INDONESIA’S MEDIUM-TERM DEVELOPMENT OPPORTUNITIES AND CHALLENGES

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INDONESIA’S MEDIUM-LONG TERM GOAL
Global Demographics
The world's population is 9.45 billion (Asia 55%). Global demographic trends are driving urbanization, migration, and an aging population.

World Urbanization
The world's population living in urban areas reaches 65% with 95% of the increase occurring in emerging economies.

The Role of Emerging Economies
Developing country output is 71% of total world output with Asia as the main driver (54%).

International trade
Global trade is growing 3.4% annually. Developing countries are the axis of world trade and investment with growth of 6% per year.

International Finance
The dominance of world currencies shifted from the US dollar to multicurrencies. The financial assets of emerging economies are estimated to exceed those of developed countries.

Middle class
Middle- and upper-income class is more than 84 percent (8.1 billion) which is dominated by Asia and Latin America.

Natural Resources Competition
The increasing role of the Asian economy and the population in Africa encourages the struggle for natural resources. Technological advances increase the efficiency of natural resource use.

Technology
The trend of technological change is dominated by ICT, biotechnology and genetic engineering, wearable devices, renewable energy, automation, and AI.

Climate change
Global warming is getting bigger (extreme events and long-term climate change). Global temperature increased by 3-3.5°C without reducing emissions.

Geopolitical Change
The increasing role of China, vulnerability in the Middle East region, as well as a new class and group of determinants.

Source: Vision 2045, Bappenas
Indonesia has a vision to become a developed country by 2045, with the 7th highest GDP in the world and the role of Eastern Indonesia (KTI) reaching 25%. It requires inclusive and sustainable growth.

On 100 years of independence, Indonesia will achieve:

- Developed Countries with 7th Highest GDP
- The Role of KTI on the National Economy: 25%

Source: MacroStat'exercise, Bappenas (post-COVID-19 exercise) updates

Directorate of Macro Planning and Statistical Analysis
Indonesia Development Pillar For 2045

**HUMAN DEVELOPMENT AND MASTERING OF SCIENCE**
- The Level and Quality of Indonesian People's Education
- The Role of Culture in Development
- People's Health and Quality of Life
- Contribution of Science and Technology in Development
- Labor Reform

**SUSTAINABLE ECONOMIC DEVELOPMENT**
- Foreign Trade and Investment
- Industry and Tourism
- Maritime Economy
- Food Security and Farmer's Welfare
- Energy and Water Resistance
- Commitment to the Environment

**EQUITABLE DEVELOPMENT**
- Poverty Alleviation
- Business Opportunities and Equitable Income
- Equitable Regional Development
- Infrastructure Development and Equity

**STRENGTHENING NATIONAL RESILIENCE AND GOVERNANCE**
- Substantive Democracy
- Institutional and Bureaucratic Reform
- Law and Anti-Corruption
- Free Active Foreign Policy
- Defense and security

Source: Vision 2045, Bappenas
LONG TERM DEVELOPMENT STAGES

Indonesia's Economic Growth Projection on the Expenditure side (Percent)

First Stage (2016 – 2025) STRENGTHENING ECONOMIC STRUCTURE
- The process of changing the economic structure in a more productive direction
- Average economic growth 5.2%/year

Second Stage (2025 – 2035) ACCELERATE GROWTH BASED ON INNOVATION
- Acceleration of investment and growth of the manufacturing industry with high value-added exports
- Average economic growth 6.3%/year

Third Stage (2036 – 2045) QUALITY-BASED AND SUSTAINABLE ECONOMIC MODERNIZATION
- Economic modernization by prioritizing quality and sustainable growth
- Economic Rebalancing Process
- Average economic growth 6.7%/year

Source: MacroStat's Exercise, Bappenas
LONG-TERM GOALS: BALANCED REGIONAL DEVELOPMENT

The equality of regional development continue to be improved by encouraging higher growth in Eastern Indonesia (KTI) while maintaining the growth momentum of the Western Java (KBI) region.

Past 30 Years 30 Years Projection

<table>
<thead>
<tr>
<th>Year</th>
<th>1983</th>
<th>2013</th>
<th>2015</th>
<th>2045</th>
</tr>
</thead>
<tbody>
<tr>
<td>Java</td>
<td>53,8%</td>
<td>57,1%</td>
<td>58,3%</td>
<td>51,8%</td>
</tr>
<tr>
<td>Outside Java</td>
<td>46,2%</td>
<td>42,9%</td>
<td>41,7%</td>
<td>48,2%</td>
</tr>
<tr>
<td>KBI</td>
<td>82,5%</td>
<td>80,1%</td>
<td>80,5%</td>
<td>74,9%</td>
</tr>
<tr>
<td>KTI</td>
<td>17,5%</td>
<td>19,9%</td>
<td>19,5%</td>
<td>25,1%</td>
</tr>
</tbody>
</table>

Regional Development Policy

- **Papua**: National Food Center & Natural Resources-Based Economic Sector
- **Bali, Nusa Tenggara & Maluku**: International based tourism and National Fisheries
- **Sulawesi**: Food based industries & KTI Gateway
- **Kalimantan**: National Energy Processing Based Industries & center of industries
- **Java**: Trade and Service Center
- **Sumatera**: New Industries Centre & Asia Region Gateway

Source: Vision 2045, Bappenas
INDONESIA’S MEDIUM-TERM DEVELOPMENT OPPORTUNITIES AND CHALLENGES TOWARDS SUSTAINABLE ECONOMIC DEVELOPMENT
REDESIGNING ECONOMIC TRANSFORMATION
Increasing people's welfare and human quality, decreasing poverty and unemployment, reducing income and regional disparities, as well as maintaining environmental sustainability and economic stability.
COVID-19 PANDEMIC SYSTEMATICALLY IMPACTS SOCIO-ECONOMIC INDICATORS

The COVID-19 pandemic has had a major impact on socioeconomic conditions, not only in the short term but also in the medium-long term.

**SHORT TERM**

- Economic growth contraction: consumption, investment, exports ↓
- Per capita GNI ↓ back to LMIC
- Production capacity utilization ↓
- Unemployment and poverty rate ↑
- Income ↓
- Bankruptcy and business defaults, mostly MSMEs

**MEDIUM-LONG TERM**

- Some sectors will experience slow recovery (e.g. tourism)
- Labor shifts to low productivity and informal sectors
- Impacted labor force mostly consists of young adults with lower skills and education
- Quality of educated population ↓ PISA score ↓
- Health quality ↓ due to COVID-19, poverty rate ↑, sufficient nutritional consumption ↓
- Limited potential deployment of renewable energy

**HAMPERED SDGs PROGRESS**

1. No Poverty
2. Zero Hunger
3. Good Health and Wellbeing
4. Quality Education
5. Gender Equality
6. Clean Water and Sanitation
7. Affordable and Clean Energy
8. Decent Work and Economic Growth
9. Industry, Innovation and Infrastructure
10. Reduced Inequalities
11. Sustainable Cities and Communities
12. Responsible Consumption and Production
13. Climate Action
14. Life Below Water
15. Life on Land
16. Peace Justice and Strong Institutions
17. Partnerships for the Goals
THE COVID-19 PANDEMIC HAS DRIVEN CHANGES IN SITUATIONS AND CIVILIZATIONS

PREVIOUS PANDEMIC EXPERIENCES

**Black Death** (1334 – 1350)
- The end of serfdom in Europe: improvement of workers' rights and welfare.
- Acceleration of the "Renaissance" of the Middle Ages (dark ages) and the rise of the Humanism Movement (1400 – 1600).

**Spanish Flu** (1918-1919)
- Acceleration of modern medical science.
- The beginning of the golden age (Globalization 1.0: the beginning of global policy coordination).

The Post-Covid-19 World: Long-Term Global Trends

- Change in Health System
- Digitalization and automation acceleration
- Artificial Intelligence (AI) & Big Data
- Change in Global Value Chain
- Rising Telework Trend
- Green Recovery
Although it has fallen by 29.48% in 2020, the economic recovery is expected to increase emissions again. After COVID-19, Indonesia will still have to face a bigger problem: climate change.

While the COVID-19 Pandemic leads to reduction on emissions level, these reductions are not enough to overcome climate change risks.
The agenda for re-designing Indonesia’s economic transformation must be carried out from now on.

**Economic Recovery:**
- **NECESSARY CONDITION, BUT NOT SUFFICIENT**

**Economic Recovery:**
- Short-term
  - Demand side intervention

Maintain purchasing power (social assistance, subsidies, etc.)

Creating demand with job opportunities and the need for supply of goods/services

**Economic Transformation:**
- Medium-Long Term
  - Production side intervention
    - Total Factor Productivity
    - Capital Productivity
    - Labor Productivity

**Phase 1:** Flattening the Recession Curve

**Phase 2:** Economic Recovery Post COVID-19

**Phase 3:** Economic Transformation

**TIME**

**THE NUMBER OF CASES INCREASED: ACTIVITY RESTRICTION**

**NUMBER OF CASES DECREASING, ADAPTATION OF NEW HABITS**

**RAISING ECONOMIC TRAJECTORY**

Source: Bappenas
REDESIGNING AN INCLUSIVE AND SUSTAINABLE ECONOMIC TRANSFORMATION: SIX STRATEGIES

“Build Forward Better with the SDGs as the main instruments of each strategy”

The six strategies "game changers" towards Indonesia Maju

#1 Strategy
Competitive Human Resource:
- Health Care System
- Education (Education System and Character Education)
- Research and Innovation

#2 Strategy
Economic Productivity:
- Industrialization
- MSMEs Productivity
- Agricultural Modernization

#3 Strategy
Green Economy:
- Low Carbon Economy
- Blue Economy
- Energy transition

#4 Strategy
Digital Transformation:
- Digital Infrastructure
- Digitalization
- Strong Enabler

#5 Strategy
Domestic Economic Integration (economic powerhouse):
- Infrastructure for Connectivity: Superhub, Sea Hub, Air Hub
- Domestic Value Chain

#6 Strategy
Capital City Relocation:
- New source of growth
- Balancing the economy between regions

Source: Bappenas

Strengthening Enabler:
Fiscal capacity, institutions, and bureaucratic reform are CRITICAL for any economic transformation strategy
SUSTAINABLE ECONOMIC RECOVERY FRAMEWORK

- Short-term horizon: Immediate crisis response
  - Front Lines health responses
  - Job creation
  - Boost to economic activity
  - Timeliness and risk

- Mid-term horizon: Economic recovery
  - Green stimulus packages
  - Seize opportunity of funding

- Long-term horizon: Growth potential
  - Long-term growth potential
  - Resilience to future shocks
  - Decarbonization and sustainable growth trajectory

Developing future policy space

Source: Thinking Ahead Indonesia’s Agenda on Sustainable Recovery From COVID Pandemic, LPEM and Bappenas
GREEN ECONOMY RECOVERY AND SECTORAL TRANSFORMATION
THE EXPLOITATION OF RESOURCES IN THE ECONOMY HAS LED TO ENVIRONMENTAL DEGRADATION

Continuing Indonesia’s unsustainable development path will limit Indonesia’s growth, job creation, and poverty reduction potential.

Indonesia is on an unsustainable development path.

• **Air and water pollution**, especially in big cities such as Jakarta and Bandung;

• **The shrinking forest area** is alarming, due to unsustainable agricultural patterns, especially in Sumatra, Kalimantan, Sulawesi and the provinces of Papua and West Papua.

• The haphazard **urbanization** process that leads to congestion and urban sprawl;

• **Depletion of the country's rich fisheries**, water resources and biodiversity;

• Contributions to **global climate change**, including sea level rise, extreme weather events, and decreased productivity due to higher temperatures.

Source: Tietenberg, 2018
GREEN ECONOMY: BASIC CONCEPT

Decarbonization
- Public good feature – who should finance?
- Abatement costs

Resource Efficiency
- Price relatives
- Developing supply chain

Environmental Improvement
- Environmental (and social) safeguards
- Green projects

Macro-impact: GDP (regional, national), sectoral linkages, social impact (poverty reduction, social inclusion), technological adoption, balance of payment

Source: LPEM
SECTOR PRIORITIZATION

Indonesia needs a long-term policy commitment to the transition to a sustainable and low-carbon economy support as industrial strategies recovery. The pandemic has affected the industrial sector significantly.

### Table of Sectors to be Prioritized

<table>
<thead>
<tr>
<th>Sectors</th>
<th>IMPACT ON</th>
<th>SHORT-TERM</th>
<th>LONG-TERM</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sustainable agriculture to support food security issue and env. Risk (crops)</td>
<td></td>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>Sustainable agriculture to support energy security issue and env. Risk (oil palm)</td>
<td></td>
<td></td>
<td>Medium</td>
</tr>
<tr>
<td>Low tech medical equipment and pharmaceutical products, including herbal</td>
<td></td>
<td></td>
<td>Medium</td>
</tr>
<tr>
<td>Social forestry and sustainable forest management (timber and non-timber products)</td>
<td></td>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>Promoting cleaner energy mix and efficiency energy incl. rooftop solat photovoltaic systems</td>
<td></td>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>Promoting a sustainable ocean economy</td>
<td></td>
<td></td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

- The recovery process should not focus only on boosting the value chain but also on making it inclusive
  - An inclusive value chain that focuses on both upstream and downstream sectors will speed up the recovery process
- Several strategic sectors whose transformation is central to the development of green economy:
  - cleaner industrial processes, the supply chain for electricity generation and other industrial processes (turbine, steam, motor, and transformer), and the demand sector which requires energy efficiency

Source: Thinking Ahead Indonesia’s Agenda on Sustainable Recovery From COVID Pandemic, LPEM and Bappenas
Most of the country’s infrastructure, particularly the long-lived ones, is classified as climate sensitive, highly vulnerable to destruction from a natural disaster, thus requiring careful planning.

Table of Public Project: Refocusing of Infrastructure Projects

<table>
<thead>
<tr>
<th>Sectors/ Products</th>
<th>Short-term Impact</th>
<th>Long-term Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Employment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economic Activity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timeliness and Risk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human/Cultural Impact</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sustainability/Pathways</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Natural/Cultural Capital</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical Capital</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fundamental Market Structures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increasing Access and VDA/Access Capacity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decarbonization/Climate Change</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental Risk</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Investing in sustainable management** promote more sustainable consumption and production activities (circular economy), which reduce potential waste generated in the whole supply chain.

- **Refocusing the investment on water and sanitation projects** would be a strategic decision to be made, not only because it has a low environmental risk, but also it meets the sustainability criteria in all aspects, both in the short- and long term.

- **Technology upgrading**, which is enabled by more intensive use of ICT, has the potential to support long-term decarbonization goals.

Source: Thinking Ahead Indonesia’s Agenda on Sustainable Recovery From COVID Pandemic, LPEM and Bappenas
A DEEP DIVE TO GREEN INDONESIA
STRATEGIC SECTORS FOR ECONOMIC TRANSFORMATION
GREEN INDONESIA

1. ENERGY TRANSITION
2. CLEAN TRANSPORTATION
3. SUSTAINABLE LAND AND FARMING
4. SUSTAINABLE FORESTS
5. SUSTAINABLE WATER RESOURCES
6. CIRCULAR ECONOMY THROUGH WASTE MANAGEMENT
7. BLUE ECONOMY FOR SUSTAINABLE MARINE & COASTAL ENVIRONMENT

Source: Study of Indonesia’s Transformation Roadmap Towards Indonesia 2045 (Bappenas, 2021)
STRATEGIC SECTOR 1: ENERGY TRANSITION

The three energy consuming sectors with the largest emissions

<table>
<thead>
<tr>
<th>Year</th>
<th>Electricity and heat producers</th>
<th>Transport</th>
<th>Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>100 MCO2e</td>
<td>50 MCO2e</td>
<td>50 MCO2e</td>
</tr>
<tr>
<td>2015</td>
<td>200 MCO2e</td>
<td>100 MCO2e</td>
<td>100 MCO2e</td>
</tr>
<tr>
<td>2020</td>
<td>250 MCO2e</td>
<td>150 MCO2e</td>
<td>100 MCO2e</td>
</tr>
</tbody>
</table>

Source: IEA (2020)

The growth of GHG emissions from electricity reaches an average of 8% per year.

Final Energy Consumption and Growth by Sector, 2011-2020

<table>
<thead>
<tr>
<th>Year</th>
<th>Industrial</th>
<th>Residential</th>
<th>Commercial</th>
<th>Transport</th>
<th>Public Transport</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>500 TWh</td>
<td>300 TWh</td>
<td>100 TWh</td>
<td>50 TWh</td>
<td>10 TWh</td>
</tr>
<tr>
<td>2015</td>
<td>600 TWh</td>
<td>400 TWh</td>
<td>150 TWh</td>
<td>60 TWh</td>
<td>15 TWh</td>
</tr>
<tr>
<td>2020</td>
<td>700 TWh</td>
<td>500 TWh</td>
<td>200 TWh</td>
<td>70 TWh</td>
<td>20 TWh</td>
</tr>
</tbody>
</table>

Source: ESDM (2020)

The Industry and Transportation sector has a high level of energy consumption.

Energy Sector GHG Emission Reduction Realization

- In 2020, the realization of emission reductions is 64.4 million tons of CO2e, higher than the target of 58 million tons of CO2e

Policy Directives on Energy Transition

1. New renewable energy transition and energy efficiency
   - The renewable energy mix target of 23% by 2025 includes energy from geothermal, hydropower, solar, wind, and ocean currents

2. Improvement of NRE supporting industry
   - The target for the domestic content level (TKDN) for the renewable energy sector is 40%, including solar, bioenergy, and geothermal power.
   - Investment in TKDN can encourage green jobs/absorption of domestic workers.

3. Reduce carbon emissions and increase value added gradually
   - GHG emission reduction in 2024 is targeted at 13%.
   - The increase in added value is measured by the volume of coal and gas converted into low-carbon industrial raw materials.

Source: Study of Indonesia’s Transformation Roadmap Towards Indonesia 2045 (Bappenas, 2021)
STRATEGIC SECTOR 2: CLEAN TRANSPORTATION

Number and growth of national motorized vehicles, 2020

Motor vehicle growth fell from 6% in 2019 to 2% in 2020 due to reduced mobility.

Fuel Consumption

Consumption of RON 90 fuel increases in line with the policy that limits RON 88 fuel in 2017.

Energy Sector GHG Emission Reduction Realization

A blend of biofuels can reduce GHGs, but oil palm plantations correlated with 23% of deforestation in 2001-2016.

Transition to sustainable transport

Sales of Hybrid and electric vehicles in the last 5 years

1. Improving urban and national air quality
   • Net transport is measured by changes in air quality levels using the air quality index (IKU) and the annual average of fine particulate matter PM 10

2. Meeting clean energy needs
   • This achievement is measured by indicators of an increase in the number of electric vehicles and supporting infrastructure
   • Increasing the number of domestic use of biofuels from 6.9 million kilo liters to 17.4 kilo liters in 2024

3. Improve the mass transportation system
   • Improvements to the mass transportation system are measured by the number of urban mass public transportations developed.
   • Other indicators include the number of low-emission public and private vehicles and low emissions per capita.

Source: Study of Indonesia’s Transformation Roadmap Towards Indonesia 2045 (Bappenas, 2021)
STRATEGIC SECTOR 3: SUSTAINABLE FORESTS

Indonesia's Land Area

<table>
<thead>
<tr>
<th>Use Type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>State Managed</td>
<td>36%</td>
</tr>
<tr>
<td>Other areas of use</td>
<td>64%</td>
</tr>
</tbody>
</table>

Indonesia’s land area is 120.6 million ha.

The comparison of the area of forest fires (LHS) and the number of forest fire disasters (RHS), 2016-2020 shows a decreasing trend in both categories.

Indonesian Forest Area

- **Production forest**: 57%
- **Conservation forest**: 18%
- **Protected forest**: 25%

Protected forests have the main function as water catchment areas.

Policy Directives on Sustainable Forests

1. **Restoring and conserving forest resources**
   - The decrease in the percentage of forest and land area burned each year is a maximum of 2% in 2024, the area for peat restoration is 330,000 ha/year, and forest and land cover area is 420,000 hectares per year in 2024.
   - The low-carbon development scenario for secondary forest cover becomes 48.2 million ha accumulated in 2060.

2. **Carry out sustainable forest monitoring**
   - Increase in the percentage of permit holders who comply with environmental and forestry management regulations to reach 70% in 2024.
   - The number of environmental and forestry criminal and civil cases handled will reach 540 cases in 2024.

3. **Sustainable use of forests**
   - The area of sustainable plantations will reach 50% by 2025 in a low-carbon development scenario.
   - Sustainable nature tourism destinations based on priority forest areas to 25 regions by 2024.

Deforestation, forest and peatland fires, and land use change contribute to 3.5 billion tons of CO2e.

Other use areas are allocated for activities other than forestry. Most of it is an agricultural area.

Source: Study of Indonesia's Transformation Roadmap Towards Indonesia 2045 (Bappenas, 2021)
STRATEGIC SECTOR 4: SUSTAINABLE AGRICULTURE AND LAND

The agricultural sector plays an important role in ensuring food availability.

Agricultural GDP growth is around 3.3% per year for 10 years.

Contribution to total agricultural GDP decreased from 9.2% in 2010 to 7.8% in 2020.

Average agricultural production index increased

Agricultural Production Index (IP) shows an increasing pattern from 125.51 in 2016 to 167.55 in 2020.

Policy Directives on Sustainable Agriculture and Land

1. Improving sustainable agriculture
   - The percentage of raw rice fields as LP2B reaches 100% in 2024.
   - Efforts to support sustainable agriculture set GHG emission reductions on land to be 58.3% in 2024 from the 2019 baseline.

2. Improving the integrated farming system
   - Conversion of primary forest to agricultural land up to 100% by 2025.
   - The area of RSPO and ISPO certified oil palm plantations will reach 50% in 2045 from the baseline.
   - The increase in premium irrigation will reach 16.4% in 2024.
   - Building an integrated agricultural data value chain information system at the local level.

Farmer's exchange rate

During 2016-2020, NTP decreased from 128.48 to 105.83

Source: Study of Indonesia’s Transformation Roadmap Towards Indonesia 2045 (Bappenas, 2021)
Water quality still becomes one of Indonesia’s main issues as well as the availability of water.

**Policy Directives on Sustainable Water Resources**

1. **Improve water quality by reducing pollution, discharge and waste in water bodies**
   - Improved surface water quality index and groundwater quality index

2. **Achieving integrated water resources management**
   - Increasing the level of implementation of integrated water resource management according to the 4 dimensions of the implementation of Integrated Water Resource Management (IWRM)
   - Increasing the proportion of boundary basin areas with operational arrangements for water resources cooperation
   - Increasing the proportion of raw water taken from surface water and ground water to its availability

3. **Improved access to safe and affordable drinking water for households**
   - An increase in the percentage of households using safely managed drinking water

Source: Research Report on Indonesian Economic Transformation Roadmap (Bappenas, 2021)
STRATEGIC SECTOR 6: BLUE ECONOMY FOR SUSTAINABLE MARINE & COASTAL ENVIRONMENT

Management of fishery activities is one of Indonesia’s main problems...

As much as 38% of fishery activities is categorized as overfishing. In return, 44% of fish supply has been depleted.

The depletion of fish stocks will threaten the welfare of Indonesian coastal communities, especially fishermen in the small-scale fisheries sector, with incomes below the minimum wage.

Along with the sustainability of ecosystem & marine tourism

Indonesia Ranking in Travel & Tourism Competitiveness Index WEF 2019

Natural & Cultural Resource
18th out of 140 countries
Tourism Environmental Sustainability
135th out of 140 countries

This condition reflects the high potential of natural resources with insufficient sustainability management.

The conversion of mangrove areas is also still happening significantly, as reflected in the high proportion of land in critical condition. In fact, the ability to rehabilitate mangroves is only around 1000 ha/year.

Wetland Condition* (persen)

- Land in critical condition
- Land not in critical condition

52.9
1.8 mill hectares

1. Increasing the sustainable economic benefits of fishery and marine tourism economic activities
   - Increase in sustainable fisheries (% GDP) and sustainable marine tourism (% GDP)
   - Increasing the number of locations for implementing sustainable development tourism

2. Improving sustainable management for marine and coastal ecosystems
   - Application of an ecosystem-based approach in the management of ocean areas
   - Ensuring sustainable management of 11 State Fisheries Management Areas of the Republic of Indonesia (WPPNRI)

3. Ending practices of overfishing, illegal and destructive fishery activities
   - Controlling the proportion of catches of marine fish species that are within safe biological limits

Source: Research Report on Indonesian Economic Transformation Roadmap (Bappenas, 2021)

*Maritime Tourism Subsector FGD, 18 November 2021

Directorate of Macro Planning and Statistical Analysis
**STRATEGIC SECTOR 7: CIRCULAR ECONOMY THROUGH WASTE MANAGEMENT**

**Waste management** is a crucial issue that needs to be addressed immediately.

### Indonesia Waste Volume (mil tonnes)

<table>
<thead>
<tr>
<th>Year</th>
<th>Waste Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>60</td>
</tr>
<tr>
<td>2020</td>
<td>67.8</td>
</tr>
<tr>
<td>2025</td>
<td>70.8</td>
</tr>
</tbody>
</table>

**Managed waste volume: 4.3 mil ton by 2020**

### Waste Management, 2017 (persen)

- Ditimbun di TPA: 63.0
- Pembakaran terbuka: 21.0
- Tidak ditangani: 6.0

**The proportion of managed waste in Indonesia is still relatively small compared to the volume of waste.**

Most of the waste ends up in landfills at the Final Disposal Site (TPA).

### Food waste contributes to 39.8% of total waste from households

Food waste accumulates to 23-48 mil. tonnes/year throughout 2000-2019, which correlates to an economic output loss of IDR 213-551 trillion/year.

### Plastic waste is projected to grow 66% faster than the overall increase in landfill waste by 2040.

By 2017, 650.000 tonnes of plastic waste ended up in bodies of water (rivers, lakes, sea). Without intervention, by 2040 waste leakage into water bodies will accelerate to more than double its original amount, up to 1.6 million tonnes.

### Policy Directives on Circular Economy through Waste Management

1. **Reducing waste**
   - Increasing the percentage of managed national waste
   - Increasing the percentage of households in urban areas that are served by management
   - Increasing the level of domestic liquid waste and industrial solid waste that is managed and substituted with environmentally friendly materials
   - Increasing the level of GHG emission reduction from the sector

2. **Improved plastic waste management**
   - Reduce plastic waste by 30% by 2025 and increase the recycling rate of plastic waste
   - Increasing the level of responsibility of plastic waste producers (number of extended producer responsibility programs – EPR)
   - Increased growth of waste recycling activities through Waste Banks, Main Waste Banks, and Recycling Centers (PDU)
   - Reducing waste thrown into the sea

Source: Research Report on Indonesian Economic Transformation Roadmap (Bappenas, 2021)
CLOSING REMARKS
Economic activity generates environmental pressures through production, distribution, transport, and waste generation, including greenhouse gas emissions, therefore there is a need for coordination and collaboration for the policy and funding from all stakeholders (government and community).

COVID-19 pandemic is a game changer that awakens us to grow better by improving productivity and being more inclusive and sustainable.

Through the re-design economic transformation strategy, Indonesian growth trajectory is not only expected to return to its pre pandemic level but also to lift to higher level in sustainable path.

Economic transformation requires orchestration from planning to implementation.

The horizon of economic transformation is medium to long term; therefore, it must be integrated with medium to long-term development plans.

Economic transformation is cross-actor, cross-sectoral and cross-regional as well as cross-level government.

Bappenas has mandate to orchestrating economic transformation strategies.
THANK YOU

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