

# CHAPTER I

## INTRODUCTION

### 1.1. Background

Climate change is a prominent global issue that has been discussed for decades. One of the major contributors to climate change is Greenhouse Gas emissions (GHG).<sup>1</sup> GHG emissions result from Carbon Dioxide (CO<sub>2</sub>), mostly from electricity and heat production, transportation, buildings, forestry, manufacturing, other energy sources, and agriculture.<sup>2</sup> Thus, the largest sources of these emissions are from human activities, such as residential buildings, transportation, fossil fuel, and more.<sup>3</sup> Increased GHG emissions have the potential to result in an increase in global temperature, melting glaciers and sea ice that can change the sea levels, and extreme weather like hurricanes.<sup>4</sup> Global temperatures have increased by 0.6 degrees in the last decade, while the arctic ice has lost 4.9 trillion tons of ice.<sup>5</sup> Furthermore, gigatons of emissions have been produced over the years from countries around the world, including Indonesia.

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<sup>1</sup> “Global Greenhouse Gas Emissions Data,” *US EPA*, <https://www.epa.gov/ghgemissions/global-greenhouse-gas-emissions-data> (accessed February 20, 2022).

<sup>2</sup> Pattarawan Watcharaanantapong, “Factors Influencing Greenhouse Gas Emissions From Land Use, Land-Use Change, and Forest Activities,” (PhD diss., University of Tennessee, 2016), [https://trace.tennessee.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=5328&context=utk\\_graddiss](https://trace.tennessee.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=5328&context=utk_graddiss)

<sup>3</sup> *Ibid.*

<sup>4</sup> Buckingham, Susan and Mike Turner. 2008. *Understanding Environmental Issues*. SAGE Publications.

<sup>5</sup> “This Is How Climate Change Has Altered Life on Earth the Past Two Decades,” *The Weather Channel*, <https://weather.com/science/environment/news/earth-climate-change-effects> (accessed February 20, 2022).

As the fourth most populous country, Indonesia donated 496.4 million tons of carbon dioxide and was the fourth-largest emitter in 2015.<sup>6</sup> By 2030, it is predicted that Indonesia will experience a rise in temperature of 0.8 degrees. Moreover, various Indonesian economic activities occurred in coastal areas primarily occupied by agricultural land and contributed 25% to the Indonesia's Gross Domestic Product (GDP). On the other hand, climate change has a significant impact on Indonesia's agriculture production (food crops) due to rising air temperatures and shifting rainfall patterns.<sup>7</sup> Consequently, it will hinder economic growth. Not only that, climate change can also result in several disasters, such as prolonged drought, forest/peatland fires, deforestation, flood, and more.<sup>8</sup> These mentioned issues are just a selection of the numerous problems that can emerge as a result of climate change.

Looking at the severity of the issues, the inability to tackle them alone, and the willingness to control climate change, Indonesia decided to ratify the Paris Agreement that was established through the United Nations Framework Convention on Climate Change (UNFCCC). This agreement is intended to combat climate change and its negative impacts.<sup>9</sup> The realization of the framework will be through the UN Climate Change Conference with the objectives are to decrease global greenhouse gas

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<sup>6</sup> "Greenhouse Gas Emissions By Country 2021." 2021 World Population by Country. <https://worldpopulationreview.com/country-rankings/greenhouse-gas-emissions-by-country> (accessed February 20, 2022).

<sup>7</sup> Rina Oktaviani et al., "The Impact of Global Climate Change on the Indonesian Economy," December 2011, <https://ebrary.ifpri.org/utills/getfile/collection/p15738coll2/id/126762/filename/126973.pdf> (accessed February 20, 2022).

<sup>8</sup> "Dampak Perubahan Iklim Telah Dirasakan Indonesia," Kementerian Pekerjaan Umum dan Perumahan Rakyat, December 11, 2007, <https://pu.go.id/berita/dampak-perubahan-iklim-telah-dirasakan-indonesia> (accessed December 15, 2022).

<sup>9</sup> United Nations, "The Paris Agreement," United Nations, <https://www.un.org/en/climatechange/paris-agreement> (accessed February 21, 2022).

emissions to make global temperature rises to two degrees Celsius while pursuing mitigation efforts to keep them to 1.5 degrees Celsius; review each parties' commitment every five years; and to finance developing nations' efforts to mitigate climate change, strengthen their adaptive capacity, and improve their adaptability to the effect of the climate.<sup>10</sup> Every five years, countries will be required to submit their national action plan (NAP), the Nationally Determined Contribution (NDC).

Along with the UN's efforts, policy measures must be implemented in Indonesia to help control carbon consumption and mitigate climate change. Therefore, through President Joko Widodo's priority actions, the *Nawa Cita* (Nine Priority Agendas) Framework aims to safeguard Indonesia's citizens, promote rural and regional growth, enhance the overall standard of living, and boost productivity and international productivity competitiveness. The government of Indonesia (GOI) submitted the NDC in 2016 that is in accordance with the framework and the country's commitment to a low GHG emission, climate-resilient development agenda that will be incorporated into the country's National Medium-Term Development Plan 2015-2019.<sup>11</sup>

To better understand the action plan as a whole, we must first understand the NDC. In brief, the NDC is the center of the Paris Agreement and as ratifying countries' endeavor to reduce GHG emissions and adapt to the impacts of climate change. It is divided into two main efforts, adaptation and mitigation. The adaptation commitment

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<sup>10</sup> *Ibid.*

<sup>11</sup> "Nationally Determined Contribution Registry," UNFCCC, [https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Indonesia%20First/First%20NDC%20Indonesia\\_submitted%20to%20UNFCCC%20Set\\_November%20%202016.pdf](https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Indonesia%20First/First%20NDC%20Indonesia_submitted%20to%20UNFCCC%20Set_November%20%202016.pdf) (accessed February 20, 2022).

is to bolster climate resilience through increased economic and social stability, along with environmental resilience. The priorities are on the affected food, water, and energy sectors. In terms of mitigation, the Government of Indonesia will undertake a number of initiatives with the target to reduce emissions and thereby mitigate climate change effects. The endeavor has been made through the policy initiatives outlined in the NAP on GHG emissions reductions as specified in Presidential Regulation (PERPRES) No. 61/2011 and the GHG inventory set in Presidential Regulation (PERPRES) No. 71/2011. Moreover, the strategic approach of the NDC is to take a landscape approach, emphasizing current best practices, incorporating climate into development planning, and promoting climate resilience in food, water, and energy sectors. The goals of Indonesia NDC are to reduce 29% unconditionally and 41% with international assistance of GHG emissions under business as usual (BAU) by 2030.<sup>12</sup>

Following the Presidential Regulation and the National Medium Term Development Plan 2015-2019, the National Action Plan for Greenhouse Gas Reduction (RAN-GRK) and Local Mitigation Action Plan (RAD-GRK) are created. RAN-GRK is an action plan for the execution of various initiatives aimed at reducing greenhouse gas emissions directly and indirectly in line with national development goals.<sup>13</sup> The government ministries that are involved in the plan are the Ministry of National Development Planning of the Republic of Indonesia (BAPPENAS), and the Ministries of Environment, Forestry, Agriculture, Public Works, Industry, Transportation,

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<sup>12</sup> *Ibid.*

<sup>13</sup> *Peraturan Presiden (PERPRES) Nomor 61 Tahun 2011*, JDIH BPK RI, <https://peraturan.bpk.go.id/Home/Details/41199/perpres-no-61-tahun-2011>.

Energy, and Finance. The action plan will cover several major sectors, such as land, agriculture, energy, industry, and waste.

In accordance with that, there is still more to Indonesia's management of the mitigation and adaptation processes that can be examined and learned. Moreover, to determine the impact and whether or not the action plan had reached the desired outcomes, we need to know which and to what extent the components of the plan have contributes and are align with the Paris Agreement's stated objectives. Therefore, this study will explore and evaluate Indonesia's endeavor for climate change, specifically the Nationally Determined Contribution (NDC).

## **1.2. Research Questions**

Indonesia has attempted to develop strategies to reduce climate change, but the country still needs to strengthen its response to this issue. Moreover, with the ratification of the Paris Agreement, Indonesia now has an obligation to fulfill and update the set NDC. In President Joko Widodo's first term, he established the NAP for GHG reduction and other policies to mitigate this issue and reach the Paris Agreement's targeted goals. Therefore, based on the conditions stated, I would like to propose the following questions:

1. How is Indonesia's NDC implementation carried out in 2015 - 2019?
2. How does Indonesia's first NDC implementation contribute to the goals of the Paris Agreement?

## **1.3. Research Objectives**

This research aims to identify and break down Indonesia's policies and the action plan for GHG reduction. Moreover, to assess and analyze the contribution made

in Joko Widodo's first term through the policy and methods/action plan. Also, to examine whether the initiatives aligned with the Paris Agreement's stated objectives.

#### **1.4. Research Significance**

This research will assess Indonesia's policies and action plan for achieving the Paris Agreement's targeted goals. Furthermore, every aspect of life, including policies, can always be improved. Especially looking at the impact made by GHG emissions. There is a need to examine policies in order to determine the action plan's positive and negative outcomes, as well as how to improve it in the future. Correspondingly, to determine whether the Government of Indonesia's action plan, programs, and projects has been consistent with the Paris Agreement's plan.

#### **1.5. Structure of Writing**

The first chapter of this thesis will include the background, research questions, research objectives, research significance, and structure of the writing. The background encompasses the source of the emissions and the severity of climate change that push the UNFCCC to create the Paris Agreement. Also, the elaboration of NDC as part of Indonesia's obligation as a ratifying country of the agreement.

The second chapter is divided into two sections. First, literature review that consists of previous related research will be taken as a reference to analyze the research question. Second, theory and concept will assist in explaining the result or outcome of this thesis. The theory used in this research is liberalism institutionalism and the concepts are international cooperation, interdependence, and national interest.

The third chapter is a methodology with four sub-chapter. The research approach is a qualitative method, and the research method is a descriptive method.

Moreover, this research uses a literature study as the data collection technique. And the analysis technique will be in three steps, data reduction, data display, and conclusion.

The fourth chapter provides an explanation of this thesis's analysis. This part includes four sub-chapter, namely the description of the Paris Agreement, Indonesia's national interest in the Paris Agreement, an explanation of Indonesia's first NDC and its endeavors, and the analysis of the NDC.

The last chapter will be the conclusion of the whole thesis. Other than concluding, this chapter will give recommendations for the related parties about the things that can be improved for better implementation.

