitats particularly wetlands are restored.

Actions:

- (a) Identify, map and protect all vulnerable ecosystems

Key Indicator:

- By 2020, all vulnerable ecosystems have been mapped and by 2025, 50% of these ecosystems are legally protected.

- (b) Improve management and rehabilitation of vulnerable ecosystems.

Key Indicator:

- By 2025, 20% (as compared with 2020 level) of all identified degraded vulnerable ecosystems are under rehabilitation programme.

- (c) Support the implementation of the National Action Plan on Peatlands.

Key Indicator:

- By 2025, 10,000 ha of degraded peat swamp forests have been rehabilitated.

3.3 CONSERVATION OF FOREST CARBON STOCKS

Targets:

1. By 2025, at least 20% of the terrestrial areas and inland waters are conserved through a representative system of protected areas and other effective area based conservation measures.

(a) Actions:

Expand the extent and representativeness of terrestrial Protected Areas (PA) network.

Key Indicator:

- By 2025, 20% of the land surface and inland waters are conserved as protected areas or other effective area-based conservation measures.

(b) Develop community conserved areas as an integral part of our PA network.

Key Indicator:

- By 2030, the number/size of community conserved areas has doubled compared to the 2016 level.

(c) Improve the effectiveness of Protected Area management.

Key Indicator:

- By 2018, the national protected area framework is established.

2. By 2025, important terrestrial corridors have been identified, restored and protected.

Actions

(a) Strengthen the implementation of the CFS Master Plan in Peninsular Malaysia.

Key indicator:

- By 2025, 10 primary corridors under the CFS initiative have been fully implemented.

(b) Strengthen the implementation of terrestrial connectivity under the HoB initiative.

Key indicator:

- By 2020, the ecological linkage master plan for the HoB has been completed and by 2025, 3 priority corridors have been fully implemented.

Potential Emissions Reduction

The conservation of forest is anticipated to contribute to increased carbon removals of between 5 and 9 million tonnes/yr against the forest reference level.

3.4 SUSTAINABLE MANAGEMENT OF FORESTS

Table 4 shows the total area of PRF logged from 1990–2010. The actual historical commercial harvest was lower than approved 5 years annual allowable cut is due to the bad weather and accessibility to the forest sites are some of the reasons the approved annual allowable cut is not met. Additionally, the price of the timber may not be lucrative. Besides, one of the major timber producing state has a logging moratorium from 2008 onwards, while another state has planned to extend its harvesting cycle. More states are reducing their logging concessions and limiting logging activities to forest plantations.

Table 4: Trends in total areas logged

Year	Area (ha)				
	1996-2000	2001-2005	2006-2010	2011-2015	2016-2020
Approved 5 years coupe	1,382,000	1,364,350	1,334,700	1,274,165	1,234,440
Actual harvested area	1,185,581	1,548,412	1,323,682	630,636*	

Source: Ministry of Natural Resources and Environment

Targets:

By 2025, production forests are managed and harvested sustainably.

Actions

- (a) Strengthen sustainable forest management.

Key Indicator:

- By 2025, 100% of all timber and timber products are sustainably managed (certified under schemes such as MTCS, FSC etc).

- (b) Rationalise incentives that are harmful to forest biodiversity.

Key Indicator:

- By 2021, perverse subsidies in the agriculture and forestry sectors have been identified and rationalised.

Potential Emissions Reduction

With these actions, it is anticipated that carbon removal from forest management would be between 6 to 22 million tonnes/yr against the forest reference level.





CHAPTER 4

REDD PLUS SAFEGUARDS

4.1 PRINCIPLES AND SAFEGUARDS

Decision 12/CP.17, paragraph 3, states that developing country Parties undertaking the REDD Plus activities, shall provide a summary of information on how all of the safeguards are addressed and respected throughout the implementation of the REDD Plus activities.

REDD Plus safeguards as referred in paragraph 71(d) of appendix 1 of decision 1/CP.16

- (a) That actions complement or are consistent with the objectives of national forest programmes and relevant international conventions and agreements;
- (b) Transparent and effective national forest governance structures, taking into account national legislation and sovereignty;
- (c) Respect for the knowledge and rights of indigenous peoples and members of local communities, by taking into account relevant international obligations, national circumstances and laws, and noting that the United Nations General Assembly has adopted the United Nations Declaration on the Rights of Indigenous Peoples;
- (d) The full and effective participation of relevant stakeholders, in particular indigenous peoples and local communities, in the actions referred to in paragraphs 70 on REDD Plus activities;
- (e) That actions are consistent with the conservation of natural forests and biological diversity, ensuring that the actions referred to in paragraph 70 of this decision are not used for the conversion of natural forests, but are instead used to incentivize the protection and conservation of natural forests and their ecosystem services, and to enhance other social and environmental benefits;
- (f) Actions to address the risks of reversals; and
- (g) Actions to reduce displacement of emissions.

4.2 CONSERVATION OF NATURAL FOREST AND BIODIVERSITY PROTECTION

While REDD Plus can reduce emissions and contribute to conservation, sustainable management of forests and enhancement of forest carbon stocks, it also has the potential to deliver significant social and environmental co-benefits.

Conservation of biological diversity is an important agenda in Malaysia. The National Policy on Biological Diversity (2016-2025) has a three-pronged implementation approach:

- Strengthening the Protected Areas System;
- Land/seascape management for biodiversity; and
- Mainstreaming biodiversity into policies, plans and programmes.

It is noted that maintaining intact forest ecosystems including their genetic and species diversity is essential in meeting the overall REDD Plus objectives. This is due to the role of forest in global

carbon cycle and their significant carbon stocks, contribution to adaptation and the wide range of ecosystem services they provide that are essential for human well-being. However, the success of any REDD Plus activities will also depend on the ability of the forest's ecosystem to adapt to climate change. Hence, the conservation, restoration and sustainable management of forest are integral to both adaptation and mitigation efforts whereby:

- (a) Ecosystem-based adaptation policies and measure that conserve natural forest will also provide significant climate change mitigation benefits by maintaining existing carbon stocks and sequestration capacity and preventing future emissions from deforestation and forest degradation;
- (b) Adaptation projects that prevent forest fires or restore peatlands will be particularly important for mitigation efforts, as this ecosystem release significant GHG emissions when degraded or destroyed; and
- (c) Conservation and restoration of natural ecosystems usually result in both mitigation and adaptation benefits through carbon sequestration and increased ecosystem resilience.

The CP1/16 paragraph 72 decision requests that parties develop an information system for providing information on how safeguards are addressed. However, the recent CBD submission on this matter to UNFCCC suggested to identify possible indicators to assess the contribution of the REDD Plus mechanism in achieving the CBD objectives and mechanisms to monitor impacts on biodiversity from REDD Plus and other ecosystem approaches for climate change mitigation measures.

The CBD reporting on Aichi Targets achievement could be used as a platform to ensure biodiversity related safeguards are addressed and respected.

4.3 KNOWLEDGE AND RIGHTS OF INDIGENOUS PEOPLES AND LOCAL COMMUNITIES

The principles are:

- (i) Rights to lands, territories and resources in accordance to the law are recognised and respected;
- (ii) The benefits of the REDD Plus initiative are shared equitably among all relevant rights holders and stakeholders;
- (iii) The REDD Plus program improves long-term livelihood security and well-being of indigenous and local communities with special attention to the most vulnerable people;
- (iv) The REDD Plus program contributes to broader sustainable development, respect and protection of human rights and good governance objectives;
- (v) The REDD Plus program maintains and enhances biodiversity and ecosystem services;
- (vi) Free, Prior and Informed Consent (FPIC) is a mandatory requirement when indigenous and local communities are affected by REDD Plus actions;
- (vii) All relevant rights holders and stakeholders participate fully and effectively in the REDD Plus program;



- (viii) All rights holders and stakeholders have timely access to appropriate and accurate information to enable informed decision- making and good governance of the REDD Plus program; and
- (ix) The REDD Plus program complies with applicable local and national laws and international treaties, conventions and other instruments.

4.4 BENEFIT DISTRIBUTION SYSTEM

Proceeds from REDD Plus results-based payments will be used in the following manner:

- (a) Re-invested into the implementation of REDD Plus Strategy; and
- (b) Payments to States as incentives for past results.

The Federal government will come into an agreement with State governments on the items (a) and (b) mentioned above. Details of implementation will be developed when REDD Plus finance becomes available. The principles of benefit distribution system are as follows;

Equity: fairness in terms of the distribution of costs and benefits amongst stakeholders.

Transparency: availability of relevant information and the capacity for all stakeholders to comprehend how and why benefits are transferred.

Performance relatedness: action taken to reduce emissions actually occurs and results achieved.



CHAPTER 5

**SUSTAINABLE
FINANCING**

5.1 DEVELOP A SUSTAINABLE FINANCING MECHANISM FOR REDD PLUS IMPLEMENTATION

Achieving the targets of this Strategy and ensuring Malaysia meets its international commitments will rely on the continuous and effective use of financial resources. In the effort to reduce emissions from forest activities, important programmes and projects must be accorded priority, in line with the national development agenda.

Innovative financing options like accessing REDD Plus finance at international level and private sector would be required to achieve the targets outlined in this Strategy. These results from this Strategy will be used to access results based payments. This finance will be re-invested into the implementation of the REDD Plus Strategy and a portion as payments to stakeholders to be invested in other low carbon development activities.

Target:

By 2020, there is a significant increase in funds and resources mobilised for the conservation of biodiversity from both government and non-government sources.

Actions:

- (a) Develop sustained collaborations with the private sector.

Key indicator

- By 2025, the number and/or size of collaborative projects with the private sector have doubled compared to the 2016 level.

- (b) Explore and implement new and innovative financing mechanisms.

Key Indicator:

- By 2018, two innovative financing mechanisms are in operation.

SUMMARY OF TARGETS, ACTIONS AND KEY INDICATORS

No.	Targets	Actions	Key Indicators
1	By 2025, capacity for implementation of national and subnational climate change, biodiversity, forest related strategies and other related MEA has significantly increased.	<p>(a) Strengthen the coordination and decision making at national level.</p> <p>(b) Establish a framework and mechanisms for implementing the national Policy at the state level.</p>	<ul style="list-style-type: none"> • By 2016, Meeting of Ministers of the Environment (MEXCOE) has incorporated biodiversity consideration. • By 2018, at least 5 states have formulated and begun implementing state level REDD+ Strategy.
2	By 2025, knowledge and the science based policy intervention, its values, functioning, status and trends and the consequences of forest loss are significantly improved and applied.	<p>(a) Improve knowledge on the link between climate change and biodiversity.</p> <p>(b) Improve the interface and communication between science and policy.</p>	<ul style="list-style-type: none"> • By 2018, the resilience and vulnerability of all major ecosystems to climate change have been assessed. • By 2018, the National Advisory Committee on Biodiversity and Ecosystem Services (NACBES) has been established.
3	By 2025, more Malaysians are aware of the value of biodiversity and the steps they can take to conserve and use it sustainably.	<p>(a) Create awareness across all segments of society.</p> <p>(b) Nurture participation amongst children and youth.</p> <p>(c) Engage with the legislature and judiciary.</p>	<ul style="list-style-type: none"> • By 2025, the level of public awareness on the importance of biodiversity has been doubled compared to the 2016 level. • By 2025, at least 500,000 youths and children are participating in nature based activities annually. • By 2021, the Parliamentary Environmental Caucus has been established.
4	By 2025, the contributions of indigenous peoples, local communities and civil society to the conservation and sustainable utilisation of biodiversity have increased significantly.	<p>(a) Recognise, support and empower indigenous and local communities.</p> <p>(b) Enhance stakeholder participation in decision making processes.</p>	<ul style="list-style-type: none"> • By 2021, policy and legal provisions to empower indigenous peoples and local communities to be custodians of biodiversity developed. • By 2016, the National Biodiversity Roundtable has been established and is represented in the National Steering Committee for National Policy on Biodiversity.
5	By 2025, agriculture production are managed and harvested sustainably.	<p>(a) Strengthen agricultural planning and improve practices.</p>	<ul style="list-style-type: none"> • By 2025, 50% of all agricultural areas are sustainably managed, certified under schemes such as MSPO, RSPO, MyGAP, etc.

No.	Targets	Actions	Key Indicators
6	By 2025, poaching, illegal harvesting and illegal trade of wildlife and plants are under control and significantly reduced.	(a) Strengthen enforcement to eradicate poaching, illegal logging and illegal trade in wild animals and plants.	<ul style="list-style-type: none"> By 2020, resources for enforcement are doubled compared to the 2016 level.
7	By 2025, vulnerable ecosystems and habitats particularly wetlands are restored	<p>(a) Identify, map and protect all vulnerable ecosystems.</p> <p>(b) Improve management and rehabilitation of vulnerable ecosystems.</p> <p>(c) Support the implementation of the National Action Plan on Peatlands.</p>	<ul style="list-style-type: none"> By 2020, all vulnerable ecosystems have been mapped and by 2025, 50% of these ecosystems are legally protected. By 2025, 20% (as compared with 2020 level) of all identified degraded vulnerable ecosystems are under rehabilitation programme. By 2025, 10,000 ha of degraded peat swamp forests have been rehabilitated.
8	By 2025, at least 20% of the terrestrial areas and inland waters are conserved through a representative system of protected areas and other effective area based conservation measures.	<p>(a) Expand the extent and representativeness of terrestrial Protected Areas network.</p> <p>(b) Develop community conserved areas as an integral part of our PA network.</p> <p>(c) Improve the effectiveness of Protected Area management.</p>	<ul style="list-style-type: none"> By 2025, 20% of the land surface and inland waters are conserved as protected areas or other effective area-based conservation measures. By 2030, the number/size of community conserved areas has doubled compared to the 2016 level. By 2018, the national protected area framework is established.
9	By 2025, important terrestrial corridors have been identified, restored and protected.	<p>(a) Strengthen the implementation of the CFS Master Plan in Peninsular Malaysia.</p> <p>(b) Strengthen the implementation of terrestrial connectivity under the HoB initiative.</p>	<ul style="list-style-type: none"> By 2025, 10 primary corridors under the CFS initiative have been fully implemented. By 2020, the ecological linkage master plan for the HoB has been completed and by 2025, 3 priority corridors have been fully implemented.



No.	Targets	Actions	Key Indicators
10	By 2025, production forests are managed and harvested sustainably.	<p>(a) Strengthen sustainable forest management.</p> <p>(b) Rationalise incentives that are harmful to forest biodiversity.</p>	<ul style="list-style-type: none"> • By 2025, 100% of all timber and timber products are sustainably managed; (certified under schemes such as MTCS, FSC etc). • By 2021, perverse subsidies in the agriculture and forestry sectors have been identified and rationalised.
11	By 2020, there is a significant increase in funds and resources mobilised for the conservation of biodiversity from both government and non-government sources.	<p>(a) Develop sustained collaborations with the private sector.</p> <p>(b) Explore and implement new and innovative financing mechanisms.</p>	<ul style="list-style-type: none"> • By 2025, the number and/or size of collaborative projects with the private sector have doubled compared to the 2016 level. • By 2018, two innovative financing mechanisms are in operation.



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GLOSSARY

Adaptation	An adjustment in natural or human systems in response to expected climate change. Adaptation can take the form of anticipatory actions, or reactions taken by private or public entities.
Afforestation	The direct human-induced conversion of land that has not been forested for a period of at least 50 years to forested land through planting, seeding and/or the human-induced promotion of natural seed sources (Kyoto Protocol).
Carbon dioxide (CO₂)	The main greenhouse gas that plays a critical role in regulating the earth's climate. Roughly 3.7 units of CO ₂ equal unit of carbon (C), or alternatively, 1 unit of CO ₂ equals 0.27 units of C. Other greenhouse gases (c.g N ₂ O, CH ₄) are usually expressed as equivalent to CO ₂ .
Carbon pools	A reservoir of carbon. A system that has the capacity to accumulate or release carbon in units mass. Examples of carbon pools are forest biomass, wood products, soils, and atmosphere.
Carbon sequestration	The rate of increment or addition to a carbon stock. Sequestration and stocks are often confused. Old-growth forest with large C-stocks may sequester carbon in a low rate.
Conference of Parties	The CoP is the highest decision-making body in the United Nations (CoP) Framework Convention on Climate Change (UNFCCC). The meeting of Parties of the Kyoto Protocol (MoP) may be held in conjunction with the CoP.
Community Conserved Areas (CCAs)	Natural and/or modified ecosystems containing significant biodiversity values, ecological services and cultural values, voluntarily conserved by indigenous peoples and local communities, both sedentary and mobile, through customary laws or other effective means.
Deforestation	Human induced <u>permanent</u> conversion of forest land to non- forest. All of the forest is cut/removed and the land used for another purpose. Forest refers to Permanent Forest Reserve, Protected Area or State land/Multipurpose forest. Temporary change in land use, like one rotation tree crop (up to 25 years) within forest reserves are not considered as deforestation.
Emissions Displacement	Actions that result in emission reductions in a given area result in the displacement of drivers of deforestation to other areas, jeopardizing the net efficiency of REDD Plus actions.

Forest	A minimum area of land of 0.05 hectares with tree crown cover (or equivalent stocking level) of more than 30 per cent with trees with the potential to reach a minimum height of 5 meters at maturity in situ (Kyoto Definition). For consistency and governance reasons, Malaysia will follow the National land code definition, where areas gazetted by State Governments as forest and subjected to the National Forestry Act will be considered as forest.
Forest carbon stock	The amount of carbon stored in a forest, that includes the carbon found in the soil, the litter, the vegetation and deadwood.
Forest degradation	A direct long term, <u>human-induced decline</u> in forest canopy cover to below 30%, and/or at least 50% of existing forest carbon stocks and not qualifying as deforestation.
Forest Plantation	Refers to the development of large scale commercial forest plantation to reduce pressure on nature forest as a source for raw materials and to ensure its continuous availability for the domestic timber industry.
Forest Reference Level	Reference period and scale against which REDD Plus results are measured, historical or projected perspective. It allows for the assessment of the actual impacts of policies and measures for reducing emissions and for conservation and enhancement of stocks.
Greenhouse Gases	Are radiatively active trace gases in the atmosphere that trap infrared radiation. The earth absorbs the sun's short wave, ultraviolet radiation and emits long-wave, infrared radiation to outer space. The absorption of radiation causes warming. How much infrared energy escapes to outer space is strongly affected by the composition of the earth's atmosphere. Clouds (H ₂ O) and accumulating gases in the atmosphere, such as carbon dioxide (CO ₂), methane (CH ₄), nitrous oxides (N ₂ O), and chlorofluorocarbons (CFCs) absorb some of this outgoing infrared radiation.
International Consultation and Analysis (ICA)	International consultation and analysis process for assessing mitigation actions from developing countries under the UNFCCC.
Intergovernmental Panel on Climate Change (IPCC)	Established in 1988 as a special body by the UN Environment Panel Programme and the World Meteorological Organization to provide assessments to policymakers of the results of ongoing climate research. The IPCC is responsible for providing the scientific and technical foundation for the United Nations Framework Convention on Climate Change (UNFCCC), primarily through the publication of periodic assessment reports.
M(C&I)	Malaysian criteria and indicators for sustainable forest management

Mitigation	The human intervention to reduce the source and to enhance the sinks of GHG to achieve stabilisation of GHG concentrations in the atmosphere and subsequently a cessation of further warming.
Permanent Reserved Forest (PRF)/ Permanent Forest Estate (PFE)/ Permanent Forest Reserved (PFR)	Term for sum of forest reserves, areas maintained and managed sustainable for their maximum economic, social and ecological benefits.
REDD Plus	Reducing emissions from deforestation and forest degradation, carbon sequestration/removal through, conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries.
Sinks	Any process, activity or mechanism that results in the net removal of greenhouse gases, aerosols, or precursors of greenhouse gases from the atmosphere.
Source	Opposite of sink. A carbon pool (reservoir) can be a source of carbon to the atmosphere if less carbon is flowing into it than is flowing out of it. Any process or activity that results in the net release of greenhouse gases, aerosols, or precursors of greenhouse gases into the atmosphere.
State land forest	Forest land reserved for future development needs and under the purview State Authority.
Totally Protected Area/ Protected Area (PA)	A legally established land or water area that is regulated and managed to achieve specific conservation objectives.
Transparency	Information on the activity data and emission factors are transparent and consistent and accessible by relevant stakeholders. Information includes on the assumptions, data collected, and methods used.
United Nations Framework Convention Climate Change	An international agreement reached in the United Nations Conference Environment and Development (UNCED) held in Rio de Janeiro, Brazil in 1992.
REDD Plus safeguards	Considers of stakeholder participation, benefit sharing and non-carbon benefits, and calls for the respect for the knowledge and rights of Indigenous Peoples and members of local communities, by taking into account relevant international obligations, national circumstances and laws.



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