



Kementerian PPN/
Bappenas

ILO ASEAN Green Jobs Forum, Manado, North Sulawesi

Low Carbon and Climate Resilience Development for Green Economy: How Tourism Sector can Contribute

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The Urgency of Green Transition

Indonesia's status as a Middle-Income Country



4th

World's Largest
Population



16th

Largest
economy in the
world



2045

Become the 5th
world's largest
economies



We must depart from the business-as-usual growth model to one that is **more innovative**; to one that will divert us away from the inevitable catastrophic impact of our current trajectory; and away from a model which will seriously constrain our **productivity, economic growth, and development prospects**.



Social

11.25% to 6.56%

poverty rate has continued to fall
between 2014 & early 2019



Economy

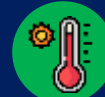
5.31%

National GDP in 2023 which has
bounced back to the pre-pandemic level



Environment

Indonesia's Challenges



Temperature
rise
0.45-0.75°C



5.8 million km²
water area in
Indonesia is
dangerous for
fishing vessels
<10GT



Change in
Rainfall pattern
±75 mm/month



18,000 km of
coastline fall
into the
vulnerable
category



Sea level rise
0.8-1.2
cm/year



Low Water
Quality
Index score

We are facing upon crisis:

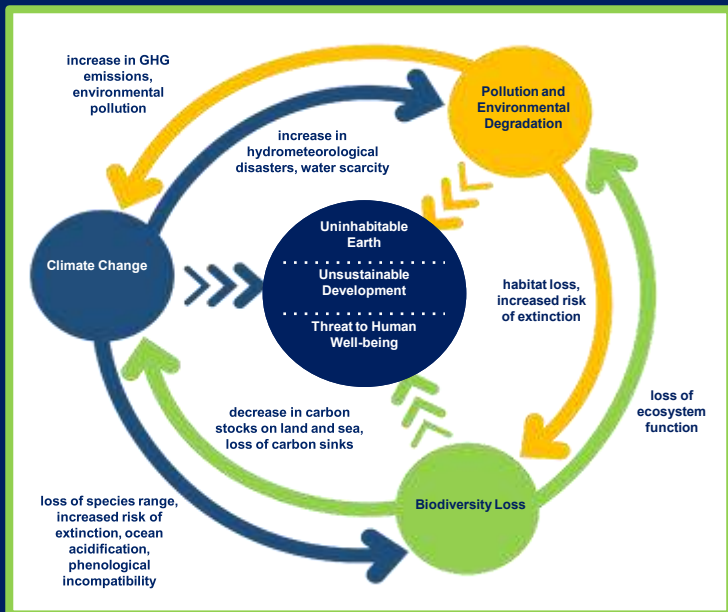
The whole world is currently facing **3 Planetary Crises**.

How we respond will determine the future of our Planet Earth & the humanity

Triple Planetary Crisis

The triple planetary crisis refers to the three main interrelated problems facing humanity today: climate change, pollution, and biodiversity loss.

Interactions in the Triple Planetary Crisis



Climate Change

50-75% of the global population could be exposed to **life-threatening climatic conditions by 2100¹**



Pollution

Air pollution causing up to **4.2 million deaths every year²**



Biodiversity Loss

Currently, about **one million plant and animal species** face the **threat of extinction³**

¹IPCC (2022), ²UNFCCC (2022), ³IPBES (2019)

Commitment on GHG Emission Reduction and Paris Agreement

Commitment on GHG Emission Reduction 2020 *below baseline

- In 2009, President Susilo Bambang Yudhoyono at the G20 meeting in Pittsburgh, United States, stated Indonesia's commitment to tackling the problem of global climate change.
- Indonesia is committed to reducing GHG emissions by **26% with its own efforts and 41% with international assistance by 2020**.
- This commitment became the background for the enactment of the National/Regional Action Plans for Reducing Greenhouse Gas Emissions (**RAN-GRK and RAD-GRK**).

Paris Agreement

- Resulted from the COP21 Meeting in Paris, the Paris Agreement was signed in 2016 by 175 countries.
- Indonesia ratified Paris Agreement through UU No. 16/2016 and committed to:



Keeping global temperature rise not exceeding 2 °C and achieving efforts to limit temperature rise to 1.5 °C

Increase resilience and adaptability to the negative impacts of climate change

Support funding commitments in line with the Paris Agreement

Indonesia has submitted the NDC (Nationally Determined Contribution) document Committed to Reducing GHG Emissions by:

	NDC	ENDC (2022 NDC update)
Unconditionally	29%	31,89%
International support	41%	43,20%

Net Zero Emissions Commitment and Results of COP 26 & 27



At COP26 in Glasgow, President Joko Widodo conveyed Indonesia's commitment to achieve Net Zero Emissions (NZE) in 2060 or sooner

Way Forward

Agree on planning scenarios and NZE trajectory

Agreement on the 2021 COP-26 Meeting

● *Glasgow Climate Pact*, includes:

(1) Climate resilience, especially loss and damage, is a big concern for developing countries; (2) Encouragement for developed countries to meet their commitment of \$100 billion/year in aid to reduce emissions



Commitment of 137 countries to **discontinue forest loss and land degradation**



Phasing down coal for energy production, with Indonesia committed to achieving this by the 2040s

Agreement on the 2022 COP-27 Meeting

1

Agreement on the establishment of a loss and damage fund for developing countries

2

Improvement of mitigation efforts and implementation until 2030

3

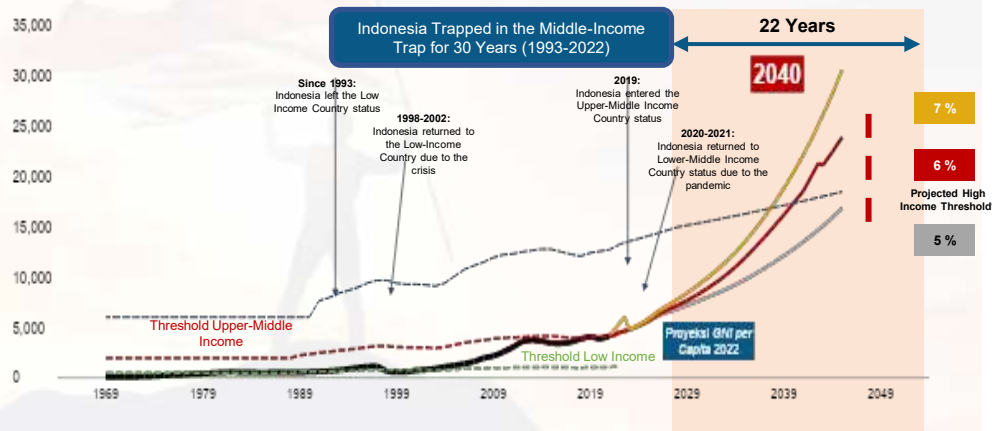
Updated climate mitigation commitments of several countries

4

Requisite for funding from the private sector is US\$4 trillion per year until 2030

However, we are still facing challenge to Escape from Middle-Income Trap before 2045 and Recover after COVID19 - Economic Transformation

Indonesia's GNI per Capita projection (USD)



An economic transformation is needed through a shift in productivity between sectors, namely a shift in the economic structure from a less productive sector to a more productive sector (industrialization)

Economic Transformation Strategy Plan



Competitive
Human Resource



Productivity in the
economy sector



Green Economy



Digital
Transformation



Domestic Economy
Integration



Capital City
Relocation

Economic Transformation strategy includes Green Economy with Low Carbon and Climate Resilience Development as the backbone



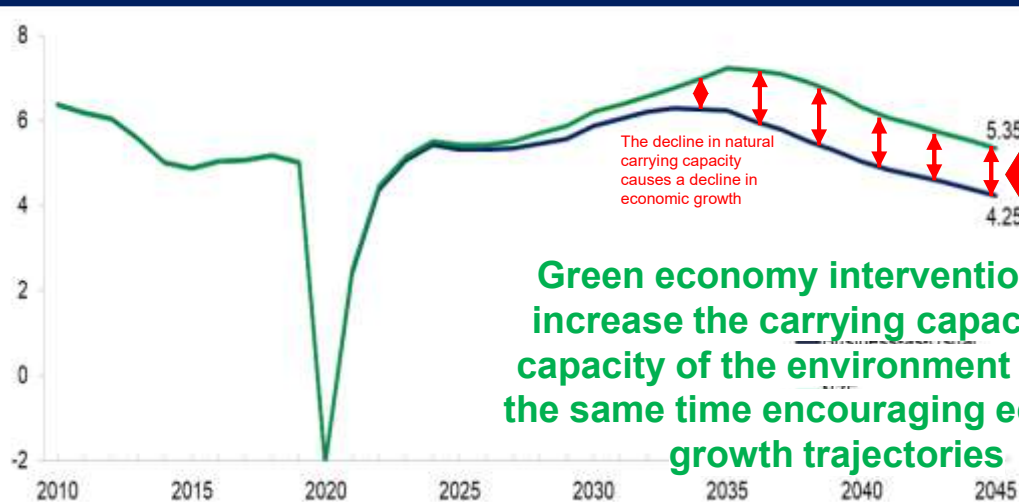
Green Economy

Green Economy as part of the Economic Transformation Strategy encourage Indonesia to escape the Middle-Income Trap before 2045

GREEN ECONOMY: Maximizing economic growth with NZE policies

The implementation of business-as-usual (BaU) policies would lead to degradation of natural carrying capacity and have implications for not achieving the desired economic growth

Economic growth (percentage)

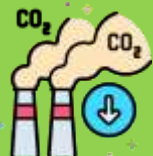


Indonesia has a target of achieving an average GDP growth of 6-6.5% in the period of 2025-2045.

Under the NZE policies, Indonesia's average GDP growth of 2025-2045 would reach 6.22%

N A T U R A L C A R R Y I N G C A P A C I T Y	 Land	10 million hectares of forest land will be lost from 2025 to 2060 - Agricultural land will continue to decrease to 7 million hectares - Rice field productivity decreased to 7 tonnes/ha/year due to soil degradation
	 Energy	Oil and gas reserves are only around 0.3% and 2% in 2060
	 Emissions	By 2060, total emissions will almost double compared to 2010 levels
	 Waste	Indonesia's landfill capacity will be full before 2028
	 Water	The burden of domestic waste pollution continues to increase, reaching 4.7 million tonnes of BOD per year.
	 Air	The annual average concentration of PM2.5 pollution continues to increase, reaching 26.5 micrograms/day, or above the ambient air quality standard (15 micrograms/day).

What benefits will Indonesia gain when **Green Economy** is achieved?



71–86 billion
tonnes CO₂e
GHG emissions
saved over 2021–2060



Almost 93.5% reduction
in emission intensity by
2045, before reaching NZE
by 2060



**Reaching Net
Zero Emissions
(NZE) by 2060 or
sooner**



12,2–19%
higher gross
national income
(GNI) by 2045



**Average GDP
growth of
6.22%**
per year until 2050



1.8 million
additional green
jobs in 2030
spread across the energy
sector, EVs, land restoration
and waste sectors



**Mangrove extent
increased to
3.6 million ha**
by 2060



40,000 lives
saved in 2045
from reduced air
pollution



**Boost
climate
resilience
across the
economy**



3.2 million ha
of primary forest
protected
by 2060



4.1 million ha
of forest
coverage added
by 2060



Ecosystem restoration
with services valued at
US\$4.75 by 2060 trillion/year

Main Targets and Objectives of the 2025-2045 RPJPN for Indonesia's development in the next 20 years to answer the challenges of Climate Change

RPJPN 2025-2045

**Indonesia
Target
2045:**



**Sovereign, Developed
and Sustainable
Archipelago**

17

Goals

8

Development
Agendas

45

Indicators



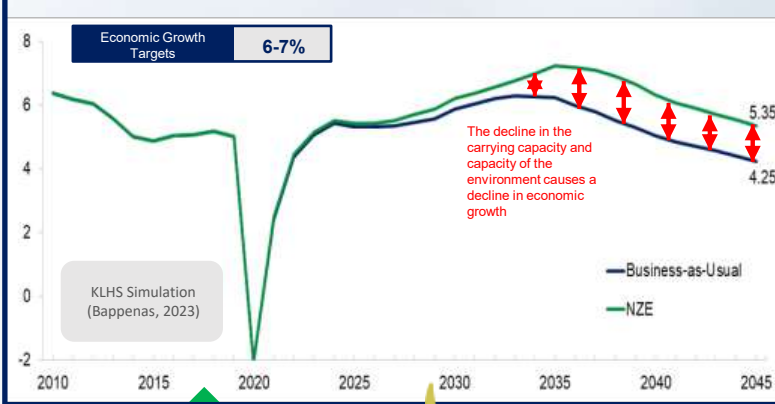
The principles of Sustainable Development are very strongly integrated into the 2025-2045 RPJPN.

The realization of Indonesia's Vision 2045 is reflected in 5 (five) Main Targets:

Development Agendas					
Target 2045	Per capita income on par with developed countries	Poverty is heading towards 0% and inequality is decreasing	His leadership and influence in the international world increased	The competitiveness of human resources increases	GHG emission intensity decreased towards Net Zero Emissions
	GNI per Capita	Gini ratio (index)	Global Power Index (rank)	Human Capital Index	Reducing GHG emission intensity
	30.300 USD	0,290-0,320	rank 15	0,73	93,5%

Goal 5: GHG Emissions Intensity Reducing to Net Zero Emissions (NZE)

Economic Growth (percent)



National GDP



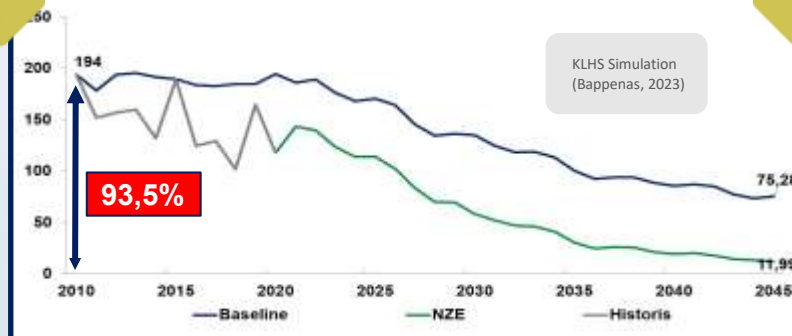
GHG emissions

Emission intensity is the amount of GHG emissions produced per unit of economic activity output

GHG Emission Reduction (GtCO₂eq)



Emission Intensity Reduction



Green Economic Intervention with Low Carbon Development will increase the carrying capacity of the environment and reduce GHG emissions while encouraging **Indonesia's average GDP growth in 2025-2045 to reach 6.22%.**

GHG emissions are expected to decrease by 51.51% cumulatively in 2010-2045, or on an annual basis of 80.98% (in 2045) under the Business as Usual scenario, to be able to achieve Net Zero Emissions in 2060. This will have **an impact on reducing emissions intensity by 93.5% in 2045 below 2010 levels**

Low Carbon & Climate Resilience Development as “backbone” for Indonesia’s Economic Transformation towards **Green Economy**

Article 3.4 UNFCCC

Integration of climate change mitigation efforts into the national development plan

RPJMN 2020-2024: National Priority No. 6

Low Carbon Development



Waste Management & Circular Economy



Green Industry Development



Sustainable Energy Development



Low Carbon in Marine & Coastal Areas



Sustainable Land Rehabilitation

GHG Emission Reduction in 2024:

27,3%

Emission Intensity in 2024:

31,6%



Circular Economy, as a tool for accelerating the implementation of low carbon development.

Climate Resilience Development



Marine & Coastal



Water



Agriculture



Health

Reducing Loss due to Impact of Disasters and Climate Dangers

Minimizing economic loss ratio due to climate disasters towards GDP 2024:

0,3%

Analysis of priority locations of climate resilience actions in **4 priority sectors**



RPJPN 2025-2045



IE5: Implementation of Green Economy

i) Energy Transition; ii) Implementation of Low Carbon Development; iii) Implementation of Circular Economy; dan iv) Development of Green Financing

Green Economy Index Target in 2045:

90,65



IE17: Resilience towards Disasters and Climate Change

Pembangunan Rendah Karbon dan Pembangunan Berketahanan Iklim

Proportion of direct economic loss due to disasters relative to GDP (2045):

0,11%

GHG Emission Reduction Percentage (2045):

Annual

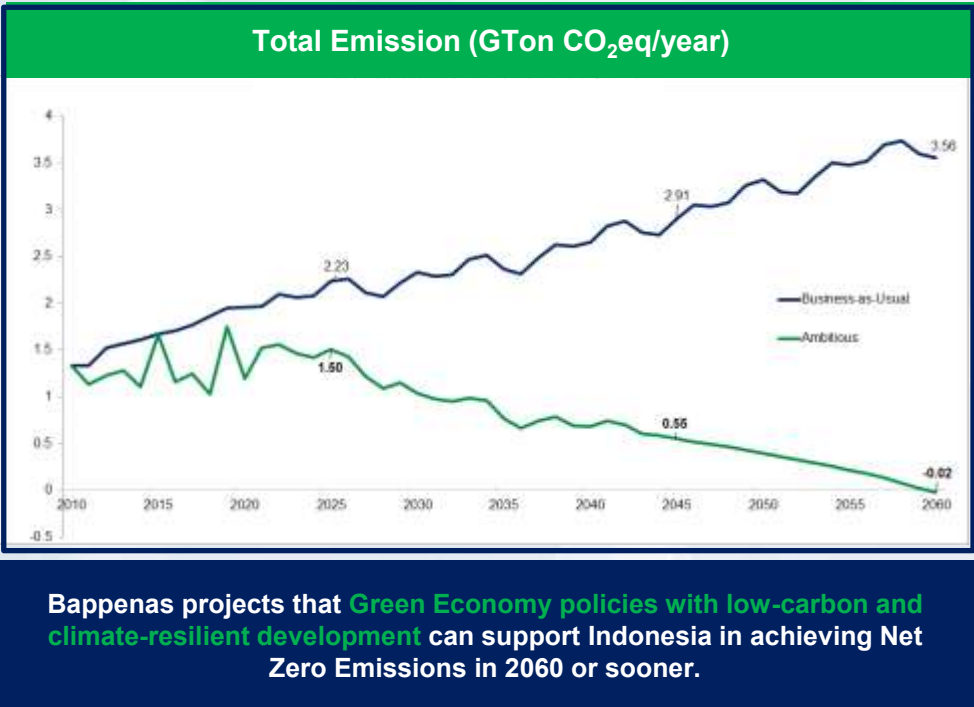
80,98%

Cumulative

51,51%

Low Carbon and Climate Resilience Development supports Economic Transformation policy to drive Indonesia's economic growth and achieve Net Zero Emissions in 2060 or sooner

Policies to Achieve NZE				
Energy		Implementation of energy efficiency in each energy sector (household, commercial, industry, and transportation)		
		Installed capacity towards 100% of renewable energy power plants		
		Shifting to electric vehicle and hydrogen-based fuel vehicle		
Land		Reforestation		Mangrove rehabilitation
		Peatland restoration		Inhibition of deforestation
Agriculture		Providing Organic Fertilizer Management Unit (UPPO)		
		Addition of irrigated rice fields and application of rice intensification system		
		Application of low emission seeds		
Wastewater and Solid Waste		Resource efficiency and integrated waste management	Enabler	 Gradually discontinuing fossil fuel subsidies
		Increasing of wastewater treatment from industries		 Carbon tax implementation





2

Key Success to Embrace Green Transition

Enabling Conditions to Drive Green Transition



Enabler

Technology and Innovation

acceleration of technology transfer and innovation to create accessible technology for all. To boost competitiveness to enter global market as producer not consumer

Innovative Funding

to achieve NZE and cannot be met solely by the state budget. New alternative funding sources are strongly required

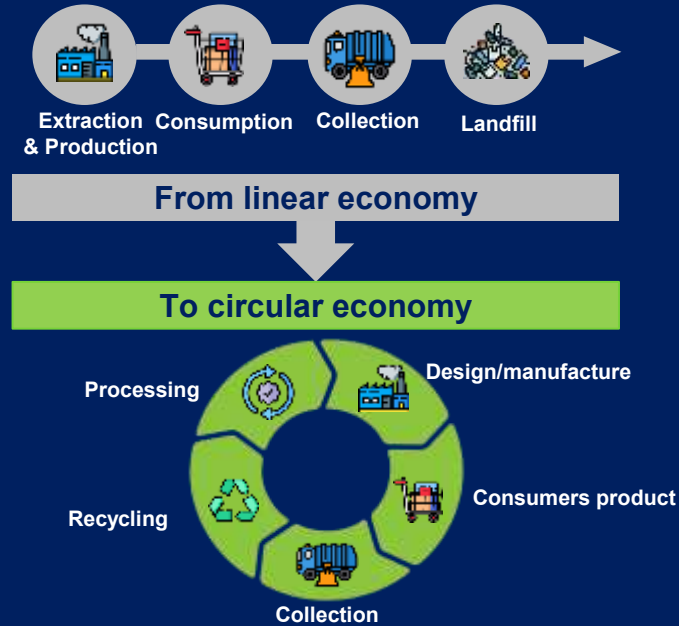
Capacity and Skill Development

so that the current and future workforce benefit from the creation of new green jobs

Closer collaboration of all related stakeholder, from central and local government, private sectors, academics, communities, and media. Moreover, **international collaboration can accelerate progress at each stage of the transition**

Green transition strategy need to be prepare, including how to manage built “*brown assets*” that having potency become “*stranded assets*”

Circular Economy as part of Green Economy and Low Carbon Development: A Tool to Accelerate the Implementation of Low Carbon Development



Circular economy is an economic model which aims to minimise resource use, design value of products as long as possible, and return the residues from production and consumption into the product cycle

A circular economy approach comprises:

THE 9R_s

R0: Refuse

R1: Rethink

R2: Reduce

R3: Reuse

R4: Repair

R5: Refurbish

R6: Remanufacture

R7: Repurpose

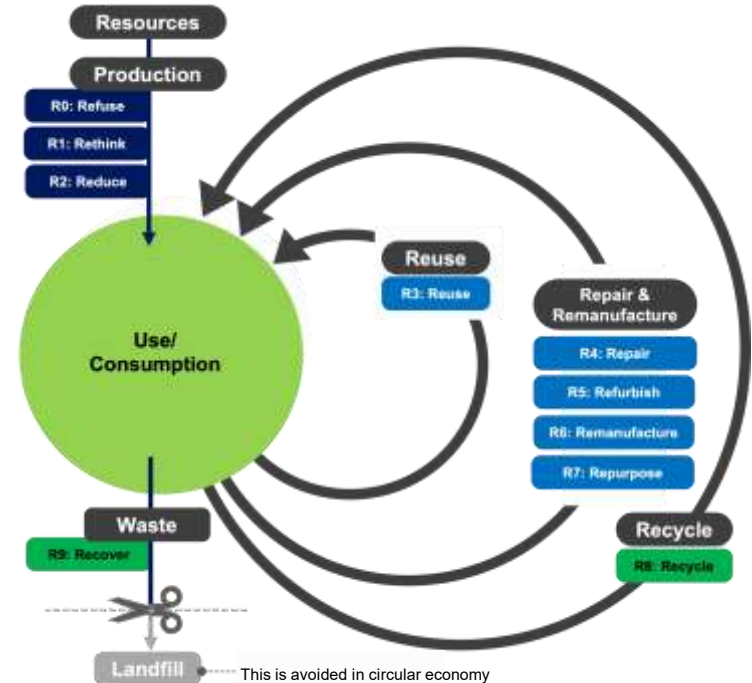
R8: Recycle

R9: Recover



Circular Economy implementation is beyond waste management

But focus on resource efficiency and looking at the overall value chain





3

Implementing Low Carbon and Climate Resilience Development in the Tourism Sector

Low Carbon & Climate Resilience Development as “backbone” for Indonesia’s Economic Transformation towards **Green Economy**

Article 3.4 UNFCCC

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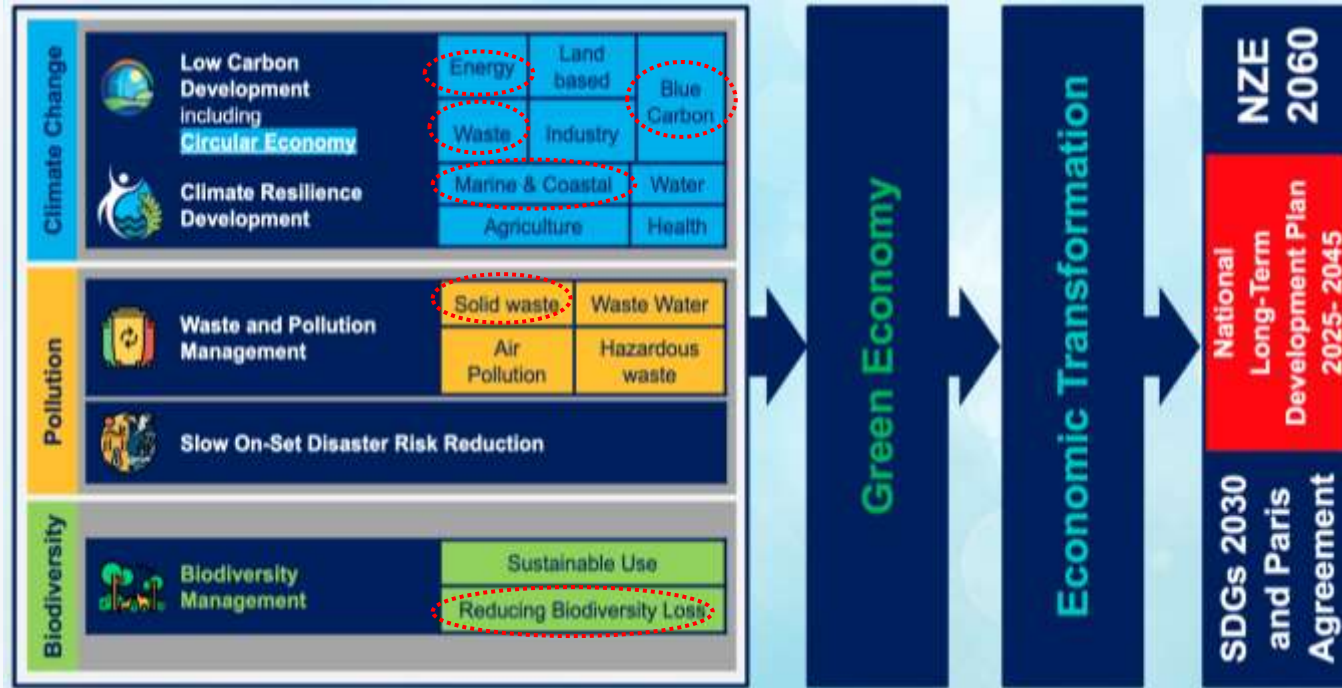
Annual

80,98%

Cumulative

51,51%

Low Carbon and Climate Resilience Principles for Sustainable Tourism



Potential Areas for Low Carbon and Climate Resilience Development on the Tourism Sector

Renewable Energy

Waste Management & Circular Economy

Biodiversity



Green Jobs Creation

In the context of the tourism sector, such as ecotourism in the Bunaken National Park area, it has a wide-ranging potential to contribute to low-carbon and climate-resilient development. The implementation of low-carbon and circular economy, as well as climate resilience development will accelerate the efforts for realizing a sustainable tourism.

Greening the Tourism Sector: Implementing Principles of Low Carbon, Circular Economy, and Climate Resilience Development

- 1. Reducing Carbon Footprint:** Hotels, airlines, and transportation providers can adopt energy-efficient practices, use renewable energy sources
- 2. Promoting Low Carbon & Sustainable Transportation:** Such as electric vehicle, public transportation, bicycle
- 3. Waste Reduction and Recycling:** Hotels, restaurant, and tourism businesses can implement recycling programs, minimize single-use plastics, and promote waste reduction (including food waste) practices to support a circular economy
- 4. Local Sourcing:** Locally sourced products and services are encouraged, helping to reduce transportation-related emissions and supports local economies
- 5. Preserving Natural Resources:** Protecting and conserving natural resources, such as forests, water bodies, and wildlife for maintaining ecological balance and enhancing climate resilience
- 6. Climate-Resilient Infrastructure:** Investing in climate resilient infrastructure, including flood defenses, energy-efficient buildings, and disaster preparedness plans, helps mitigate the impact of climate change on tourism destinations
- 7. Education and Awareness:** Tourism stakeholders can educate both tourists and local communities about the importance of sustainable tourism practices, climate resilience, and circular economy
- 8. Collaboration and Certification:** Collaborating with environmental organizations and obtaining sustainability certifications
- 9. Community Engagement:** Involving local communities in tourism decision-making processes and ensuring they benefit from tourism activities can foster support for sustainable tourism initiatives
- 10. Monitoring and Reporting:** Regularly monitor and report on sustainability efforts and their impact on carbon reduction, circular economy principles, and climate resilience development can help stakeholders track progress and make improvements.



**Green
Jobs
Creation**

Greening the Tourism Sector: Green Jobs Creation

1. **Eco-friendly Accommodation:** Requiring skilled staff for construction, maintenance, and operation, creating jobs in architecture, construction, and hospitality management
2. **Local Sourcing:** Supporting local farmers and artisans, creating employment opportunities in agriculture, food production, and small-scale industries
3. **Tour Guides and Conservationists:** Eco-tourism destinations require knowledgeable tour guides who can educate visitors about the local flora, fauna, ecosystem, and biodiversity. Conservation efforts may require skilled personnel for tasks such as wildlife monitoring, habitat restoration, and ecotourism management
4. **Transportation and Infrastructure:** Investments in green transportation infrastructure, such as bike lanes and charging stations can create jobs in construction, maintenance, and operations.
5. **Community-based Tourism:** Many green tourism initiatives may involve local artisans selling crafts, homestays, and cultural experiences → generate income and employment opportunities for the community.
6. **Environmental Education and Interpretation:** Requiring skilled environmental educators and interpreters who can teach visitors about the importance of conservation and sustainable practices
7. **Research and Monitoring:** Requiring scientists, researchers, and data analyst for sustainable tourism
8. **Green Certification and Auditing:** Requiring environmental assessors and auditors
9. **Waste Management and Recycling:** Staff are needed to manage waste reduction and recycling initiatives

Greening the Tourism Sector: Requirements

Requirements:

- Co-creation and collaboration among stakeholders in the tourism industry
- Investments for greening the tourism sector
- Strong commitment from all stakeholders
- Enabling environment:
 - (1) Clear policy (sustainable/green tourism roadmap and action plans with clear targets and indicators are required);
 - (2) Incentive & disincentive mechanism
- Education and awareness, including upskilling & reskilling for employers in the tourism industry who are engaged in (potential) green jobs.



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Thank You

Environmental Affairs Directorate - Kementerian PPN/Bappenas



The Government of Indonesia (Ministry of Development Planning/Bappenas) has launched Green Economy Index on 9th of August 2022 at G20 DWG Meeting (*Side Event*) Bali

A clear measuring tool is needed with tangible, representative and accurate indicators of success to measure the effectiveness of the green economic transformation and evaluate overall progress towards achieving a green economy

The GEI tool can be used to assess socio-economic-environmental interactions within the green economy and identify potential risks and opportunities for designing better green economy policies

Green Economy Index (GEI)



Consists of 15 selected indicators that represent the three pillars of Sustainable Development: economic, social, and environmental

