

# INDONESIA'S GREEN BOND & GREEN SUKUK INITIATIVE



MINISTRY OF FINANCE  
REPUBLIC OF INDONESIA



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# OVERVIEW

## BACKGROUND

Indonesia's tropical and archipelagic landscape makes the country one of the world's richest countries in regards to its biodiversity. At the same time, it allows the country to be vulnerable to the adverse impact of climate change.

Various studies have shown that climate change vulnerability has a direct economic impact. For example, flood and drought, as two key hazards in Indonesia, occur more frequently as a result of worsening climate change. Surface temperature in Indonesia is also expected to rise, with consequent rise in distribution of diseases and lower productivity of agriculture products.

For this reason, the government is committed to reducing Greenhouse Gas (GHG) emissions since 2009. In 2016, through the Paris Agreement and the scheme of National Determined Contributions (NDC), the commitment is revised to a reduction of 29% (business as usual scenario) or up to 41% (conditional to international supports).

A study by the Fiscal Policy Agency also shows that there is a huge financing need to combat climate change. At early stage, financial support from the government is hugely needed to encourage funding from the private sector. Especially to achieve our ambitious goal of GHG emissions reduction, the role of state budget becomes crucial.

The increasing role of state budget forces the government to review the role of state budget funding. Consequently, the government introduced the Budget Tagging Mechanism to see the effectivity and efficiency of current allocated budget of climate change spending. This mechanism results in recommendations in the form of performance-based budgeting system, that is output and outcome oriented, regulated under the Ministerial decree (PMK No. 214/2017).

The result of the Climate Budget Tagging has enabled the Government to better map the financing needs, and thus enabling them to initiate innovative financing instruments of Green Sukuk since 2018, mobilizing over USD 3.9 billion towards government's green projects.

## Green Sukuk

The Green Bond and Green Sukuk Initiative aims to support Indonesia's goal in its GHG emissions reduction. Green Sukuk is an innovative financing instrument adhering to the Islamic Law principles to support Indonesia's climate actions. The issuance is

guided by the Green Bond and Green Sukuk Framework, reviewed by international independent reviewer CICERO and awarded medium green shade. Indonesia's Green Sukuk has received multiple international recognitions and awards.

## Indonesia's Green Sukuk has received 12 International Awards



Islamic Finance News



Finance Asia



Climate Bond Initiative



IFR Asia



Global Capital, Euromoney



Cambridge IFA







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# CLIMATE CHANGE

# INDONESIA'S CLIMATE CHANGE VULNERABILITY MAP

Indonesia is highly vulnerable to adverse impacts of climate change. Climate change (increase in sea level and surface temperature included) is very likely to exacerbate natural disasters, especially in low-lying areas throughout the archipelago.

Source: Yusuf and Fransisco, 2009



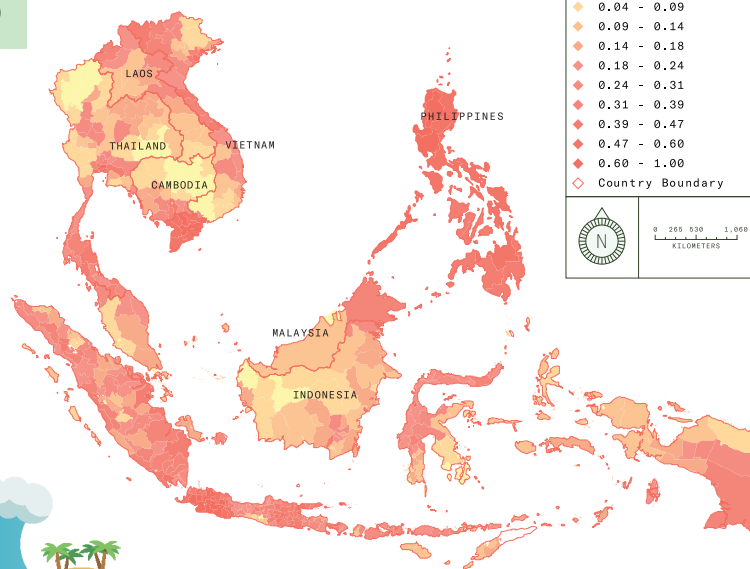
**Flood** threatens millions of Indonesians living in major urban centers

**El-Nino** exposes large regions to drought and fire



**Sea level** rise threatens **42 million** Indonesians living less than **10 meters** above sea level

**Shifts in rainfall,** evaporation, and run-off water pose considerable threat to food security







# CLIMATE CHANGE IMPACT

Climate change has a direct impact to aspect of lives; health, agriculture sectors and to the economy.

Climate Change is believed to increase the risk for hydro-meteorological disasters, which make up to

## 80%

of disaster occurrences in Indonesia.

Source: NDC, 2016



## Key hazards in Indonesia



Flood

In early 2020, the Greater Jakarta Area and Banten experienced the **highest rainfall intensity since 1866** causing **61 deaths & 27.971 people displaced**

BMKG, 2020



Drought

More than

**48 million people** in 28 provinces experienced drought in 2019.

Source: BNPB, 2019

## Projection of Increased Surface Temperature in Indonesia



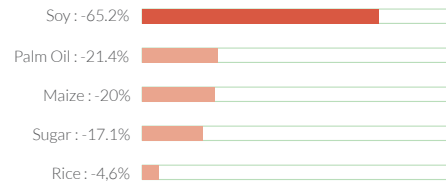
Impact to Health Sector:

## 3-5%

increase of vector borne diseases and its distributions

Source: NDC, 2016

Impact to Agricultural Sector :  
reduction in productivity



## Disasters mostly affect the poor, leaving



## 9,78%

World Bank, 2020

of Indonesian population living below the national income poverty line.



# INDONESIA'S COMMITMENT TO COMBAT CLIMATE CHANGE

The Government of Indonesia (GoI) is strongly committed to combatting climate change, and this is shown through numerous actions that had been taken.



## POLICY INSTRUMENTS

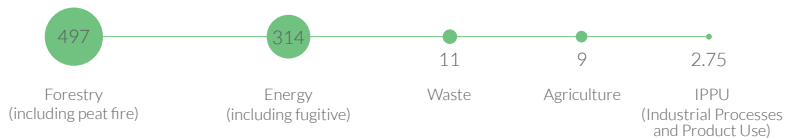
### Law (UU) No. 16/2016

On the Ratification of Paris Agreement to the United Nations Framework Convention on Climate Change

Indonesia's National Determined Contribution (NDC) to Paris Agreement, by 2030:

**29%** unconditional emission reduction against BAU scenario  **Up to 41%** conditional emission reduction subject to international support

Projected emission reduction from each sector category by 2030 (in Mton Co<sub>2</sub>e)



## MITIGATION

RAN – GRK  
(National Action Plan for Greenhouse Gas Reduction)

\*Presidential regulation  
No. 61/2011

## ADAPTATION

RAN – API  
(National Action Plan for Climate Change Adaptation)

## BIODIVERSITY

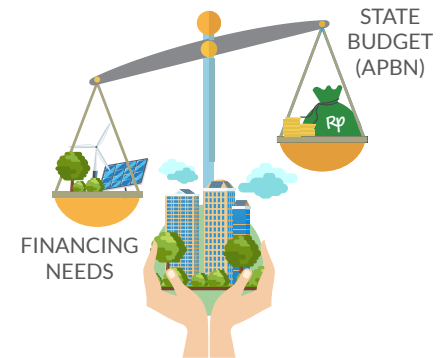
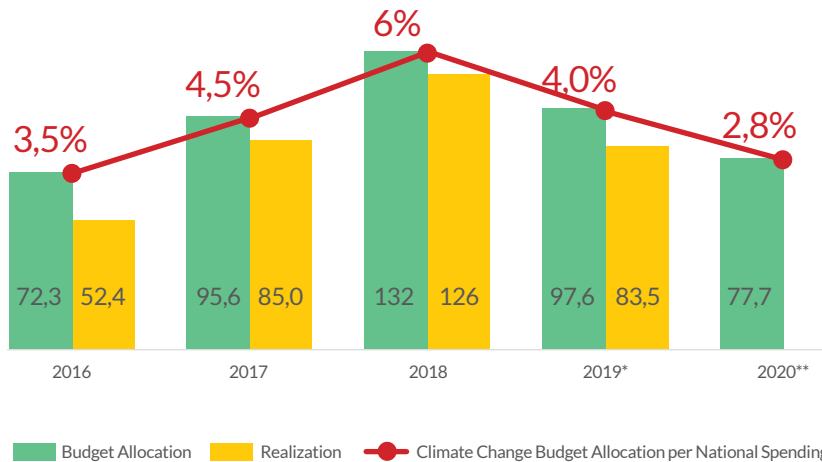
IBSAP (Indonesia Biodiversity Strategy and Action Plan) 2003-2020



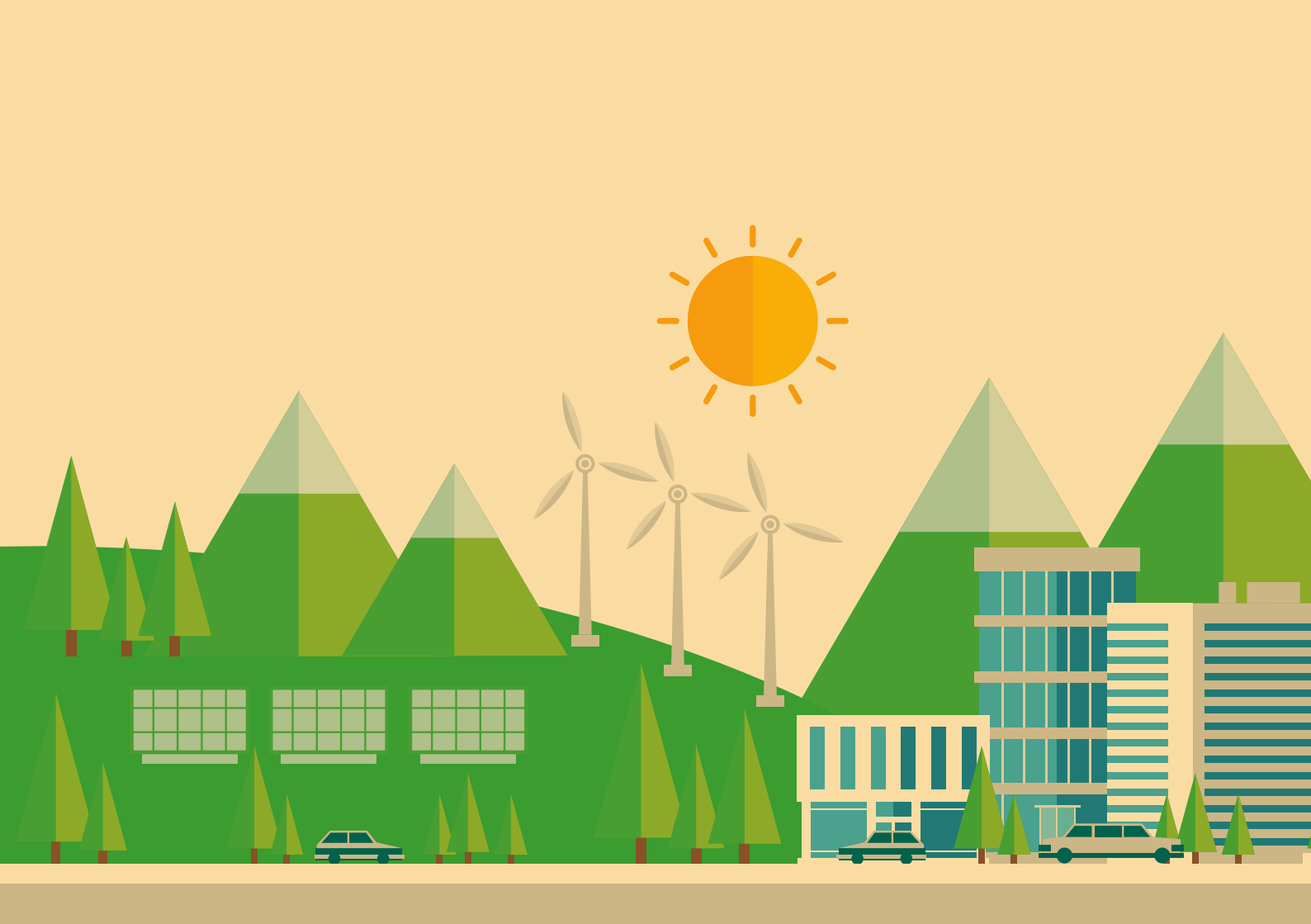
## THE FINANCING REQUIREMENTS

In order to support the climate commitment, Gol requires huge financial support on both climate mitigation and adaptation activities, as it is clear that there is a huge financing gap between the funding needs and the currently available financial resources to afford the climate actions from 2018 to 2030. The financing gap is estimated to be around USD 247.2 billion, or around USD 17.55 million annually, as stated in the Second Biennial Update Report (BUR).

**Climate Change Budget Allocation and Realization**  
(Trillion Rupiah)

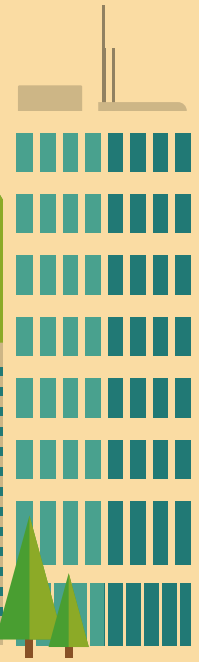


Indonesia needs around **IDR3,461 trillion** (USD 247 billion) for implementing climate action in 2018 to 2030.



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# INDONESIA'S BUDGETING SYSTEM FOR CLIMATE CHANGE



# CLIMATE BUDGET TAGGING

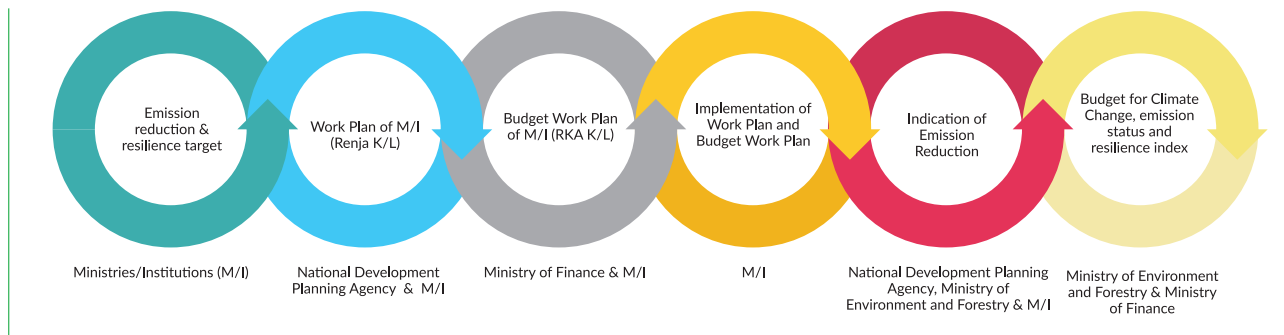
Climate Budget Tagging process is the mechanism to identify government expenditures that deliver specified climate change benefits, in accordance with the Government of Indonesia's climate objectives

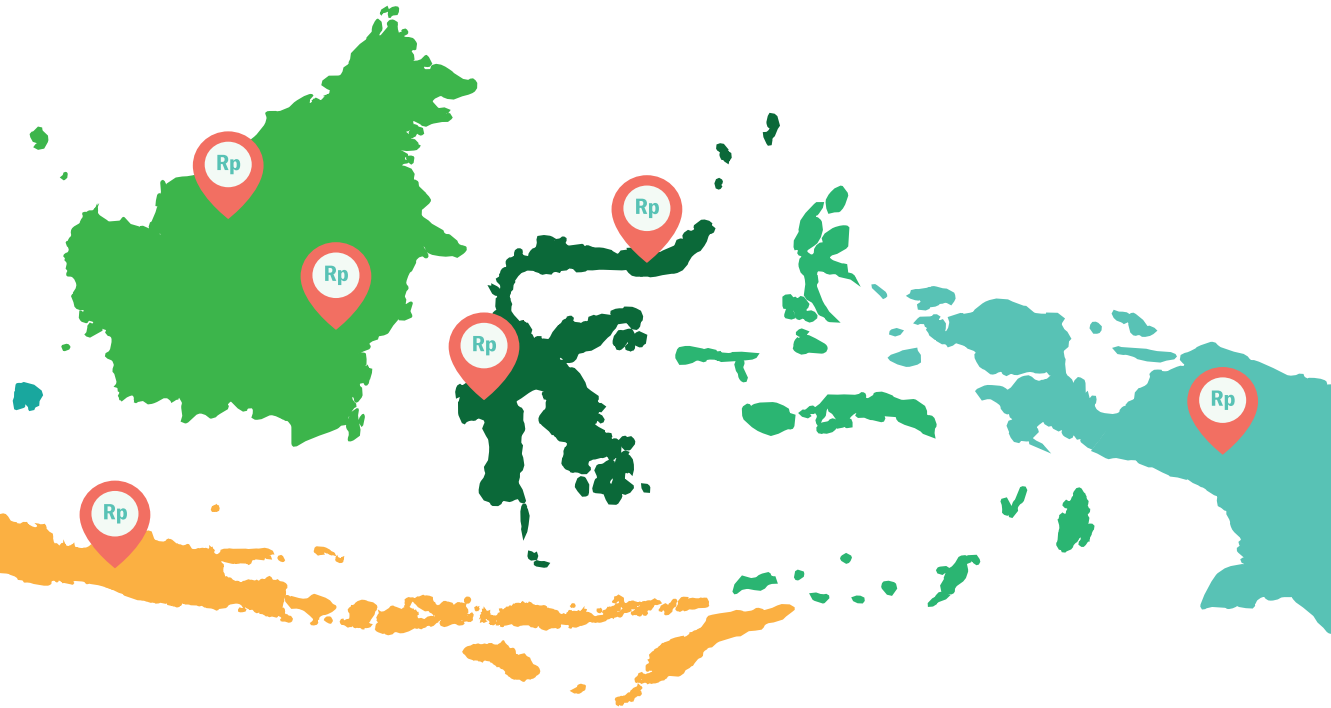
The Climate Budget Tagging (CBT) process has been developed and implemented since 2014 with the support from UN Development Programme and UN Environment Programme through the Sustainable Development Financing (SDF) program. It involves a detailed assessment of the climate benefits of projects undertaken by line ministries.

Initially, the CBT involves six line ministries related to the climate change mitigation action plans (RAN-GRK). Since 2018, CBT has expanded to include line ministries related to climate change adaptation action plans (RAN-API), reaching 17 ministries/institutions across adaptation and mitigation activities.



## The Flow of Budget Tagging for Climate Change on Planning and Budgeting Cycles





## Regional Climate Budget Tagging

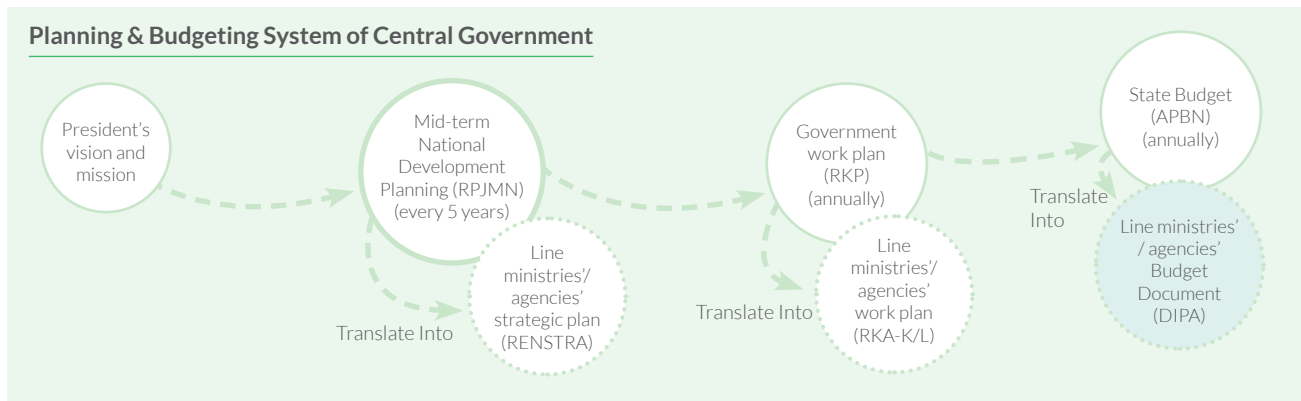
The Ministry of Finance, through the Center for Climate Change and Multilateral Policy with support from UNDP, has conducted a pilot project for climate budget tagging in several provinces and districts. During its first year of implementation in 2020, the piloting project involved 11 provinces and districts. The project further expanded to reach another 6 provinces and districts in 2021.

The result of the rapid assessment of the climate budget tagging in subnational level are as follows:

- Sharpening the role of local governments in contributing to tackling climate change
- Strengthening the coordination of central and local government
- Optimizing the benefits of budget tagging
- Developing the climate change awareness ecosystem.

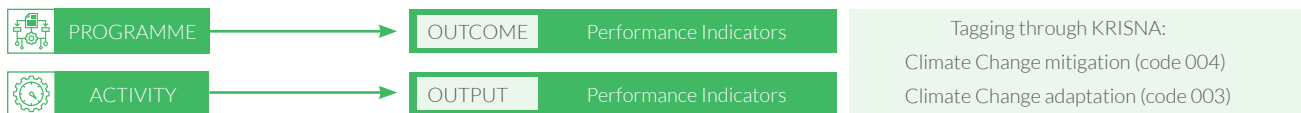
# TRACKING TOOLS FOR CLIMATE FINANCE

The Climate Budget Tagging system also supports the tracking of line ministries' activities and programme relating to the climate change mitigation and adaptation strategic plan.



### Budget Document (DIPA) – Making Process

The climate change mitigation and adaptation projects are tagged by the line ministries at the level of 'output' and 'outcome' (as performance indicators) using the Climate Budget Tagging system.



SOURCES: DIRECTORATE GENERAL OF BUDGET, 2018



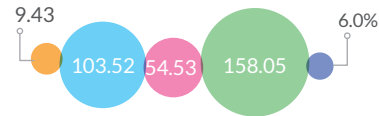


# CLIMATE BUDGET TAGGING RESULTS

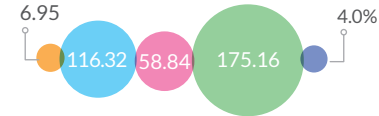
## Comparison of Climate Change Budget\* to State Budget in 2018-2020

(billion USD)

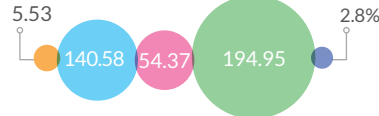
### 2018 State Budget



### 2019 State Budget



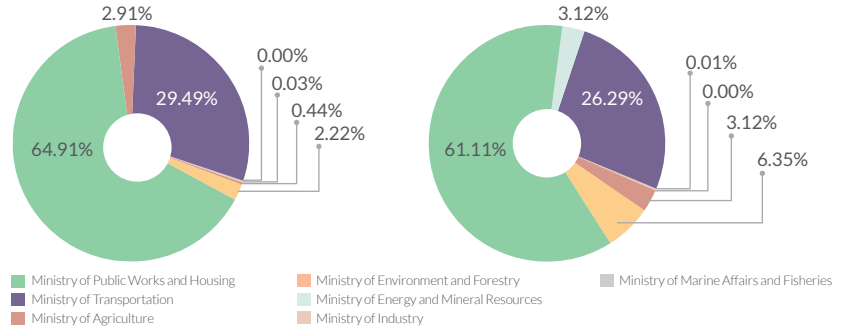
### 2020 State Budget



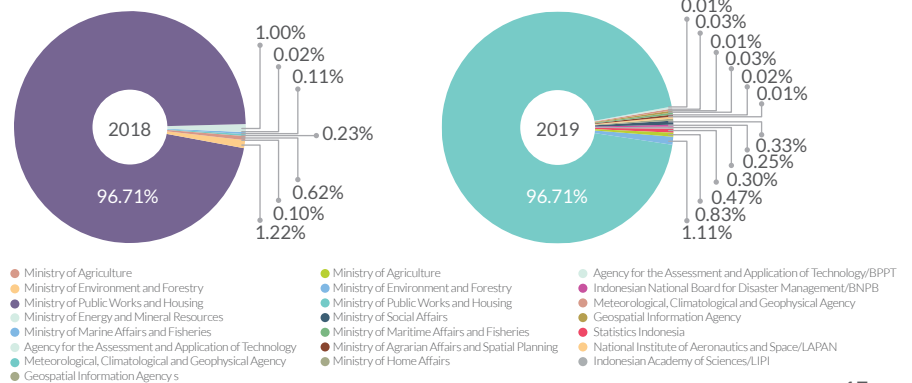
- Climate Budget
- Central Expenditure
- Local Transfer
- Total
- Percentage of Climate Fiscal Budget to State Budget

\*) including climate change mitigation, adaptation, and cobenefit.

## Mitigation and Co-Benefit Budget (2018-2019)



## Adaptation Budget (2018-2019)



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# INDONESIA'S GREEN BOND/ GREEN SUKUK FRAMEWORK





# INDONESIA'S GREEN BOND & GREEN SUKUK INITIATIVE

The results of Climate Budget Tagging process are being used to initiate new financing instruments, which are the Green Bond and Green Sukuk, in order to combat climate change. This initiative is aligned with Indonesia's aim to achieve the SDGs goals.



Green Sukuk is a shariah-compliant bond, where 100% of the proceeds exclusively finance or refinance green projects that contribute towards climate change mitigation and adaptation as well as biodiversity preservation.

The issuance of Green Bond/Sukuk is guided by the Green Bond and Green Sukuk Framework, reviewed by CICERO, an international independent reviewer and awarded medium green shade.

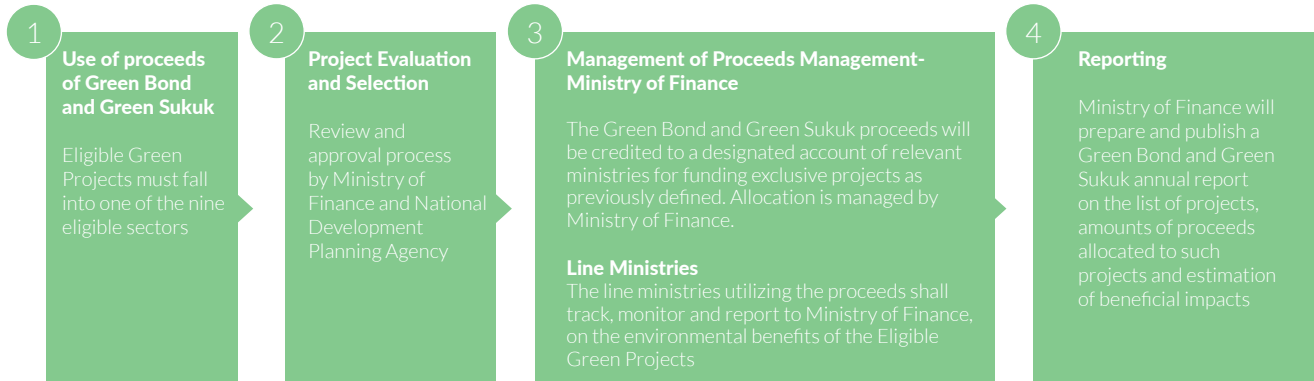
Results of budget tagging process is being used to develop and leverage new innovative financing instruments to combat climate change, in a form of Green Bond and Green Sukuk. This initiative is aligned with Indonesia's aim to achieve the SDGs goals.





# INDONESIA'S GREEN BOND & GREEN SUKUK FRAMEWORK

The Republic of Indonesia (ROI) has developed a Green Bond and Green Sukuk Framework (the "Framework") under which it plans to finance and or refinance Eligible Green Projects via the issuance of Green Bonds and Green Sukuk.



The Framework has received a second opinion from the Centre for International Climate Research (CICERO) and is awarded medium green shading, which allows the possibility of light, medium and dark green project types. This shade also shows that eligible listed projects are representing the country efforts towards the long-term vision in carbon emission reduction, but not there yet

# 9 ELIGIBLE GREEN SECTORS

According to the the ROI's Green Bond and Green Sukuk Framework, there are nine eligible sectors to receive the proceeds of green sukuk/bond

1



## Renewable Energy

Generation and transmission of energy from renewable energy sources: include offshore and onshore wind, solar, tidal, hydropower, biomass and geothermal

Research and development of products or technology (R&D) for renewable energy generation, include turbines and solar panels.

**(Dark green)**

3



## Energy Efficiency

Improvement of the energy efficiency of infrastructure, which results in an energy consumption of at least 10% below the average national energy consumption.

Research and development of products or technology ("R&D") and their implementation that reduces energy consumption of underlying asset, technology, product or system(s); including LED lights, improved chillers, improved lighting technology, and reduced power usage in manufacturing operations.

**(Light to Medium green)**

2



## Sustainable Management of Natural Resource

Sustainable management of natural resources, which substantially avoids or reduces carbon loss/ increases carbon sequestration (through planting of new forest areas, and/or replanting of degraded areas, the use of drought / flood / temperature resistant species).

Habitat and biodiversity conservation (through sustainable management of land use change, sustainable management of agriculture/fisheries/ forestry, protection of coastal, and marine environments, pest management.

**(Light to dark green)**

4



## Green Tourism

Developing new tourism areas in line with Green Tourism Principles

Optimization of supporting infrastructure to support sustainable tourism (i.e. water treatment, energy efficiency)

Developing tourism resiliency against climate change risk.

**(Medium to dark green)**



5



### Resilience to Climate Change for Highly Vulnerable Areas and Sectors/Disaster Risk Reduction

Research leading to technology innovation with sustainability benefits  
 Food security  
 Flood mitigation  
 Drought management  
 Public health management  
**(Dark green)**

6



### Green Buildings

Developing green buildings in line with Greenship developed by Green Building Council Indonesia ("GBC Indonesia"), which contains six categories:

Appropriate Site Development, Energy Efficiency and Conservation, Water conservation, Material & resources cycle, Air quality & leisure air (water indoor health & comfort), Building & environment management.  
**(Light green)**

8



### Sustainable Agriculture

Developing sustainable agriculture management and methods, such as organic farming, less pesticides, Research and Development ("R&D") on climate resilient seeds, and energy efficient on agriculture

Subsidy mechanism for agriculture insurance

**(Medium to dark green)**

7



### Sustainable Transport

Developing clean transportation systems

Transportation network upgrade to higher climate resilient design standards

**(Medium to dark green)**

9



### Waste to Energy & Waste Management

Improving waste management

Transforming waste to renewable energy source

Rehabilitation of landfill areas

**(Medium to dark green)**





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# INDONESIA'S GREEN SUKUK ISSUANCE





# INDONESIA'S GREEN SUKUK ISSUANCE

Establishment of good coordination and communication functions amongst line ministries: Ministry of Finance, Ministry of National Development Planning, and Ministry of Environment and Forestry is crucial for the planning, implementation, monitoring, and evaluation of this initiative.

## GLOBAL GREEN SUKUK

Global Green Sukuk has been issued three times, in 2018, 2019, and 2020. The total amount of Global Green Sukuk is USD 2.75 billion. Proceeds from the three issuance will exclusively go to the selected 'eligible green projects' based on the Green Bond and Green Sukuk Framework.



## RETAIL GREEN SUKUK

To reach a more diverse market, the Government of Indonesia issued the Retail Green Sukuk in 2019 and 2020. The success of the first Retail Green Sukuk issuance totaling IDR 1.4 trillion leads the second issuance which amounts to IDR 5.4 trillion.

Attracting over 16,500 investors, the Millennials dominated the investors demography (44.5%). It is followed by Generation X (29,40%), Baby Boomers Generation (23,21%), Traditionalist Generation (2,19%) and Generation Z (0,34%)





## GLOBAL GREEN SUKUK

	1 <sup>st</sup> Issuance	2 <sup>nd</sup> Issuance	3 <sup>rd</sup> Issuance	4 <sup>th</sup> Issuance
Date of issuance	March 2018	February 2019	June 2020	June 2021
Amount	USD 1.25 billion	USD 750 million	USD 750 million	USD 750 million
Tenor	5 years	5.5 years	5 years	30 years
Yield	3.75%	3.9%	2.3%	3.55%

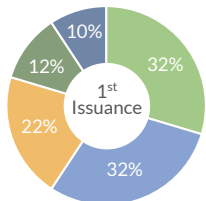
## RETAIL GREEN SUKUK

	1 <sup>st</sup> Issuance (ST-006)	2 <sup>nd</sup> Issuance (ST-007)
Date of issuance	November 2019	November 2020
Amount	IDR 1.4 trillion	IDR 5.4 trillion
Tenor	2 years	2 years
Yield	6.75% (floating with floor)	5.5% (floating with floor)

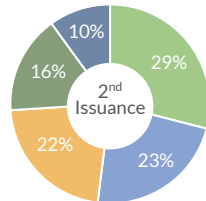


# GREEN SUKUK KEY MARKET STATISTICS

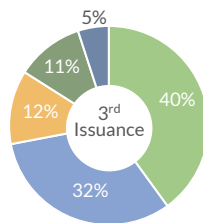
## Global Green Sukuk Investor Spread by Geographical Area



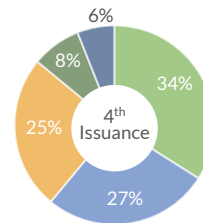
- Sharia-based investors (Middle East and Malaysia)
- Europe-based investors
- United States of America-based investors
- Asia-based investors (except Indonesia)
- Indonesia-based investors



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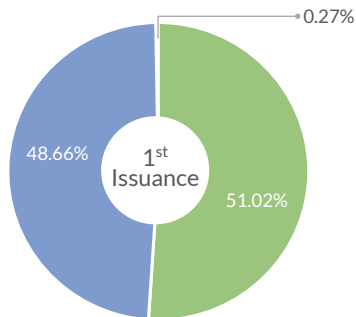


- Asia-based investors (except Indonesia)
- Sharia-based investors (Middle East and Malaysia)
- United States of America-based investors
- Europe-based investors
- Indonesia-based investors

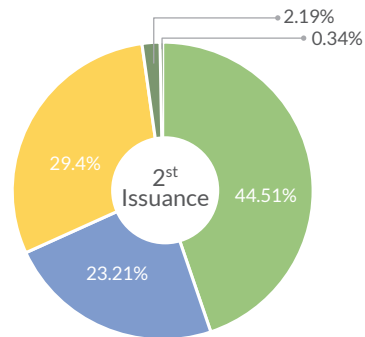


- USA
- Europe
- Middle East and Malaysia
- Asia (excluding Indonesia and Malaysia)
- Indonesia

## Retail Green Sukuk Investor Spread by Age Group



- Millennial generations
- Baby boomer & Gen X
- Gen Z

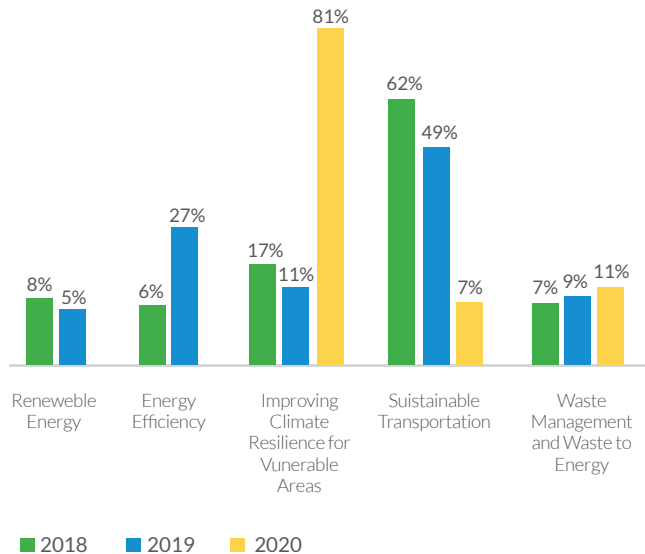


- millennial generations
- baby boomer
- Gen X
- traditionalist
- Gen Z

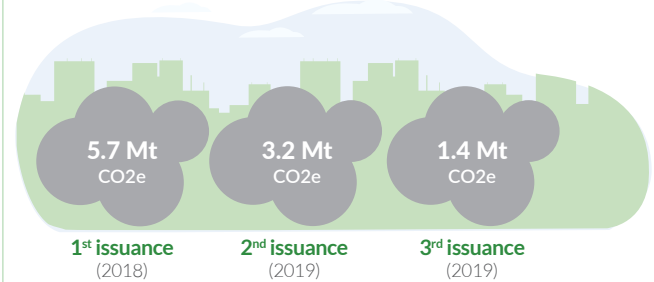


# USE OF PROCEEDS AND IMPACT

Green Sukuk Issuance only finance and/or re-financed mitigation and adaptation activities of climate change. Expansion for next issuance could consider inclusion of biodiversity preservation activities.



## Projected Emission Reduction from Global Green Sukuk Issuance



## Other measured contributions



Over **690 km** of railway track construction



**7.3 million kWh** of electricity capacity generation



Over **7 million households** benefitted from the improved waste management



# IMPACT REPORT

Green Sukuk Allocation and Impact Report is published annually by Indonesia's Ministry of Finance with support from the United Nations Development Programme, and audited by independent international auditors. The annual Allocation and Impact Report is set as a transparent, timely, and user-friendly presentation on information related to the use of the proceeds and the related impact.



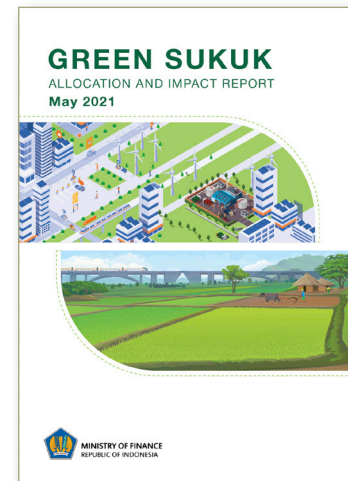
## 1<sup>st</sup> Impact Report

Published in Feb 2019 for 2018 Issuance



## 2<sup>nd</sup> Impact Report

Published in March 2020 for 2019 Issuance



## 3<sup>rd</sup> Impact Report

Published in May 2021 for 2020 Issuance

The annually published Indonesia's Green Sukuk Issuance: Allocation and Impact Report can be accessed through <https://www.djpr.kemenkeu.go.id/page/load/2357>.



## GREEN SUKUK HIGHLIGHT PROJECTS

Green Sukuk issuance finances a number of projects dedicated to climate change mitigation and adaptation activities.



Sustainable  
Transport

### Double Track Railway Project in North Java Line

*Double track railway from Jakarta to  
Surabaya (727 km)*



Sustainable  
Transport

### Development and Management of Railway Transport Infrastructure and Supporting Facilities

*Cipinang Locomotive Depot, East  
Jakarta, DKI Jakarta Province*



Source: Ministry of Transportation



Renewable  
Energy

### Solar Power Plant Project

*Tambolaka Airport, Sumba,  
East Nusa Tenggara*



Resilience to  
Climate Change  
for Highly  
Vulnerable  
Areas

### Management of Dam, Lake, and Other Water Retention Facilities

*Karas Island, Batam City,  
Riau Islands Province*



Source: Ministry of Public Works and Housing



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Email : [webmaster.djppr@kemenkeu.go.id](mailto:webmaster.djppr@kemenkeu.go.id)

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MINISTRY OF FINANCE  
REPUBLIC OF INDONESIA

