



INDONESIA–NORWAY COOPERATION IN REDUCING CARBON EMISSIONS IN INDONESIA UNDER THE REDD+ SCHEME, 2016–2025

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Submission: January 29, 2026 | Revised: April 27, 2026 | Accepted: April 30, 2026

ABSTRAK

Penelitian ini membahas kerja sama antara Indonesia dan Norwegia dalam upaya pengurangan emisi karbon melalui pelaksanaan skema Reducing Emissions from Deforestation and Forest Degradation (REDD+) pada periode 2016–2025. Penelitian ini bertujuan untuk menganalisis bagaimana kerja sama REDD+ Indonesia–Norwegia dijalankan serta kontribusinya terhadap penurunan emisi karbon di sektor kehutanan. Metode yang digunakan adalah pendekatan kualitatif dengan desain deskriptif melalui analisis dokumen, laporan resmi, dan literatur terkait implementasi REDD+. Kerangka analisis penelitian ini menggunakan Green Theory dan teori kerja sama internasional untuk memahami diplomasi lingkungan dan pembagian tanggung jawab antara negara maju dan negara berkembang. Hasil penelitian menunjukkan bahwa mekanisme result-based contribution (RBC) berperan penting dalam memperkuat tata kelola kehutanan, meningkatkan transparansi melalui sistem Measurement, Reporting, and Verification (MRV), serta mendorong konsistensi kebijakan pengendalian deforestasi. Penelitian ini menyimpulkan bahwa kerja sama REDD+ Indonesia–Norwegia merupakan bentuk diplomasi lingkungan yang efektif dan relevan dalam mendukung pembangunan berkelanjutan.

Kata kunci: REDD+, Perubahan Iklim, Emisi Karbon, Diplomasi Lingkungan, Deforestasi

ABSTRACT

This study examines the cooperation between Indonesia and Norway in reducing carbon emissions through the implementation of the Reducing Emissions from Deforestation and Forest Degradation (REDD+) scheme during the period 2016–2025. This research aims to analyze how the Indonesia–Norway REDD+ partnership operates and contributes to emission reduction efforts in the forestry sector. The study employs a qualitative descriptive method, using document analysis of official reports, policy documents, and secondary literature related to REDD+ implementation. The analysis is framed by Green Theory and international cooperation theory to understand environmental diplomacy and shared responsibility between developed and developing countries. The findings indicate that the result-based contribution (RBC) mechanism plays a crucial role in strengthening forest governance, enhancing transparency through the Measurement, Reporting, and Verification (MRV) system, and encouraging policy consistency in reducing deforestation. The study concludes that the Indonesia–Norway REDD+ cooperation represents an effective model of environmental diplomacy that aligns climate mitigation objectives with sustainable development goals.

Keywords: REDD+, Climate Change, Carbon Emissions, Environmental Diplomacy, Deforestation

BACKGROUND

Climate change has become the most pressing global challenge of the modern era, generating multidimensional impacts across environmental, economic, and social domains. One of the main drivers of rising greenhouse gas emissions is deforestation and forest degradation, particularly in developing countries such as Indonesia, which continue to rely heavily on natural resource exploitation (United Nations Indonesia, 2025). Land-use conversion for plantations, mining, and infrastructure accelerates forest destruction significantly. These conditions undermine the ecological function of forests as natural carbon sinks and heighten vulnerability to climate-related disasters (UNFCCC, 2024).

Communities living in and around forested areas often face economic pressure as their livelihood sources decline alongside forest destruction. Research has found, for instance, that peatland fires in Central Kalimantan have deprived residents of access to forest products such as rattan, honey, and medicinal plants, which had long been important sources of income. These conditions point to the importance of implementing mitigation policies that involve local communities so that welfare and forest sustainability can be pursued in tandem (Suwito et al., 2020).

Efforts to control deforestation through global mechanisms such as Reducing Emissions from Deforestation and Forest Degradation (REDD+), therefore, constitute a strategic solution for curbing carbon emissions in tropical countries such as Indonesia (Dirgantara, 2022). REDD+ is a climate change mitigation mechanism established under the United Nations Framework Convention on Climate Change (UNFCCC), which aims to provide incentives to developing countries to reduce carbon emissions caused by deforestation and forest degradation. The scheme covers five core elements: reducing emissions from deforestation and forest degradation, conservation, sustainable forest management, and the enhancement of forest carbon stocks. REDD+ emerged because the forestry sector contributes approximately 11 per cent of global

greenhouse gas emissions, exceeding the share of the transport sector. Accordingly, REDD+ encourages developing countries to take an active role in climate mitigation while preserving the ecological functions of forests (UN-REDD Programme, 2016).

Indonesia ranks among the countries with the highest rates of forest loss in the world, contributing significantly to rising national carbon emissions. According to recent data from Forest Watch Indonesia (FWI), between 2017 and 2021 alone, the area of natural forest lost reached approximately 9.6 million hectares. This figure reflects an average loss of about 2.4 million hectares per year, largely driven by the expansion of oil palm plantations, both legal and illegal logging activities, and the conversion of forest land into agricultural areas and extractive industries, including across Indonesia's small islands (Forest Watch Indonesia, 2024).

Such conditions position the forestry sector as a leading source of national emissions that requires serious attention. The Indonesian government has therefore integrated the policy of reducing emissions from deforestation and forest degradation as a central element of its low-carbon development strategy. The REDD+ program has likewise become a key instrument for achieving the Nationally Determined Contribution (NDC) target under the Paris Agreement. Beyond mitigation, the policy promotes the integration of conservation, community welfare, and green economic growth. The commitment to REDD+ is therefore not solely environmental in character but also reflects a new direction in national sustainable development (Wahyuni & Suranto, 2021).

The REDD+ program in Indonesia is implemented through an international cooperation scheme with Norway, a leading state supporter of global climate action. Through the signing of the Letter of Intent (LoI) in 2010, the two countries agreed to a partnership for reducing carbon emissions based on a result-based contribution (RBC) scheme. This agreement marked a new chapter in Indonesia's environmental diplomacy, characterized by greater transparency and accountability. Norway's

commitment of US\$ 1 billion reinforced Indonesia's position as a pioneer in REDD+ implementation in Southeast Asia (Regjeringen, n.d.). The collaboration is oriented not only towards funding but also towards strengthening institutional capacity and sustainable forest governance. In diplomatic terms, the cooperation reflects a synergy between national development interests and global responsibility for climate change. It also illustrates how Indonesia leverages international cooperation to strengthen its bargaining position within the global environmental agenda (Ningsih, 2019).

The full implementation period of REDD+ cooperation was marked by institutional restructuring, including the integration of REDD+ management into the Ministry of Environment and Forestry (MoEF) and the establishment of the Peatland and Mangrove Restoration Agency (BRGM). This restructuring was aimed at strengthening cross-sectoral coordination and accelerating program implementation down to the regional level. In the early stages of implementation, Indonesia carried out the REDD+ program and subsequently received result-based payments from Norway as recognition of verified performance and governance achievements (KLHK, n.d.).

These implementation achievements provide concrete evidence of the effectiveness of the REDD+ mechanism in supporting climate mitigation. However, sustaining these achievements requires policy synergy across ministries, integration of monitoring data, and improvement of human resource capacity. Beyond this, the cooperation has also encouraged innovation in community-based forest management and peatland protection. REDD+ implementation during this period provides the foundation for Indonesia to broaden its commitment towards FOLU Net Sink 2030 (Madani Berkelanjutan, n.d.)

This study focuses on the measures undertaken by Indonesia and Norway in implementing the REDD+ scheme. This cooperation represents a concrete step taken by both countries to address the global challenge of climate change through emission

reductions in the forestry sector. Indonesia is committed to implementing national policies oriented towards controlling deforestation and strengthening sustainable forest governance. Norway, in turn, acts as an international partner providing financial support, knowledge transfer, and institutional capacity building. Through the LoI of 2010, the two countries reaffirmed their commitment to the principle of RBC, which emphasizes transparency and accountability. The collaboration reflects environmental diplomacy oriented towards tangible outcomes in climate change mitigation. This study accordingly highlights how such cooperation operates in the context of implementation in Indonesia. On this basis, the research question can be formulated as follows: “How does the cooperation between Indonesia and Norway in reducing carbon emissions operate within the implementation of the REDD+ scheme?”

LITERATURE REVIEW

A substantial body of research has examined international cooperation under the REDD+ scheme, particularly with regard to policy effectiveness, program performance, and the roles of developed and developing countries in climate change mitigation. These studies form an important basis for understanding Indonesia–Norway cooperation in efforts to reduce emissions in the forestry sector.

Bongso (2024) assesses the effectiveness of Indonesia–Norway cooperation through internationally verified emission reduction outcomes. Apriliyanti and Rizki (2023) examine the cooperation between the two countries in the renewable energy sector from a sustainable development perspective. Rizky and Cucucaniago (2023), in turn, highlight the motives behind Norwegian foreign aid and its effectiveness in peatland restoration through a foreign aid approach. Wijaya and Elvianti (2022) analyze the factors shaping the formation of the REDD+ partnership based on national interest and bilateral dynamics. Moeliono et al. (2020) examine REDD+

implementation from the perspective of domestic governance through a multi-level governance framework.

Nonetheless, most of these studies remain focused on technical aspects, program effectiveness, foreign aid, and domestic policy. Studies that integrate the dimensions of environmental diplomacy, policy governance, and climate justice within a single comprehensive analysis remain limited, particularly for the full implementation period of the cooperation.

The research gap addressed by this study, therefore, lies in the limited body of work that examines Indonesia–Norway cooperation under the REDD+ scheme in a comprehensive manner by combining the perspectives of environmental diplomacy, governance, and climate justice. Earlier studies have also tended to focus on the initial period of cooperation, so few have analyzed recent developments in the 2016–2025 period. This study accordingly seeks to address this gap by drawing on Green Theory and international cooperation theory to provide a more comprehensive and contextual analysis.

Green Theory

Matthew Paterson, in Devetak and True (2022), explains how the global environmental crisis has become a central feature of modern world politics. Paterson notes that, over the past four decades, concerns about the sustainability of human life have steadily intensified in response to a range of ecological threats, from pesticide pollution and biodiversity loss to climate change. According to Paterson, climate change has now become the gravest threat to the continuity of civilization because of its complex impacts on food systems, extreme weather, and rising sea levels. This situation demands fundamental change in social and economic systems that remain heavily dependent on fossil energy. Green Theory accordingly stands as a critique of

the failure of global governance to respond to the ecological crisis and offers a new perspective that places sustainability at the center of international politics.

Green Theory rejects the anthropocentric view that places human beings at the center of the universe. Paterson stresses the need for an eco-centric approach, that is, a perspective that recognizes the interconnectedness of all living beings within a single, interdependent ecological system. He argues that the ecological crisis has not emerged naturally; rather, it is the product of an exploitative global economic system geared towards limitless growth. Green Theory, therefore, calls for structural change in the world's political-economic system so that it aligns more closely with ecological balance. Within this framework, Green Theory serves as a conceptual tool for re-examining how global policy ought to be designed in light of nature's carrying capacity and the principle of ecological justice.

Within the context of this study, Green Theory carries strong relevance for explaining the relationship between environmental diplomacy and global policy in Indonesia–Norway cooperation under the REDD+ scheme. Through this lens, bilateral cooperation is understood not merely as a development project but as a manifestation of moral commitment between states to preserving the sustainability of the earth. Paterson stresses that environmental issues call for collective global responsibility, particularly from developed countries, which contribute substantially to carbon emissions. The Indonesia–Norway partnership reflects a concrete application of the principle of common but differentiated responsibility, in which developed countries support developing countries in reducing emissions through a results-based approach.

International Cooperation Theory

In *Cooperation: A Political, Economic, and Social Theory*, Bernard E. Harcourt (2023) argues that international cooperation is a fundamental element in the construction of

global social, economic, and political structures. Harcourt maintains that cooperation does not arise solely from individual will; it emerges from social interaction governed by norms, trust, and the collective human need to create stability and justice. He emphasizes that cooperation grows out of an awareness of mutual interdependence in addressing shared challenges, while also serving as a means of preserving balance within power systems that are often uneven. Cooperation theory accordingly helps explain how relationships among actors, including among states, are built on the basis of common interests and collective values.

Harcourt's theory of cooperation views collaboration as a layered social process containing both moral and rational dimensions. In the context of international relations, the theory holds that collaborative action between states is driven not only by short-term economic or political interests but also by efforts to build trust and legitimacy among actors. Harcourt stresses the importance of balancing pragmatic interest with ethical awareness so that cooperation can be sustained over time. This view suggests that effective cooperation arises from the convergence of strategic goals and moral commitment, producing outcomes that are fair and accountable for all parties involved.

International cooperation theory is highly relevant for analyzing the bilateral relations between Indonesia and Norway in the implementation of the REDD+ scheme. Within this study's framework, cooperation theory is used to understand the interactions of two interdependent states pursuing the shared goal of climate change mitigation. From this perspective, the relationship can be seen as a partnership built on mutual trust and shared responsibility, in which Indonesia plays the role of implementing emission reduction policies while Norway provides financial support through the RBC mechanism. The theory thus helps explain how the two countries seek to balance their respective national interests within global environmental cooperation.

METHODOLOGY

This study employs a qualitative approach with a descriptive design. According to John Ward Creswell and John David Creswell (2018), the qualitative approach aims to understand the meaning that individuals or groups assign to a social problem. The approach emphasizes in-depth exploration of context rather than the generalization of findings.

A descriptive design within qualitative research is used to systematically describe and explain phenomena based on the data collected, without manipulation or generalization. According to Creswell and Creswell (2018), this approach focuses on understanding the meaning of the data while remaining close to its original context. The researcher organizes findings into the principal themes that emerge from the analysis. The descriptive approach is also often referred to as thematic analysis because it aims to set out the patterns, meanings, and relationships within the data in a clear and factual manner.

The qualitative data in this study are drawn from official documents, policy reports, archival materials, and scholarly publications. The primary sources include the LoI between Indonesia and Norway, reports from the MoEF, and reports from international institutions such as the UNFCCC, the UN-REDD Program, and NICFI. The study also draws on academic journals and online media articles relevant to REDD+ cooperation.

Within the context of this study, the qualitative method is used to explore in depth the dynamics of environmental diplomacy in REDD+ cooperation between Indonesia and Norway. This approach allows the researcher to interpret social and political phenomena related to emission reduction policy contextually and holistically.

DISCUSSION

Carbon Emissions Issues in Indonesia

Efforts to reduce carbon emissions in Indonesia cannot be separated from the role of the forestry sector, particularly through the implementation of the REDD+ scheme. Deforestation and forest degradation are leading contributors to national emissions and continue to attract attention within environmental policy. These conditions place the forestry sector at the center of climate change mitigation strategies. Sustainable forest management is regarded as an important step for significantly reducing the rate of emissions. In this context, Indonesia has entered into cooperation with Norway as a strategic partner in emission reduction (Sari et al., 2024). The cooperation is operationalized through an RBC that emphasizes measurable and verified outcomes.

Indonesia–Norway cooperation under the REDD+ scheme covers several important aspects of environmental policy strengthening. The support provided includes performance-based funding to encourage emission reductions. Efforts to strengthen forest governance have also been undertaken to enhance policy effectiveness. Institutional capacity building is likewise an important part of supporting program implementation (UNDP, 2025). The cooperation illustrates the link between Indonesia’s national policy and international commitments on climate change. An analysis of the dynamics, achievements, and challenges of REDD+ is therefore important for assessing the effectiveness of this bilateral cooperation.

The IPCC indicates that the majority of global emissions originate from human activities, including industry, transport, and land-use change. As a developing country undergoing rapid development, Indonesia has become one of the significant contributors (Green Partnership, 2023). Land-use change through deforestation and forest degradation is recorded as the main driver of rising emissions in Indonesia. The energy sector, which remains largely fossil-based, also enlarges the country’s total

greenhouse gas emissions. These findings indicate that Indonesia urgently needs to accelerate the development of low-carbon energy. The IPCC's recommendations accordingly serve as a scientific foundation for the formulation of national climate policy.

According to the World Bank (2023), Indonesia's total emissions reached 674.5 million tons of CO₂e, a figure considerably higher than in earlier decades. This increase is closely linked to industrialization, population mobility, and continuing economic growth. The energy sector accounts for the largest share, as dependence on coal remains dominant. Manufacturing and land-use change also contribute additional pressure on emissions. These data indicate that Indonesia faces a substantial challenge in balancing economic development with environmental protection. The transformation of energy and land-use governance has therefore become urgent.

Indonesia currently contributes approximately 2.3 per cent of total global emissions, a substantial share for a developing country. In certain respects, this contribution even exceeds that of some developed countries such as Japan, particularly with regard to fossil energy consumption (Indonesia Environment & Energy Center, 2024). This points to the considerable role of the energy sector in shaping total national emissions. Industrial growth, an expanding transport system, and coal-fired power plants are the main drivers of high emissions. Given this scale of contribution, Indonesia needs to strengthen its mitigation policies to limit long-term climate impacts. Accelerating the energy transition has accordingly become a need that can no longer be deferred.

The implementation of the REDD+ policy also reflects Indonesia's effort to align international commitments with national development priorities. Amid mounting climate change challenges and pressure on natural resource use, the government has sought to integrate the principle of low-carbon development into other sectoral policies. This approach allows for a more systematic alignment of economic interests

with emission mitigation objectives (Pradana et al., 2022). Indonesia's experience demonstrates that this strategy is capable of strengthening the coherence between development programs and the global climate agenda. Such integration becomes increasingly important as environmental issues begin to shape the direction of the country's socio-economic policy.

Indonesia–Norway Cooperation in REDD+ Implementation

Indonesia–Norway cooperation under the REDD+ scheme stands as an important milestone in global efforts to curb deforestation and forest degradation. The signing of the LoI in 2010 reflected the commitment of both countries to applying result-based emission reductions through the RBC mechanism as a climate policy instrument (WRI Indonesia, 2019). The initiative has developed as a form of environmental diplomacy that places sustainability as its guiding principle. The approach also brings economic interests and ecological protection into balance. From the perspective of Green Theory, as cited in Devetak and True (2022), REDD+ underscores that development must proceed alongside efforts to preserve nature and maintain social balance. The cooperation also illustrates that environmental problems cannot be resolved by a single state, but require collective work among states.

Viewed through the perspective of Harcourt (2023) on international cooperation, this study sees REDD+ as a form of relationship between a developed and a developing country built on shared objectives and mutual trust. Norway has committed to providing financial support to Indonesia through the RBC scheme on the basis of verified emission reduction outcomes. Trust has become a key factor in sustaining this cooperation from planning through to implementation. Indonesia's role lies in carrying out policy reform and forest governance, while Norway acts as a supporting partner that encourages transparency and accountability. This pattern demonstrates that mutual trust can reinforce the stability of bilateral cooperation.

Within the context of global climate policy, the REDD+ collaboration between Indonesia and Norway provides an example of how environmental issues can strengthen relations between states. Through this cooperation, both parties not only seek to reduce emissions but also enhance their international reputation as actors committed to the global mitigation agenda. The program illustrates how an environmental mechanism can function as a diplomatic instrument that builds strategic relationships. Beyond its ecological impact, the partnership also yields political benefits for both countries. Earlier studies confirm that bilateral relations can be reinforced through results-oriented cooperation in the environmental sector (Angelsen et al., 2018).

Norway's support to Indonesia under the REDD+ scheme illustrates how environmental cooperation can be directly applied in the practice of international relations. The scheme places sustainability as a core value by linking financial incentives to scientifically verifiable emission reduction outcomes. Through the result-based payment mechanism, the policy emphasizes not only effectiveness but also environmental justice, as the disbursement of funds depends entirely on tangible environmental performance. For Indonesia, this approach encourages stronger accountability and transparency in forest and environmental governance. For Norway, such engagement reflects a commitment to global responsibility in addressing climate change as a transboundary issue (Regjeringen Norway, 2023). The relationship demonstrates an environmental sustainability orientation focused on concrete results.

This study further regards Norway's financial support as part of broader efforts to advance environmental justice at the international level. Developed countries generally possess greater economic and technological capacity and are accordingly expected to contribute more substantially to global environmental protection. In this context, Norway acts not only as a provider of funds but also as an actor encouraging policy change in Indonesia towards more sustainable directions. One form of such

support is the strengthening of the Measurement, Reporting, and Verification (MRV) system to ensure the accuracy of emission reduction data (KLHK, 2024). This effort reflects a more equitable distribution of responsibility within international environmental governance and illustrates a practice of cooperation grounded in ecological solidarity.

Norway's Financial and Technical Support through the Result-Based Payment Mechanism

Table 1.
Table of Result-Based Contribution Funding from Norway

Year	Phase of Result-Based Contribution	Funding
2016-2017	RBC-1	US\$ 56 Million
2017-2019	RBC-2 and RBC-3	US\$ 100 Million
2019-2020	RBC-4	US\$ 60 Million

Source: KLHK (2024)

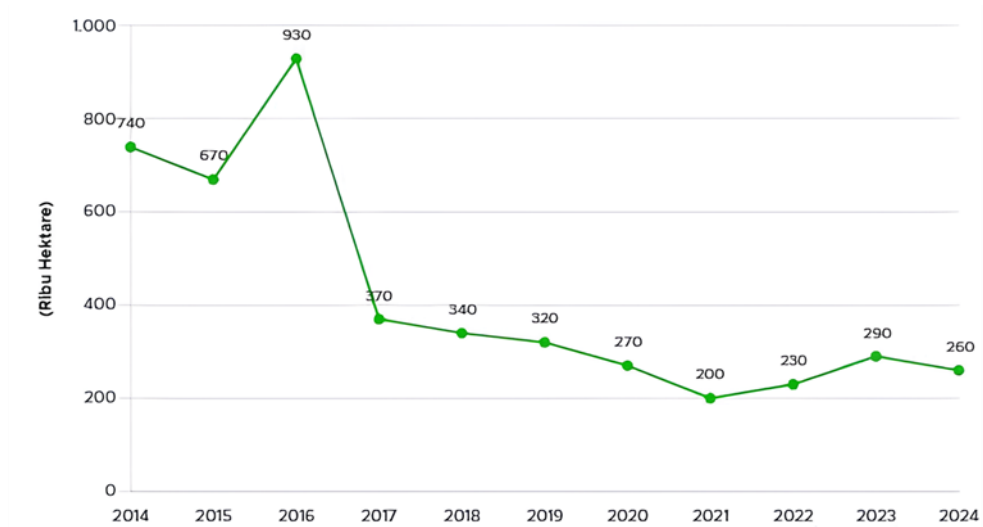
The implementation of the RBC scheme between Indonesia and Norway marks a new chapter in international climate cooperation that emphasizes concrete outcomes and environmental sustainability. The first phase, RBC-1, ran from 2016 to 2017 with a contribution of US\$ 56 million. The funding was managed through the Environment Fund Indonesia to strengthen forest governance, the MRV system, and the provision of incentives to high-performing regions. The mechanism reflects the principle of environmental justice, as financial support depends entirely on independently verified results, while also laying the early foundation of mutual trust between the two countries. The success of RBC-1 prompted the continuation of cooperation through RBC-2 and RBC-3, which signaled the strengthening of bilateral collaboration. Together, these two phases amounted to around US\$ 100 million and were provided in recognition of emission reduction achievements during 2017–2019 (KLHK, 2024).

Funds are disbursed only after independent audit and verification, which strengthens the link between trust and accountability. This pattern reinforces the application of the principle of shared responsibility in international climate cooperation. The subsequent phase, RBC-4, was implemented over 2019–2020 with a contribution of around US\$ 60 million. RBC implementation across 2016–2020 contributed to a 43.2-million-ton reduction in CO₂ emissions and strengthened institutional capacity for sustainable forest management (MoEF, 2024). The funding has been directed towards reducing emissions in the forestry sector and strengthening technical capacity at both national and regional levels. The funds have supported peatland restoration, mangrove rehabilitation, and the development of the National Registry System as the national carbon reporting system. This approach underscores that environmental sustainability is measured not only by short-term achievements but also by the strengthening of institutional capacity for sustainable forest management.

Declining Deforestation and Forest Degradation in Reducing Indonesia's Emissions

The declining rate of deforestation is an important indicator of Indonesia's success in reducing carbon emissions in the forestry sector through cooperation with Norway. The increasingly controlled trend in deforestation is closely tied to the strengthening of the moratorium on forest clearance, supported by a result-based bilateral cooperation mechanism. Norway's support has reinforced the consistency of national policy in promoting more sustainable forest governance. This step has strengthened international confidence in Indonesia's commitment to meeting global climate targets (Angelsen et al., 2025). With forest cover preserved, the ecological function of forests as carbon sinks can be sustained. These achievements reflect the shared responsibility of Indonesia and Norway in addressing climate change.

Figure 1.
Primary Forest Loss in Indonesia



Source: Good Stats (2025)

Since 2016, primary forest loss in Indonesia has shown a significant downward trend, falling from approximately 930,000 hectares in 2016 to around 370,000 hectares in 2017. This improvement coincided with the strengthening of the moratorium on new forest clearance permits and the implementation of Indonesia's commitments under REDD+ cooperation with Norway. Result-based funding support through the RBC scheme has encouraged stronger oversight and law enforcement in the forestry sector. The mechanism positions emission reduction as the primary basis for incentives, thereby reinforcing the accountability of national policy. These achievements reflect the building of mutual trust between Indonesia and Norway in efforts to sustain environmental protection. Through this approach, shared responsibility for curbing deforestation has not remained merely a normative commitment but is also realized in measurable outcomes.

The continued decline in primary forest loss between 2017 and 2021 reflects the consistency of medium-term conservation policy. In 2021, primary forest loss was recorded at around 200,000 hectares, one of the lowest figures in a decade. This outcome has been supported by inter-agency coordination and result-based funding

through the REDD+ mechanism, with Norway as the principal partner. The scheme provides not only financial support but also strengthens technical capacity within the national carbon reporting system. Transparency and accountability serve as essential foundations for maintaining the trust of international partners. This collaborative approach shows that long-term cooperation can produce sustained environmental impacts.

Although the deforestation trend has declined, challenges to forest sustainability still emerge in several regions. Economic pressure, agricultural expansion, and extractive industry activities remain risk factors, particularly in Kalimantan and Papua (Gunawan et al., 2024). These conditions underscore the importance of strengthening community-based monitoring to safeguard the gains already achieved. The involvement of local communities in forest monitoring has been shown to enhance transparency and build trust between the government and citizens. This approach reflects the application of the principle of environmental justice, as communities act directly as guardians of the ecosystem. The synergy between state policy and public participation thus becomes a concrete expression of shared responsibility for sustaining forest preservation.

The trend in primary forest loss across 2014–2024 shows an increasingly structured shift in Indonesia's environmental policy direction. The relatively consistent decline in deforestation reflects a strengthening commitment to environmental sustainability and environmental justice. Cross-sectoral collaboration, both at national and international levels, plays a key role in building mutual trust in the implementation of climate policy. This dynamic underscores that shared responsibility among government, communities, the private sector, and global partners can produce tangible change. Policy consistency and the strengthening of monitoring systems enlarge the prospects of meeting low-carbon development targets.

These developments provide an important foundation for further efforts to curb forest degradation and to strengthen Indonesia's contribution to national climate targets.

Analysis of Indonesia–Norway cooperation under the REDD+ scheme cannot focus solely on its positive achievements; it also needs to examine the various limitations in its implementation. From the perspective of Green Theory, environmental policy is often shaped by state economic and political interests, which risks overlooking aspects of ecological justice (Eckersley, 2004). The implementation of REDD+ in Indonesia reveals a gap between the global objective of emission reduction and local realities at the community level. Several studies indicate that indigenous peoples and local communities have not been fully involved in decision-making processes related to forest management (Moeliono et al., 2020). This raises questions about the extent to which the principle of climate justice is genuinely applied within the scheme. A critical analysis is therefore necessary to consider whether REDD+ actually equitably delivers benefits or instead reinforces existing inequalities.

In addition, the RBC mechanism within this cooperation is not free from various structural challenges. Result-based funding schemes tend to place recipient countries in a position of having to meet certain standards set by the donor (Angelsen et al., 2018). This can create dependence on external funding and constrain the national policy space for setting development priorities. In some cases, the processes of emission verification and reporting are also viewed as complex and demanding of substantial technical capacity (UN-REDD Programme, 2020). Such limitations can constrain the effectiveness of REDD+ implementation at both national and regional levels. It is therefore worth examining whether this mechanism genuinely supports Indonesia's policy sovereignty or instead generates new pressures within environmental governance.

The effectiveness of REDD+ also faces challenges in cross-sectoral policy integration within Indonesia. Forestry policy is often inconsistent with policies in other

sectors, such as plantations and mining, which contribute directly to deforestation (Seymour & Busch, 2016). This inconsistency points to a fragmentation of policy that can erode the positive impacts of REDD+ implementation. Weak coordination among institutions also poses an obstacle to optimal program delivery. The perspective of Green Theory emphasizes the importance of structural change in economic and political systems if genuine environmental sustainability is to be achieved. Without comprehensive policy reform, REDD+ risks becoming merely a technical instrument without significant long-term impact. A critical approach to REDD+ implementation is therefore important for driving improvements in emission reduction governance in the future.

CONCLUSION

Carbon emissions in Indonesia continue to rise because fossil energy, particularly coal, still dominates the national electricity supply. Rapid economic growth and increasing household energy consumption further reinforce this dependence, making emission reduction efforts difficult to achieve. The findings of this study indicate that the bilateral cooperation in question represents a form of environmental diplomacy directed towards tangible outcomes. Through this cooperation, Indonesia and Norway link their respective national interests to a shared responsibility for addressing climate change. REDD+ is understood as an instrument that supports carbon emission reduction while aligning with Indonesia's low-carbon development policy. The scheme functions as part of the national policy framework in support of the sustainable development agenda.

This study finds that the RBC mechanism is the central element of the Indonesia–Norway cooperative relationship. The mechanism promotes the strengthening of national forest governance and the improvement of the MRV system. The application of MRV enables emission reduction achievements to be verified

transparently and credibly. Result-based payments from Norway provide an incentive for Indonesia to maintain consistency in policies for controlling deforestation and forest degradation. This pattern strengthens the trust within the bilateral relationship between the two countries.

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