CCUS Development in Indonesia: Prospect and Challenges

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1st ERIA CCUS Forum
Virtual meeting
22 Juni 2021
Towards NDC in 2030 and NZE in 2060

CCS/CCUS will play important role on NZE pathway

Mitigation Strategy

Preliminary results, not to distribute
Potential Sources and Storage for CCUS

**Gas Production Outlook**

- **New Additional production**

**Crude Oil Production Outlook**

- **Potensi penambahan produksi dari eksplorasi**
- **Kegiatan EOR**
- **Committed produksi**

**Distribution of Coal Power Plant**

- **Source of Emissions CO₂**

Current production: 616 million ton
Domestic Consumption: 138 million ton

**CFPP Total Capacity in 2019:** 26.457 MW

**Current production:** 616 million ton
**Domestic Consumption:** 138 million ton
Potential CCUS Project in Indonesia

**GUNDIH GAS FIELD**
- CCUS/EGR Pertamina Project
- Joint Study Agreement signed June 2021: Pertamina, ITB, JANUS, J-Power, JGC
- CO2 content 21%
- CO₂ reduction: 800 ton/day
- Incremental gas production 16 BSCF
- Expected injection 2026

**SUKOWATI OIL FIELD**
- CCUS EOR Pertamina Project
- CO2 content 30%
- CO₂ reduction: 4000 ton/day
- Incremental oil production 10,000 boepd
- Expected full scale injection 2028

**TANGGUH GAS FIELD**
- CCUS EGR BP Tangguh Project
- CO2 content 11%
- CO₂ reduction: 3 million ton/year
- Incremental gas production 200 bscf
- Expected injection 2026

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Jakarta
Tangguh
LNG plant location

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GUNDIH AREA

KTB (Kedung Tuban) – IST (Bantul Wating) – KDI (Kedung Lusi) fields

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Sink (Sukowati Oil Field)

Source (Jambaran Tiung Bliru Gas Field)

30 km

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Challenges

- Reducing cost associated with CCS/CCUS project
- Treating CCS/CCUS under existing production sharing contract terms (including responsibility after Contract of Works terminated)
- Strengthening local capacity for MRV
- Integrated use of CO2 storage for oil and gas, electricity and others
- Determining share of CCS on national NDC and NZE target
- Implementation of carbon trading for CCS project
Policy Related to GHG and CCS/CCUS

- Law No 16/2016 on the Ratification of Paris Agreement to the UNFCCC
- Presidential Decree No 61/2011 on National Action Plan for Reducing GHG emission
- Minister of EMR Decree 22/2019 on Emission Inventory and Mitigation on Energy Sector, including on:
  - Inventory on CO$_2$ capture and storage
  - Implementation of CCS technology
  - MRV
- Established National Center of Excellence on CCS/CCUS in 2017
  - Consists of experts from university (ITB) and MEMR Research Center Lemigas
  - Conducting studies on CCS and CCUS source and storage especially from oil and gas and electricity sector
- Strengthening bilateral and multilateral cooperation on CCS and CCUS
- Preparation of detailed policy on CCS/CCUS implementation is underway
Thank you