# Indonesia's Strategy Toward Low Carbon Economy

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# Outline

- Climate change policy is economic policy
- Low Carbon Economy overview
- Context of Indonesia's CC policy
- Indonesia's opportunities
- Indonesia's approach to Low Carbon Economy (LCE)
- Financing Strategy
- Key messages
- Concluding notes: Some implementation challenges

# CC Policy is Economic Policy

- CC problems are economic problems
  - Global temperature rises as human economic activities intensified
- Potential loss due to cc impact under base-line:
  - Up to 14% if all non-marketed values are counted (Stern)
  - Up to 6.7% in Southeast Asia (ADB)
  - Three-quarter of damage borne by LDCs (IBRD)
  - Poor countries and poor people are the first victims
  - Slows down growth due to decline in productivity
  - Putting past development gains at risk (e.g. infrastructure)
  - Therefore, must be responded with economic policies

# Low Carbon Economy Overview

- Increased GHG emission is caused by intensified economic activities and growth
- **Goal of LCE as a strategy:**
  - Help stabilize global GHG emission to 450 ppm $CO^2e$ to maintain the global warming within 2° Celsius
- **The move toward LCE growth path:**
  - Changing the growth path from baseline toward growth with less carbon footprint,
    - i.e. less GHG emission associated with production and consumption
  - Decarbonizing the economy
    - Changing/adopting low carbon production technology
    - Changing people's lifestyle
  - Taking advantage of new path and technology for the planned growth

# Context of Indonesia's CC Policy

**Key Challenges as a growing middle income country:**

- Aligning climate change policy with overall development policy principle: pro growth, pro job, pro poor,
- Natural resource governance,
- Need for expansion of agriculture and infrastructure (including power generation)
- Regional imbalances and poverty
- Vulnerability to climate change impacts
- Institutional issue: policy and implementation coordination

**Major GHG contributing sectors :**

•LULUCF practices (forestry, peat land management, agriculture expansion)

•Energy (emission grows faster than economic growth)

•Transportation (unmatched needs due to urbanization, and rapid decentralized growth)

# Highlight of Indonesia's Economic Risks

- Potentially costs 2.5 - 7% of GDP (ADB)
- Greatest impacts on poor people:
  - More frequent climate related natural disaster (flood, draught, landslides)
  - Shift in cropping seasons and lower agricultural productivity
  - Decline in fishery productivity (due to coral bleaching induced by sea temperature warming)
  - Lost of productive land due to inundation
  - Damage on infrastructure
  - About 100 million population depends on climate-sensitive livelihoods: 60 m in coastal area + 40 m labor in agriculture
- Over the longer term: food security and settlement

# Climate, Forests & Land Use: Key Issues

## Forests Matter: Economically, Socially, Environmentally

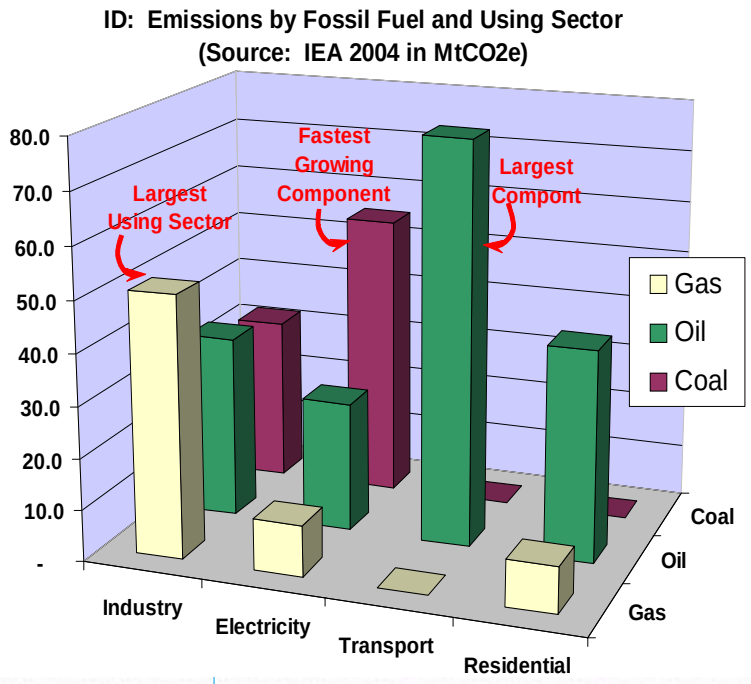
- National asset, livelihoods of 10 million of poorest 36 million
- Forest loss hurts rural livelihoods, ecosystem services
- Weak forest governance damages investment climate, rural economic potential, international competitiveness
- Forest crime robs the state and diverts public revenues that could be better spent on development goals

## Key Challenge: Realizing REDD+

- Financial opportunity to change incentives, directions
- Challenges: Forest Governance, Oil Palm, Peat, Land Use/Fires

# Indonesia's Energy (Fossil Fuel) Emission Profile

- Emissions growth > Energy growth > GDP growth
- Under BAU emissions will double every 12 years: 4x by 2030
- Coal = major power source => increasing carbon intensity
- Overall and per capita emissions are low (from fossil fuels)




**Industry = largest emitter**

- Inefficient fuel use
- Subsidized energy prices

**Power = fastest growing**

- Need to shift out of coal in "10,000 MW" 2nd and 3rd to avoid increases in Carbon intensity

**Renewable Energy Options**

- Geothermal: Large Potential
- Investment needs: $12 billion!

# Indonesia's Approach Toward LCE

- Strategy:
  - Mainstreaming the adaptation and mitigation policies to medium term and annual sustainable development agenda
    - Framing the climate change policy within the pro-growth, pro-job, pro-poor development principles
    - Shifting the economy toward low carbon growth path
  - Getting more pro-active internationally and ahead of competition in finance and possibly, future product competitiveness through LCE
    - The 26% voluntary emission reduction commitment
  - Taking advantage of global mitigation efforts and supports
    - CIF (FIP+CTF) + REDD+
  - Mainstreaming economics into National Environmental Law no 32/09 (a GovReg on Economic Instrument is coming up)
    - Planning instrument: mandatory internalization of externalities, green procurement, SEA
    - Financing: PES, trust funds, public-private partnership, etc.
    - Incentives/disincentives: green taxes, green banking, etc
  - Establish DNPI, ICCTF, and REDD Agency

# Indonesia's Approach Toward LCE (2)

- The 26% voluntary emission targets of baseline by 2020 to jump start the transition process:
  - Sectors involved: forestry, peat land management, energy, waste management, agriculture, transportation, energy efficiency in manufacturing sector.
  - To be financed by domestic resources (government + private)
  - Additional 15% target can/will be delivered with international funding support
- Market-based means influence/change the incentive structure faced by the players

# Indonesia's Approach Toward LCE (3)

- Overarching LULUCF policy under REDD+ Strategy
  - Control forest land conversion through strengthening of spatial plan and forest land use policy
  - Strengthen sustainable forest management efforts through establishment of forest management units
  - Control of forest and land fires
  - Peat land management and rehabilitation
  - Increase forest's carbon sink capacity
  - Strengthen forest law enforcement
  - Promoting and implementing REDD+
- Providing incentives for regional governments for better forests and land use management
  - Fiscal transfer mechanism
- Adopting low cost/grant FIP (Forest Investment Program) for forest revitalization
  - Strengthening of Policy and Investment Program

# Indonesia's Approach Toward LCE (4)

- Energy sector development
  - Accelerate the increase in the share of renewable energy in power sector by promoting investment
    - Priority: geothermal (large and small scale, taking advantage of technology divisibility)
      - From 1,100 MW in 2010 to 5,000 in 2014
      - 12 new contracts (USD 5 B) were signed on 26 April 2010
    - Providing tax incentives for investments in geothermal and other renewable energy
    - Providing budgetary support for renewable exploration
    - Providing pricing and off-take policies for geothermal energy
    - Adopting low cost climate financing facility for geothermal and other renewable energy.
      - USD 400 millions CTF (Clean Technology Fund) for leveraging other capital investments for geothermal

# Indonesia's Approach Toward LCE (5)

- Gradual removal of fuel subsidy
  - Studies show:
    - Consistent with pro growth, pro-job, pro poor
    - Reallocate resources more fairly and for more productive use,(60%+ subsidy is enjoyed by non-deserving recipient)
    - Positive growth impacts on GDP/GRDP, Private and Government consumptions
    - Positive impact on poverty eradication
    - Need to compensate the poorest affected through direct well targeted transfer program
      - MTI proposal: only public commercial vehicles need subsidy
    - Remove price distortion so as to encourage investment in renewable energy

# Indonesia's Approach Toward LCE (6)

- Energy efficiency and conservation
  - Targeting energy-intensive industry (cement, metal, pulp & paper) in manufacturing sector
  - Established Energy Audit System for industry
  - Developing Master Plan for Energy Conservation including energy efficiency standards
- Transportation sector
  - Move toward mass rapid transportation system
  - Move toward higher vehicle technology and fuel standard
  - Improvement in vehicle taxation and import duty
- Developing **Green Procurement** Policy
  - Greening government's offices

# Financing Strategy

- Strategy:
  - Use low cost financing facilities to complement domestic resources to accelerate and leverage investments in low carbon technology to reduce carbon intensity of growth

- Use of various climate financial initiatives:
  - Public fund (state budgetary instrument), backed up by Climate Change Development Policy Loan
  - Public – Private Partnership (e.g. for large scale geothermal project)
  - Climate finance facilities (grants, loans, carbon payment):
    - CDM (Clean Development Mechanism),
    - REDD+ (Reducing Emission from Deforestation and Forest Degradation with + stands for additional benefit/premium for water and/or biodiversity),
    - FCPF (Forest Carbon Partnership Facility),
    - CTF (Clean Technology Fund for geothermal investment promotion),
    - FIP (Forest Investment Program),
  - Use of low cost loan to provide capital and/or risk coverage to promote private investment and link it with IGIF (Indonesian Green Investment Initiative)

- Established ICCTF (Indonesian Climate Change Trust Fund) to capture grants from bilateral and multilateral donors
  - To catalyze actions and policy development
  - To support studies, technical assistance, project preparation

# Concluding remarks: key messages

- Indonesia is highly vulnerable to CC and currently (+ potentially) emits GHG at significant level
- Investment to control GHG emission and ecosystem-based adaptation is a win-win opportunity
  - **Greening the economy** in the framework of pro-growth, pro-job, pro-poor
  - **Adaptation** to build resilience and to protect the people and the economy
- The whole GOI policies comprise a set of strategy that is quite coherent
  - Market-based instruments are deployed to change/influence incentive structure
  - Climate finance facilities are being used offset adjustment and investment costs toward key development priorities
- Implementation challenge: making operational policies coherent
  - Dealing with political economy interests

# Thank You

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