MINISTRY OF TRANSPORTATION
DIRECTORATE GENERAL OF SEA TRANSPORTATION
DIRECTORATE OF MARINE SAFETY AND SEAFARERS

NATIONAL POLICIES & STRATEGIES FOR DECARBONIZING SHIPPING SECTOR

djpl
BEKERJA OPTIMIS

Candidacy for IMO Council 2026-2027
INDONESIA
Navigating Maritime Opportunities towards Global Sustainability

Mulai Presentasi

INDONESIA'S COMMITMENT
ON CLIMATE CHANGE

PARIS2015 UN CLIMATE CHANGE CONFERENCE COP21·CMP11

- Global GHG emission reduction commitments
- Climate change adaptation and "loss and damage"
- Transparency framework
- Means of implementation (Funding, technology, capacity building)

PARIS AGREEMENT
(Desember 2015)

Paris: Submission of commitments to reduce GHG emissions in 2030 by 29% to 41% compared to **Business as Usual (BaU)**

PRESIDEN'S SPEECH
(Desember 2015)

New York: The signing of the Paris Agreement at the "High-level Signature Ceremony for the Paris Agreement" held at UN Headquarters.

THE SIGNING OF PA
(April 2016)

Submission of the ratification of the Paris Agreement through Law No. 16 of 2016 which is equipped with Indonesia's First NDC document to the UNFCCC

PA RATIFICATION
dan NDC
(November 2016)

Submission on *Updated NDC* & LTS- LCCR 2050 ke UNFCCC

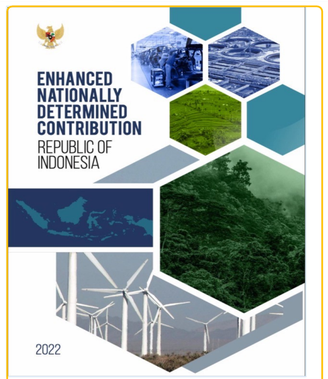
UPDATED NDC & LTS
(Juli 2021)

PERPRES 98 Tahun 2021
(29 Oktober 2021)

Presidential Regulation No. 98 of 2021 on implementing Carbon Economic Value (NEK) for Achieving Nationally Determined Contribution Targets and Controlling Greenhouse Gas Emissions in National Development has been enacted.

"Indonesia will be able to contribute more quickly to the world's Net-Zero Emission. In addition, carbon markets and carbon prices must be part of efforts to address climate change issues. A transparent, integrity inclusive and fair carbon economy ecosystem must be created."
(President of Indonesia at the World Leaders' Summit on Climate Change, Glasgow, November 1st, 2021)

DELEGASI INDONESIA PADA COP26 GLASGOW 2021
COP26/CMP16/CMA3, SBSTA&SBI 52-55



ENHANCED
NDC
September 2022

Through low carbon scenario compatible with the Paris Agreement target (LCCP), Indonesia foresees to reach the peaking of national GHGs emissions in 2030 with net sink in forestry and land uses (FOLU), and with further exploring opportunity to rapidly progress towards net-zero emission in 2060 or sooner.
With this scenario, Indonesia need to significantly reduce emission from energy sector to close to zero and increase removals in forestry and land uses. This will require transformational changes in energy system as well as food and land-use system, which need to address a large number of targets with potential trade-offs among them, such as target relating to energy security, food security. biodiversity conservation, avoiding deforestation, freshwater use, nitrogen and phosphorus uses, as well as competing use of lands.

INDONESIA'S COMMITMENT

MITIGATION ACTION OF CLIMATE CHANGE IN TRANSPORTATION SECTOR

Minister Decree Number 8/2023

Determination of Mitigation Action Plan of Climate Change in Transportation Sector to achieve the National Determined Contribution

- Land Transport sector : 17 actions
- **Sea Transport Sector: 10 actions**
- Aviation Sector: 11 actions

Planning, controlling, data collection, calculation, and evaluation

10 Mitigation Actions Plan in Sea Transportation Sector

1) Modernization of Ships
2) Implementation of Ship Energy Efficiency Management Plan (SEEMP)
3) Implementation of Anti Fouling System for the ship-hull
4) Ship Telecommunication Services (Weather Forecast Information)
5) Implementation of Onshore Power Supply (OPS) in ports
6) Electrification of Loading and Unloading Equipment Facilities in Ports
7) Utilization of Solar Power Street Lighting in Ports
8) Utilization of Solar Power Plant (PLTS) in Transportation Infrastructure
9) The use of Low Carbon Fuel on Ships
10) Utilization of Aids to Navigation System (SBNP)

NATIONAL GHG EMISSION REDUCTION ROADMAP

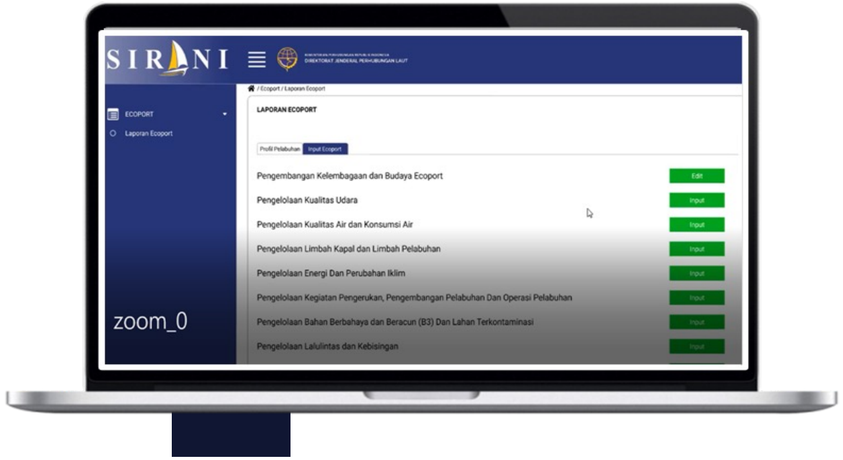
- The Ministry of Transportation has prepared a study related to the roadmap for mitigation actions to reduce greenhouse gas emissions in the maritime transportation sector towards NZE in 2060 or sooner.
- A follow-up study on the preparation of a GHG emission reduction roadmap is being prepared in collaboration with UK-PACT and is planned to be completed in 2026.
- Commitment and support from all stakeholders is required.

ROLE OF PORT

SUSTAINABLE PORT MANAGEMENT (ECOPORT) IN INDONESIA

DGST Decree on Ecoport Guidelines (Keputusan Direktur Jenderal Perhubungan Laut KP-DJPL 689/2022 – Pedoman Pengelolaan Pelabuhan Berkelanjutan Berwawasan Lingkungan) – Direction for the implementation of ecoport concept for any ports

✓ Ecoport Technical Guidelines & Assessment Tools



✓ Ecoport Application

Added Value

Improved Port Efficiency

improved port performance and productivity through equipment automation

Port Economic Function Improvement

Comprehensive and sustainable port planning and development, thus increase the regional economic growth

Environmental Quality Improvement

Ecoport implementation is expected to prevent / reduce the negative environmental impact of port activities

Improving Port Competitiveness

Increase the stakeholder's preferences towards more efficient and environmentally friendly port services

THE IMPLEMENTATION OF ECOPORT IN INDONESIA

Teluk Lamong Terminal, East Java

Decarbonization

- ✓ Using Compressed Natural Gas for Truck fuel
- ✓ Equipment Automatization
- ✓ Develop the Gas Engine Power Plant

Energy Saving

- ✓ *Light Emitting Diode (LED)*
- ✓ *Solar Cell*
- ✓ *Exhaust Gas AC system*
- ✓ Reducing fossil energy

First Semi-Automated Terminal in Indonesia

- ✓ Increasing Safety

Other Facilities

- ✓ Waste Management
- ✓ *Incinerator*
- ✓ *Oily Water Separator*
- ✓ *Oil Spillage*

THE FIRST GREEN PORT IN INDONESIA

OTHER EFFORT TO REDUCE GHG EMMISSION

UTILIZATION OF RENEWABLE ENERGY

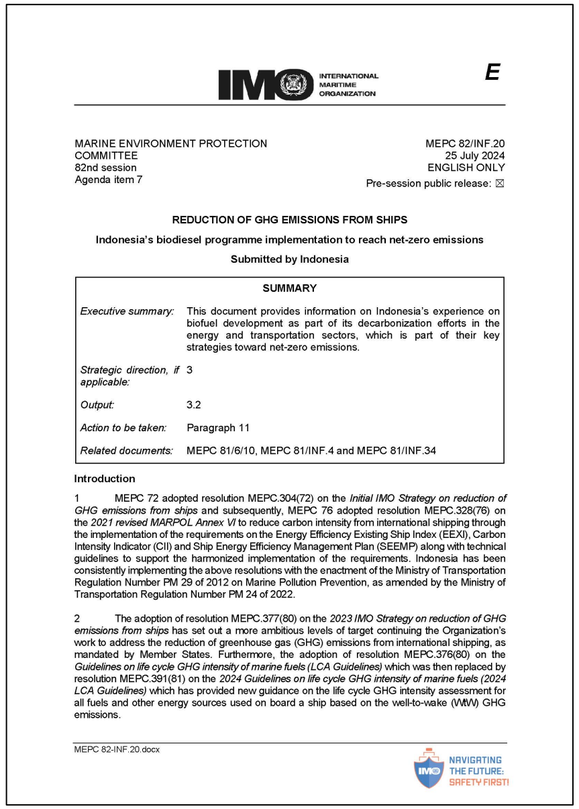
TRANSKO RAJAWALI, the first Diesel Dual Fuel Ship built in Indonesia

Joint research program between PT PERTAMINA HULU MAHAKAM and BKI in the conversion of motorboats to dual fuel diesel vessels.

The Indonesian-flagged vessel owned by PT PLN is the world's first CNG carrier. The ship is also operated with dual fuel diesel

OTHER EFFORT TO REDUCE GHG EMMISSION

Submission of Documents related to Biodiesel at MEPC 83 (Efforts to Comply with ZNZ Fuel)



IMO INTERNATIONAL MARITIME ORGANIZATION

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MARINE ENVIRONMENT PROTECTION COMMITTEE
82nd session
Agenda item 7

MEPC 82/INF.20
25 July 2024
ENGLISH ONLY
Pre-session public release: ☒

REDUCTION OF GHG EMISSIONS FROM SHIPS

Indonesia's biodiesel programme implementation to reach net-zero emissions

Submitted by Indonesia

SUMMARY

Executive summary:	This document provides information on Indonesia's experience on biofuel development as part of its decarbonization efforts in the energy and transportation sectors, which is part of their key strategies toward net-zero emissions.
Strategic direction, if applicable:	3
Output:	3.2
Action to be taken:	Paragraph 11
Related documents:	MEPC 81/6/10, MEPC 81/INF.4 and MEPC 81/INF.34

Introduction

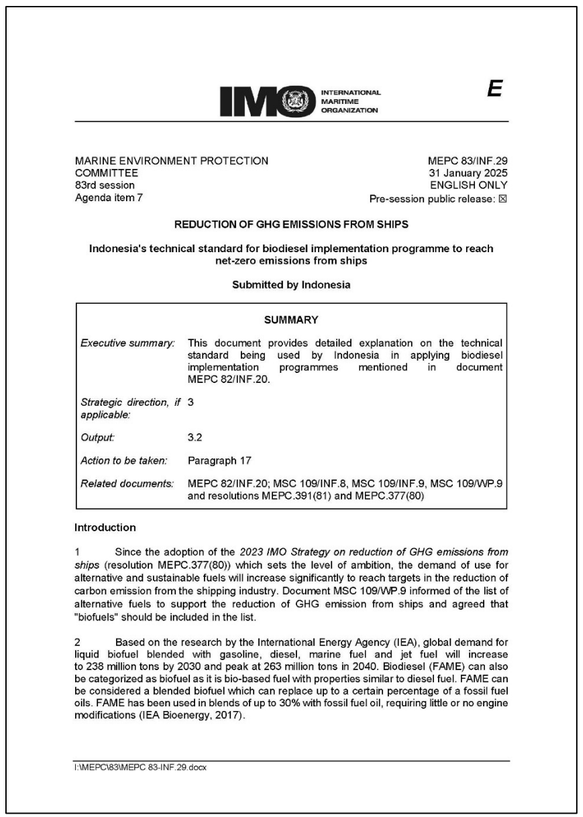
1 MEPC 72 adopted resolution MEPC.304(72) on the *Initial IMO Strategy on reduction of GHG emissions from ships* and subsequently, MEPC 76 adopted resolution MEPC.328(76) on the *2021 revised MARPOL Annex VI* to reduce carbon intensity from international shipping through the implementation of the requirements on the Energy Efficiency Existing Ship Index (EEXI), Carbon Intensity Indicator (CII) and Ship Energy Efficiency Management Plan (SEEMP) along with technical guidelines to support the harmonized implementation of the requirements. Indonesia has been consistently implementing the above resolutions with the enactment of the Ministry of Transportation Regulation Number PM 29 of 2012 on Marine Pollution Prevention, as amended by the Ministry of Transportation Regulation Number PM 24 of 2022.

2 The adoption of resolution MEPC.377(80) on the *2023 IMO Strategy on reduction of GHG emissions from ships* has set out a more ambitious levels of target continuing the Organization's work to address the reduction of greenhouse gas (GHG) emissions from international shipping, as mandated by Member States. Furthermore, the adoption of resolution MEPC.376(80) on the *Guidelines on life cycle GHG intensity of marine fuels (LCA Guidelines)* which was then replaced by resolution MEPC.391(81) on the *2024 Guidelines on life cycle GHG intensity of marine fuels (2024 LCA Guidelines)* which has provided new guidance on the life cycle GHG intensity assessment for all fuels and other energy sources used on board a ship based on the well-to-wake (WtW) GHG emissions.

MEPC 82-INF.20.docx

NAVIGATING THE FUTURE: SAFETY FIRST!

- Submission to MEPC 82
- Document MEPC 82/INF.20 – Implementation of Indonesia's Biodiesel Program to Achieve Net Zero Emissions



IMO INTERNATIONAL MARITIME ORGANIZATION

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MARINE ENVIRONMENT PROTECTION COMMITTEE
83rd session
Agenda item 7

MEPC 83/INF.29
31 January 2025
ENGLISH ONLY
Pre-session public release: ☒

REDUCTION OF GHG EMISSIONS FROM SHIPS

Indonesia's technical standard for biodiesel implementation programme to reach net-zero emissions from ships

Submitted by Indonesia

SUMMARY

Executive summary:	This document provides detailed explanation on the technical standard being used by Indonesia in applying biodiesel implementation programmes mentioned in document MEPC 82/INF.20.
Strategic direction, if applicable:	3
Output:	3.2
Action to be taken:	Paragraph 17
Related documents:	MEPC 82/INF.20; MSC 109/INF.8, MSC 109/INF.9, MSC 109/WP.9 and resolutions MEPC.391(81) and MEPC.377(80)

Introduction

1 Since the adoption of the *2023 IMO Strategy on reduction of GHG emissions from ships* (resolution MEPC.377(80)) which sets the level of ambition, the demand of use for alternative and sustainable fuels will increase significantly to reach targets in the reduction of carbon emission from the shipping industry. Document MSC 109/WP.9 informed of the list of alternative fuels to support the reduction of GHG emission from ships and agreed that "biofuels" should be included in the list.

2 Based on the research by the International Energy Agency (IEA), global demand for liquid biofuel blended with gasoline, diesel, marine fuel and jet fuel will increase to 238 million tons by 2030 and peak at 263 million tons in 2040. Biodiesel (FAME) can also be categorized as biofuel as it is bio-based fuel with properties similar to diesel fuel. FAME can be considered a blended biofuel which can replace up to a certain percentage of a fossil fuel oils. FAME has been used in blends of up to 30% with fossil fuel oil, requiring little or no engine modifications (IEA Bioenergy, 2017).

I:\MEPC\83\MEPC 83-INF.29.docx

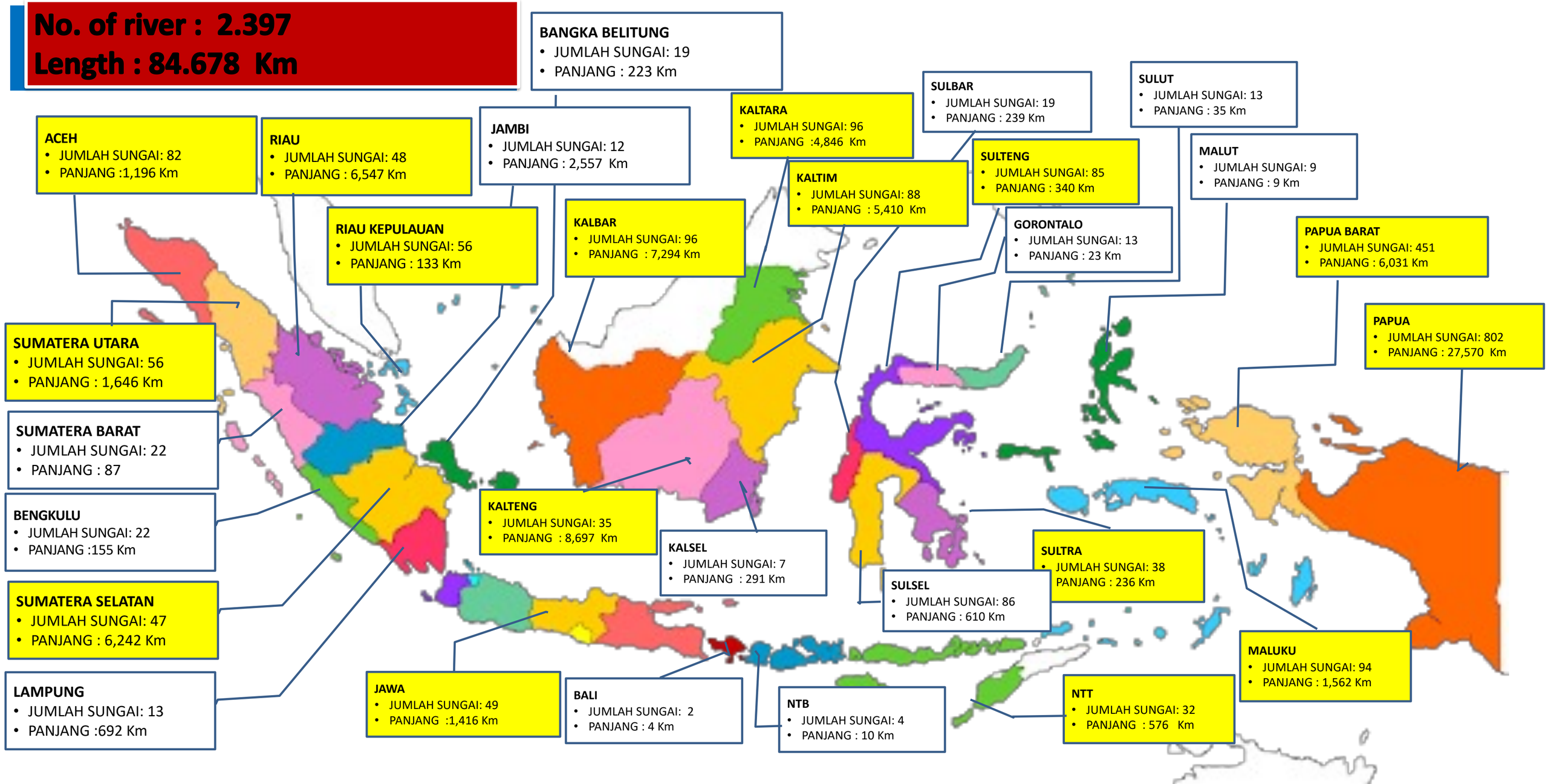
- Submission to MEPC 83
- Document MEPC 83/INF.29 – *Indonesia's Technical Standard for Biodiesel Implementation Programme to Reach Net-Zero Emissions from Ships*

FOLLOW UP ACTIONS

- Further submissions are needed at the next IMO meeting
- Indonesia is currently preparing **Life Cycle Assessment (LCA) calculations for B40 biodiesel**
- Support from all stakeholders is needed to make more comprehensive submissions related to biofuels

NUMBER AND LENGTH OF POTENTIAL RIVERS FOR TRANSPORTATION ACTIVITIES

No. of river : 2.397
Length : 84.678 Km



BANGKA BELITUNG
- JUMLAH SUNGAI: 19
- PANJANG : 223 Km

ACEH
- JUMLAH SUNGAI: 82
- PANJANG :1,196 Km

RIAU
- JUMLAH SUNGAI: 48
- PANJANG : 6,547 Km

JAMBI
- JUMLAH SUNGAI: 12
- PANJANG : 2,557 Km

KALTARA
- JUMLAH SUNGAI: 96
- PANJANG :4,846 Km

SULBAR
- JUMLAH SUNGAI: 19
- PANJANG : 239 Km

SULUT
- JUMLAH SUNGAI: 13
- PANJANG : 35 Km

KALTIM
- JUMLAH SUNGAI: 88
- PANJANG : 5,410 Km

SULTENG
- JUMLAH SUNGAI: 85
- PANJANG : 340 Km

MALUT
- JUMLAH SUNGAI: 9
- PANJANG : 9 Km

RIAU KEPULAUAN
- JUMLAH SUNGAI: 56
- PANJANG : 133 Km

KALBAR
- JUMLAH SUNGAI: 96
- PANJANG : 7,294 Km

GORONTALO
- JUMLAH SUNGAI: 13
- PANJANG : 23 Km

PAPUA BARAT
- JUMLAH SUNGAI: 451
- PANJANG : 6,031 Km

SUMATERA UTARA
- JUMLAH SUNGAI: 56
- PANJANG : 1,646 Km

PAPUA
- JUMLAH SUNGAI: 802
- PANJANG : 27,570 Km

SUMATERA BARAT
- JUMLAH SUNGAI: 22
- PANJANG : 87

KALTENG
- JUMLAH SUNGAI: 35
- PANJANG : 8,697 Km

BENGKULU
- JUMLAH SUNGAI: 22
- PANJANG :155 Km

KALSEL
- JUMLAH SUNGAI: 7
- PANJANG : 291 Km

SULTRA
- JUMLAH SUNGAI: 38
PANJANG : 236 Km

SULSEL
- JUMLAH SUNGAI: 86
- PANJANG : 610 Km

SUMATERA SELATAN
- JUMLAH SUNGAI: 47
- PANJANG : 6,242 Km

MALUKU
- JUMLAH SUNGAI: 94
- PANJANG : 1,562 Km

LAMPUNG
- JUMLAH SUNGAI: 13
- PANJANG :692 Km

JAWA
- JUMLAH SUNGAI: 49
- PANJANG :1,416 Km

BALI
- JUMLAH SUNGAI: 2
- PANJANG : 4 Km

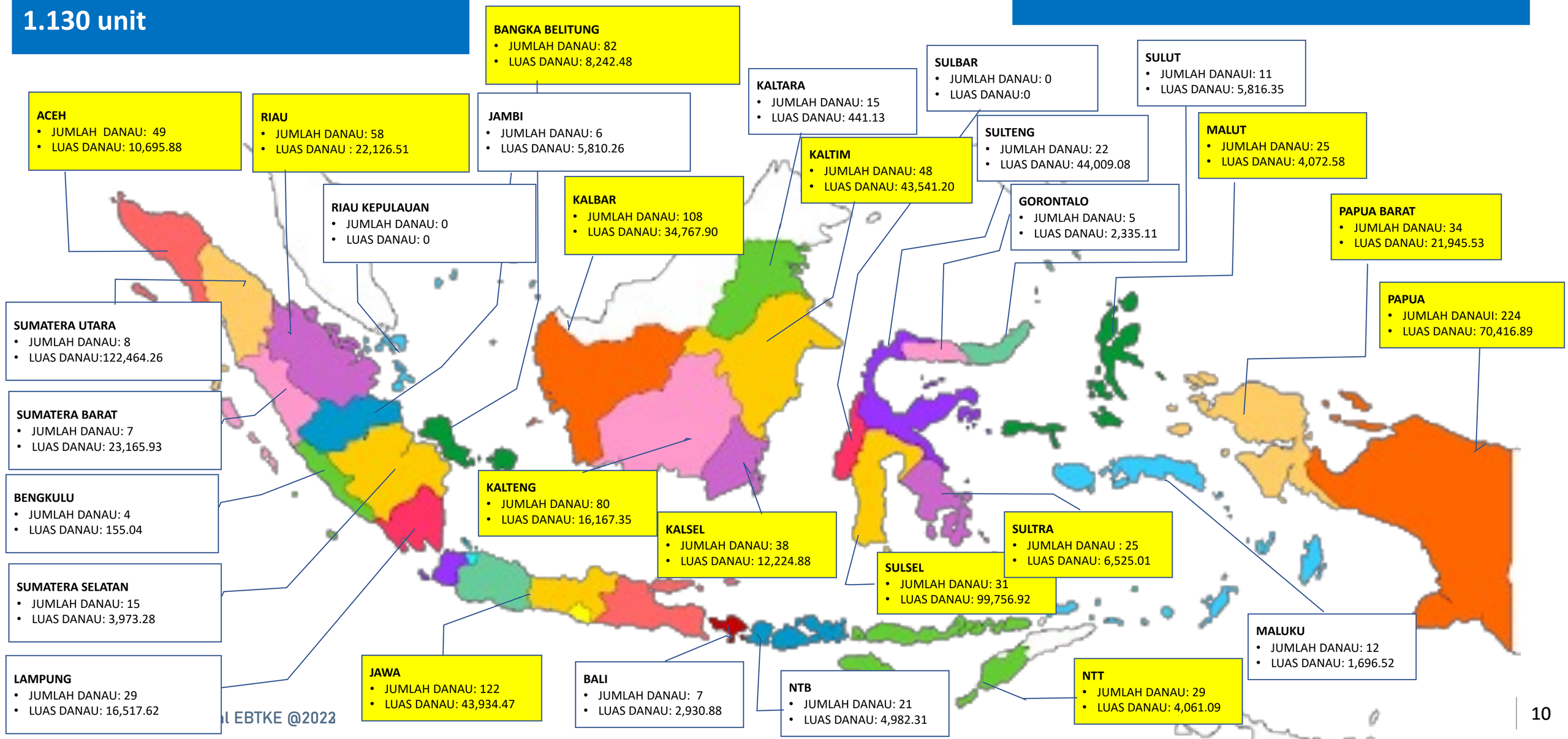
NTB
- JUMLAH SUNGAI: 4
- PANJANG : 10 Km

NTT
- JUMLAH SUNGAI: 32
- PANJANG : 576 Km

NUMBER AND AREA OF POTENTIAL LAKES FOR TRANSPORTATION ACTIVITIES

No. of Lakes (Area >20 Ha) : 1.130 unit

Lake Area : 636,356.49 Ha



ACEH
- JUMLAH DANAU: 49
- LUAS DANAU: 10,695.88

RIAU
- JUMLAH DANAU: 58
- LUAS DANAU : 22,126.51

BANGKA BELITUNG
- JUMLAH DANAU: 82
- LUAS DANAU: 8,242.48

JAMBI
- JUMLAH DANAU: 6
- LUAS DANAU: 5,810.26

KALTARA
- JUMLAH DANAU: 15
- LUAS DANAU: 441.13

SULBAR
- JUMLAH DANAU: 0
- LUAS DANAU:0

SULUT
- JUMLAH DANAUI: 11
- LUAS DANAU: 5,816.35

KALTIM
- JUMLAH DANAU: 48
- LUAS DANAU: 43,541.20

SULTENG
- JUMLAH DANAU: 22
- LUAS DANAU: 44,009.08

MALUT
- JUMLAH DANAU: 25
- LUAS DANAU: 4,072.58

RIAU KEPULAUAN
- JUMLAH DANAU: 0
- LUAS DANAU: 0

KALBAR
- JUMLAH DANAU: 108
- LUAS DANAU: 34,767.90

GORONTALO
- JUMLAH DANAU: 5
- LUAS DANAU: 2,335.11

PAPUA BARAT
- JUMLAH DANAU: 34
- LUAS DANAU: 21,945.53

SUMATERA UTARA
- JUMLAH DANAU: 8
- LUAS DANAU:122,464.26

PAPUA
- JUMLAH DANAUI: 224
- LUAS DANAU: 70,416.89

SUMATERA BARAT
- JUMLAH DANAU: 7
- LUAS DANAU: 23,165.93

BENGKULU
- JUMLAH DANAU: 4
- LUAS DANAU: 155.04

KALTENG
- JUMLAH DANAU: 80
- LUAS DANAU: 16,167.35

KALSEL
- JUMLAH DANAU: 38
- LUAS DANAU: 12,224.88

SULTRA
- JUMLAH DANAU : 25
- LUAS DANAU: 6,525.01

SULSEL
- JUMLAH DANAU: 31
- LUAS DANAU: 99,756.92

SUMATERA SELATAN
- JUMLAH DANAU: 15
- LUAS DANAU: 3,973.28

MALUKU
- JUMLAH DANAU: 12
- LUAS DANAU: 1,696.52

LAMPUNG
- JUMLAH DANAU: 29
- LUAS DANAU: 16,517.62

JAWA
- JUMLAH DANAU: 122
- LUAS DANAU: 43,934.47

BALI
- JUMLAH DANAU: 7
- LUAS DANAU: 2,930.88

NTB
- JUMLAH DANAU: 21
- LUAS DANAU: 4,982.31

NTT
- JUMLAH DANAU: 29
- LUAS DANAU: 4,061.09

Indonesia IWT Fleet by Number

River Vessel : 5.957 unit
Lake Vessel : 2.199 unit
Total : 8.156 Unit

GREEN HYDROGEN FOR DECARBONIZATION OF FERRY TRANSPORTATION IN INDONESIA

Ministry of Transportation of Republic of Indonesia

ASDP Indonesia Ferry in cooperation with HDF Energy Indonesia

GreenVoyage 2050

IMO INTERNATIONAL MARITIME ORGANIZATION

Norwegian Ministry of Climate and Environment

RETROFITTING FERRIES TO HYBRID ELECTRIC AND GREEN HYDROGEN SYSTEMS FOR INTERISLAND FERRIES TO ACHIEVE NET-ZERO EMISSION

Major Challenge in reducing carbon emission from Indonesia IWT

- Outdated Vessel & Machinery Technology
  - Aging engines and propulsion systems with low energy efficiency and high fuel consumption
- Lack of Fleet & Fuel Consumption Data
  - No centralized record of vessels, engine specifications, or verified fuel usage data
- Unregulated Bunker Fuel Supply
  - Fuel can be supplied from anywhere with no control on fuel quality, quantity, or emissions impact
- Absence of Vessel Movement & Operational Data
  - Limited tracking of routes, operating hours, speed, and voyage patterns
- Weak Governance & Oversight
  - No single authority responsible to monitor, review, and enforce vessel performance, fuel use, and emission

TERIMA KASIH

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BEKERJA OPTIMIS

Candidacy for IMO Council
2026 - 2027
INDONESIA
Navigating Maritime Opportunities towards Global Sustainability

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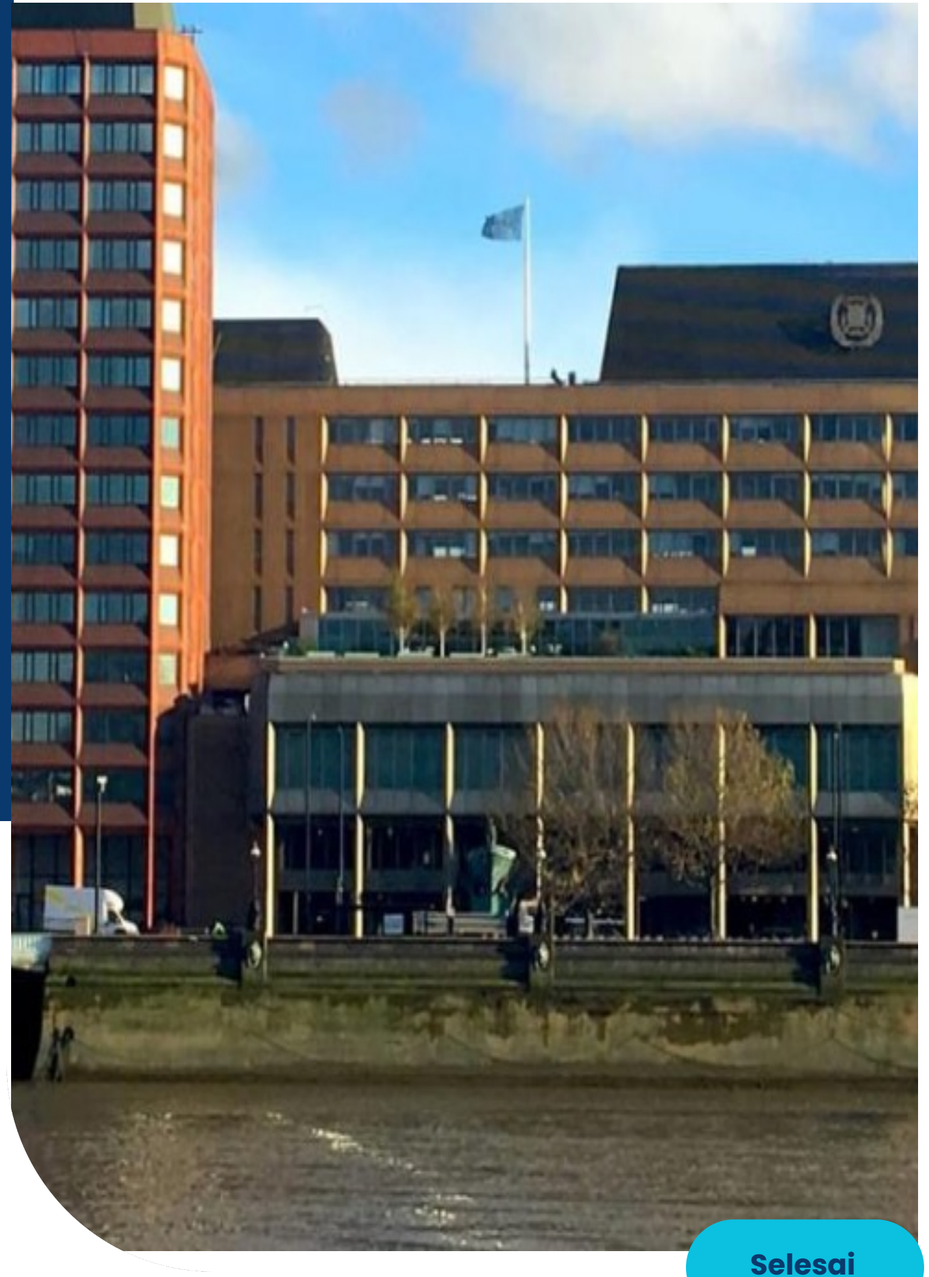

Selesai