



Indonesia menuju Ekonomi Rendah Karbon

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Alur

- Tujuan presentasi: Mengingatnkan tentang *konsep ERK/LCE, dan mencermati situasi serta kesempatan terkini*
- Ringkasan
- Ekonomi rendah karbon (ERK): konsep
- Langkah dan kesempatan Indonesia
- Kaitan dengn instrument ekonomi
- Catatan penutup

Ringkasan Pesan tentang ERK (Ekonomi Rendah Karbon)

- **Relevansi:** Indonesia rentan terhadap dampak perubahan iklim dan menjadi bagian dari penyebab perubahan iklim
- **Premis dasar:** masalah perubahan iklim terjadi akibat peningkatan intensitas kegiatan ekonomi, karena itu harus ditangani dengan kebijakan ekonomi
- **Investasi untuk mengendalikan emisi GRK (Gas Rumah Kaca) dan melakukan adaptasi** berdasarkan ecosystem adalah upaya yang saling menguntungkan:
 - **Greening the economy** dlm kerangka pro-growth, pro-job, pro-poor
 - **Adaptation** untuk membangun ketahanan dan melindungi
- Rangkaian **kebijakan pemerintah RI cukup koheren di tingkat atas**
 - Penetapan target 29-41% dan pengembangan RAN-GRK
 - **Kebijakan insentif untuk mendorong investasi rendah karbon**
 - Pemanfaatan dana-dana murah untuk mendorong perubahan (?)
- Tantangan implementasi: **membuat kebijakan operasional/aksi yang bermakna dan dapat diimplementasikan**
 - *Dealing with political economy interests*
 - *Integrasi antar unit KLHK (terutama financing)*

Ekonomi Rendah Karbon

Ekonomi Rendah Karbon: Konsep

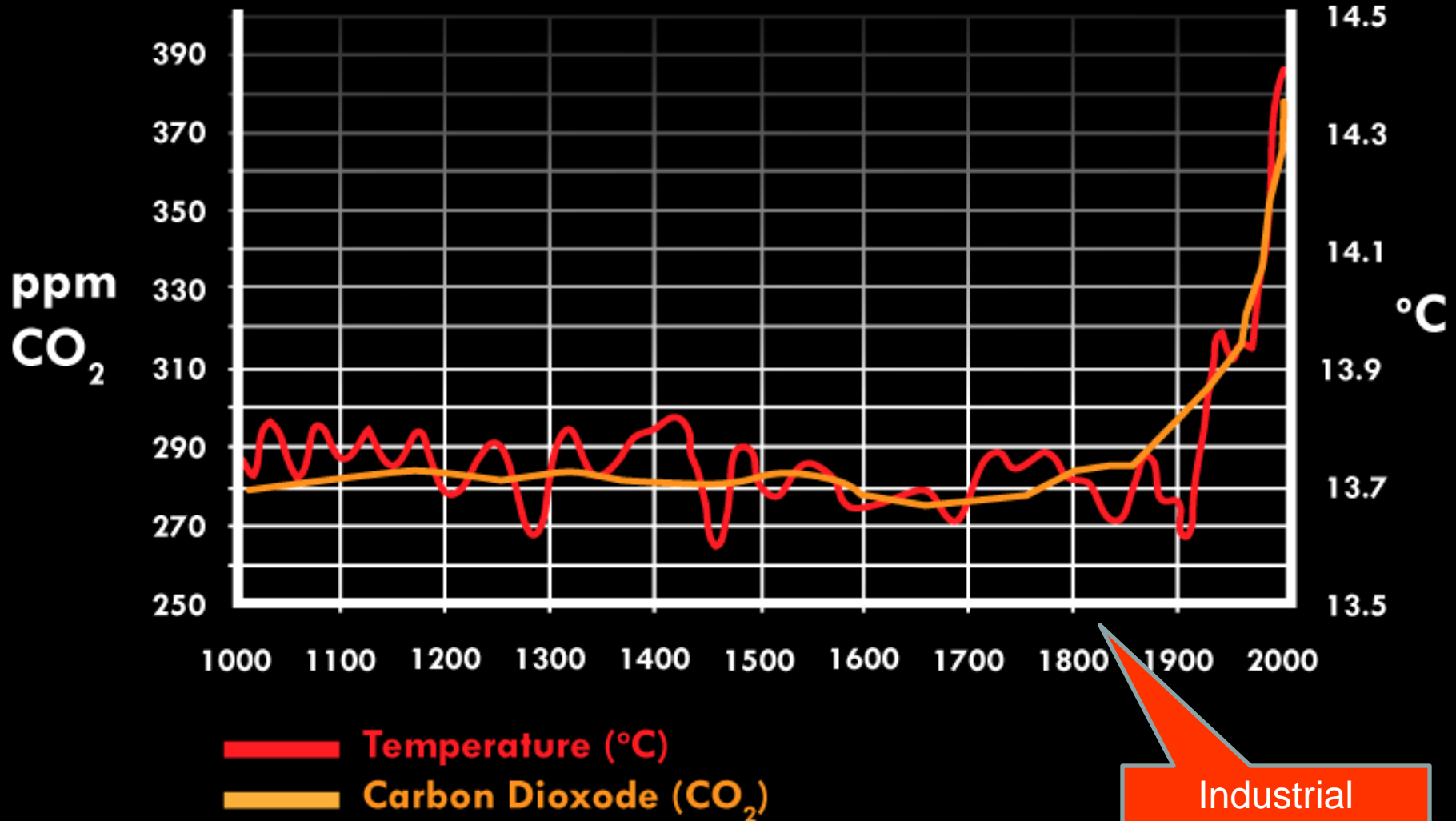
- **Premis dasar:**

- Peningkatan emisi Gas Rumah Kaca (GRK) – dan karena itu, perubahan iklim – disebabkan oleh peningkatan intensitas kegiatan dan pertumbuhan ekonomi
- Karena itu harus direspons dengan kebijakan ekonomi

- **Tujuan ERK sebagai strategi:**

- Membantu menstabilkan konsentrasi GRK pada 450 ppm CO₂e untuk menahan pemanasan global agar tidak lebih 2⁰ Celsius

Concentration of Carbon Dioxide in Atmosphere over 1000 years Tracks Global Temperature



Industrial revolution

Ekonomi Rendah Karbon: Konsep

Langkah-langkah menuju ERK:

- Mengubah jalur pertumbuhan ekonomi ke jalur dengan carbon footprint yang rendah,
 - Emisi GRK per rupiah produksi (dan konsumsi) makin kecil
- Dekarbonisasi ekonomi
 - Adopsi teknologi rendah karbon dalam industri
 - Mengubah gaya hidup konsumen
- Memanfaatkan teknologi rendah karbon dalam investasi baru

Tantangan perubahan iklim yg dihadapi Indonesia

Potensi kerugian 2.5 - 7% of GDP (ADB) (prakiraan untuk 2100)

Dampak terbesar dirasakan masyarakat miskin

- Bencana alam terkait iklim meningkat (banjir, badai)
- Penurunan produksi perikanan
- Kehilangan lahan karena genangan permanen
- Kerusakan infrastruktur
- Sekitar 100 juta penduduk berisiko terkena dampak: 60 juta di wilayah pesisir; 40 juta di pertanian
- **Dalam jangka panjang: masalah kesehatan, ketahanan pangan dan perumahan**

Konteks Kebijakan PI Indonesia (1/2)

Tantangan sebagai negara yang baru masuk kelompok berpendapatan sedang:

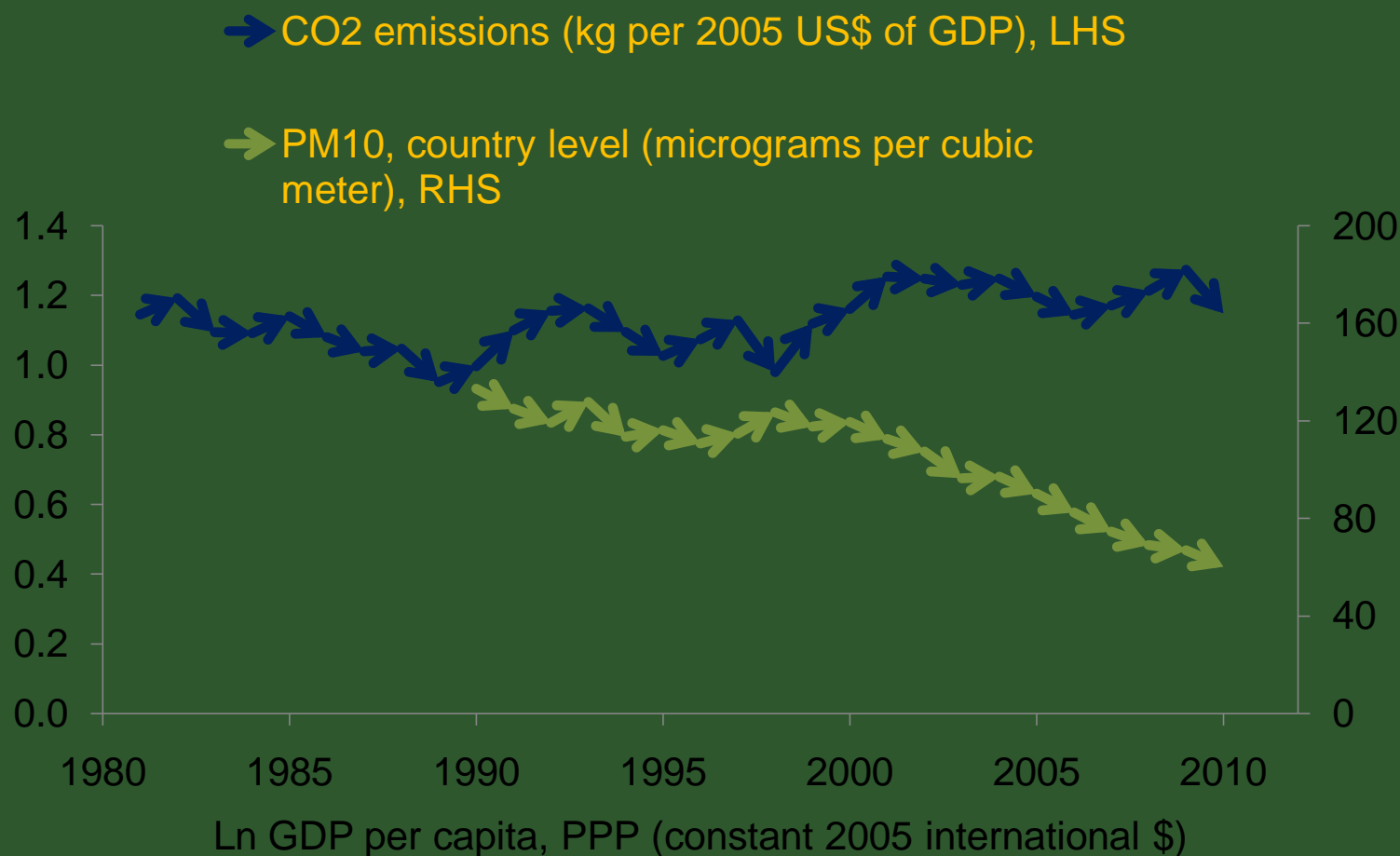
- Kemiskinan dan ketimpangan pembangunan
- Kebutuhan ekspansi pertanian dan infrastruktur, termasuk listrik
- Kerentanan terhadap perubahan iklim
- Tatakelola sumber daya alam
- Menyelaraskan kebijakan PI dengan prinsip-prinsip: pro growth, pro job, pro poor, (now with MP3EI: pro business)
- Masalah kelembagaan: kordinasi dan rent seeking

Context of Indonesia's CC Policy (2/2)

Sektor penghasil emisi terbanyak:

- **Praktek pemanfaatan/pengelolaan lahan** (LULUCF practices: kehutanan, gambut, pertanian): deforestasi dan degradasi hutan
- **Industri**: emisi tumbuh lebih cepat dari output
- **Transportasi**: akibat kebutuhan yg tidak terlayani dalam proses desentralisasi dan urbanisasi yang sangat cepat

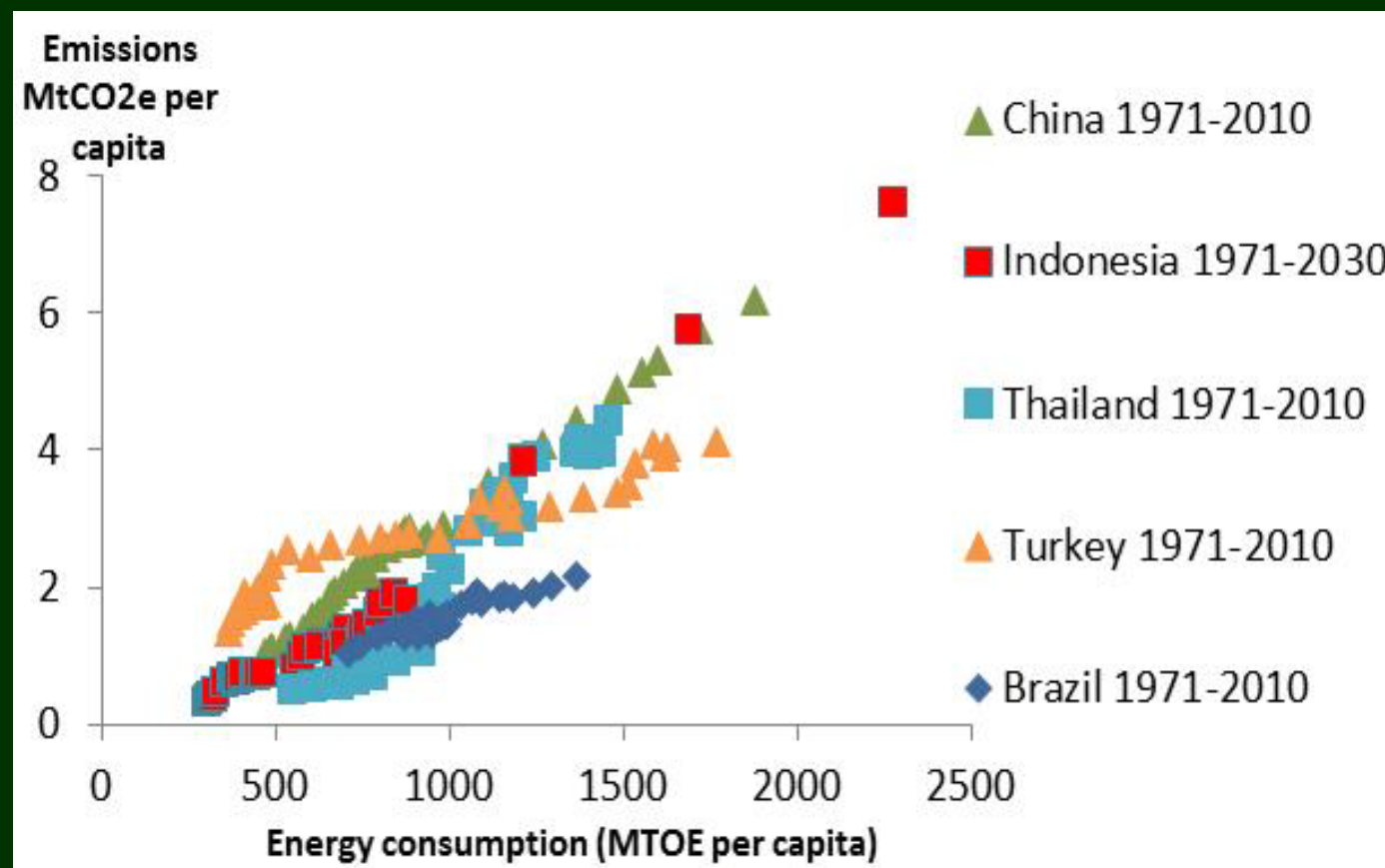
- ...and a range of environmental indicators are on concerning trajectories as we are heading for HIGH CARBON ECONOMY
 - Plus evidence of sizeable depletion of natural capital stock



The Challenges

- What continue:
 - Growing population wants more food and energy
 - Businesses want more profits
 - Governments want more prosperity
- The challenges:
 - Can the people/consumer, government and business leaders continue to fulfill their wants and establish new models for growth ?
 - Can they simultaneously reduce climate risks ?
 - With less stringent environmental regulation ?
 - And, unclear/inconsistent incentive structure ?

While green development reforms can move Indonesia towards a lower emissions path than the business as usual projections



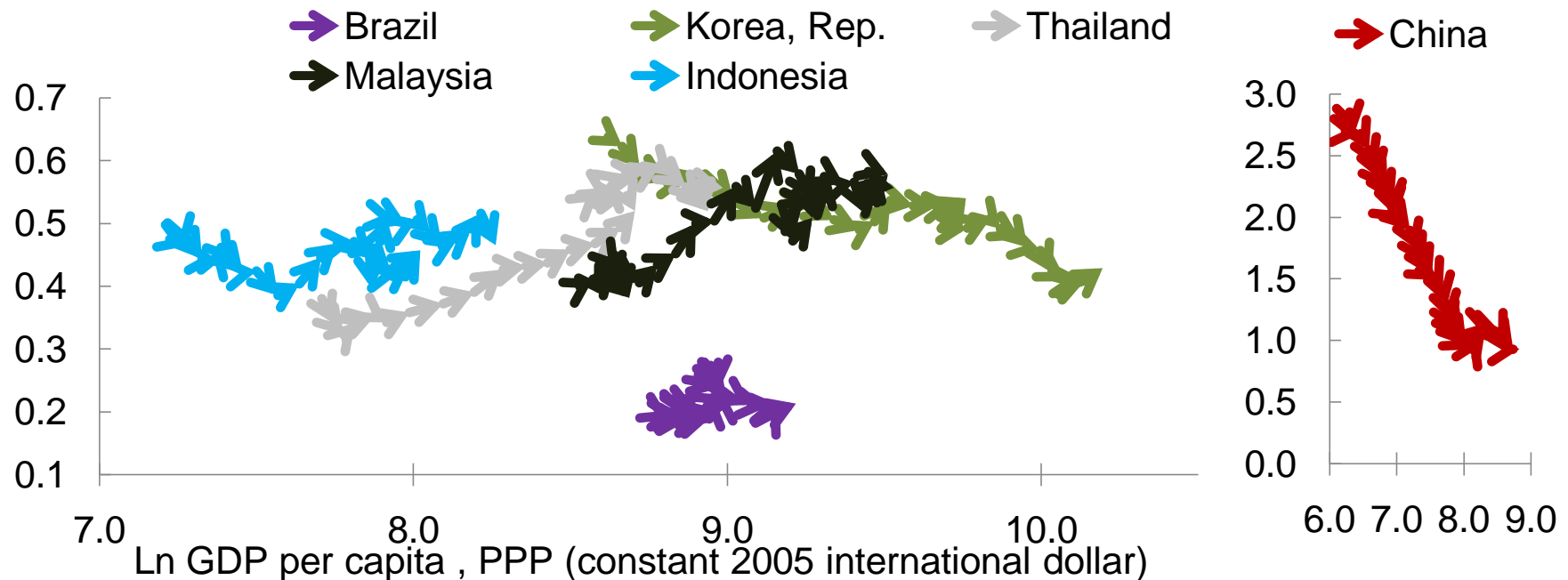
GDP/ton CO2 – grew 1% annually within the past 25 years

It needs to grow 3-4% annually for the next 15 years and beyond

The GHG intensity of Indonesia's growth remains relatively high...

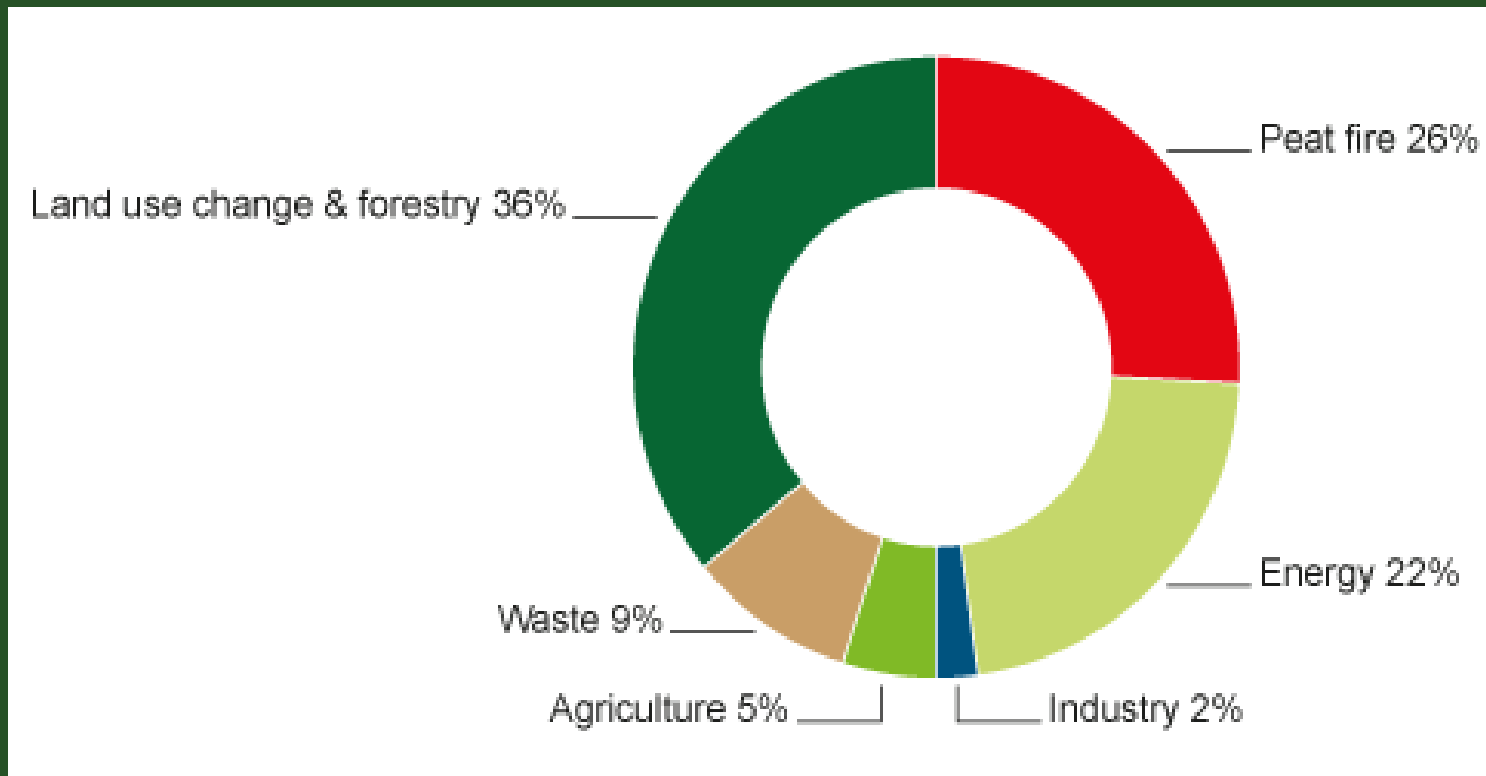
- Indonesia's emission intensity of its GDP, although below China's level, is higher than that of peers at similar or higher income levels

CO2 emissions, kg per 2005 USD of GDP from 1990-2010



Commodity-intensive growth patterns are reflected in Indonesia's GHG emissions...

- Land use change & forestry and peat fire are the largest contributors to GHG emissions, followed by energy



Source: CCS in Indonesia, Global CCS Institute (Data last updated as of October 2013)

Kebijakan pemerintah: Sektoral

- Berdasarkan Kebijakan RAN-GRK
- Energy:
 - Pergeseran dari fossil-based ke 'yang terbarukan'
- Industri:
 - efisiensi energi; adopsi teknologi rendah karbon
- Pengelolaan limbah:
 - meminimumkan emisi GRK
- Pertanian:
 - rasionalisasi ekspansi
- Kehutanan:
 - REDD+
- Lahan Gambut:
 - mencegah degradasi dan konversi



RAN – GRK (Presidential Regulation 61/2011): The Core of Indonesia's LCE Policy



Sectors involved	Unilateral ER Target (26%)	Foreign Assisted ER Target (41%)
Forestry and peat	0.672	1.039
Waste Management	0.048	0.078
Energy and transportation	0.038	0.056
Agriculture	0.008	0.011
Industry	0.001	0.005
Total	0.767	1.189





Kaitan LCE dengan INSTRUMEN EKONOMI

- Jika PI adalah masalah ekonomi, IE idealnya digunakan untuk mengarahkan perekonomian Indonesia pada LCE
- IE dalam mandate UU PPLH 32/2009
 - Perencanaan pembangunan ekonomi
 - Anggaran pemerintah
 - Pendanaan
 - Incentives/disincentives
 - Economic treatment for ecosystem services
 - Natural resources and ecosystem as assets
- Have they all been made consistent with LCE as policy ?



***A deeper look into
Indonesia's opportunity
for Low Carbon Economy***

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



With REDD+ being part of RAN-GRK, can Indonesia still achieve 7% growth ?

In what way REDD+ is part of RAN GRK ?

- Clear answer: Yes
- Indonesia's growth drivers >8%/yr:
 - Communications
 - Wholesale and retail trade
 - Transport equipment manufacturing
 - Construction
 - Food and Beverages
- Forest and plantation sectors - only small contributions to overall growth, <3.5%
 - Forest products share of GDP in 2010: just 0.7%
 - Non-food (estate, oil palm) crops share of GDP in 2010: 2.1%
 - GDP Growth without these 2 sectors? 6.04% rather than 6.10%

While forest and plantation sectors make only modest contributions to Indonesia's growth, **REDD+ is essential to achieve 26% emission reduction target**

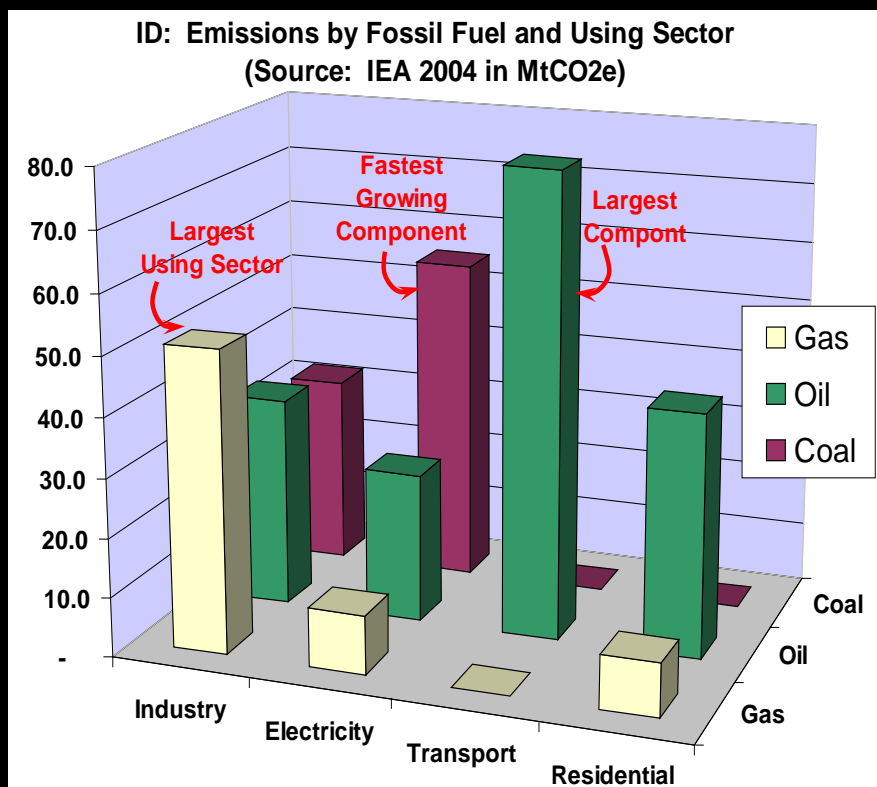
- REDD+ is compatible with continued growth in palm oil output and employment:
 - By raising productivity through intensification
 - By using millions of ha of under-utilized or degraded lands (not natural forests)
 - About 12 million ha of palm oil currently under cultivation (and total 40 million hectares licensed + non licensed?)
 - almost 3 million ha have been licensed for production but are not currently cultivated
 - degraded land available (up to 15.5 million ha)
- REDD+ can help Indonesia to move toward
 - More intensive land use
 - Better forest management practices
 - More efficiency and added value
 - To sustain long term economic gains.

**Will REDD
allow
continued
growth in
Plantation**

**Sectors, inspite of
moratorium
of new land
use
licensing?**

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



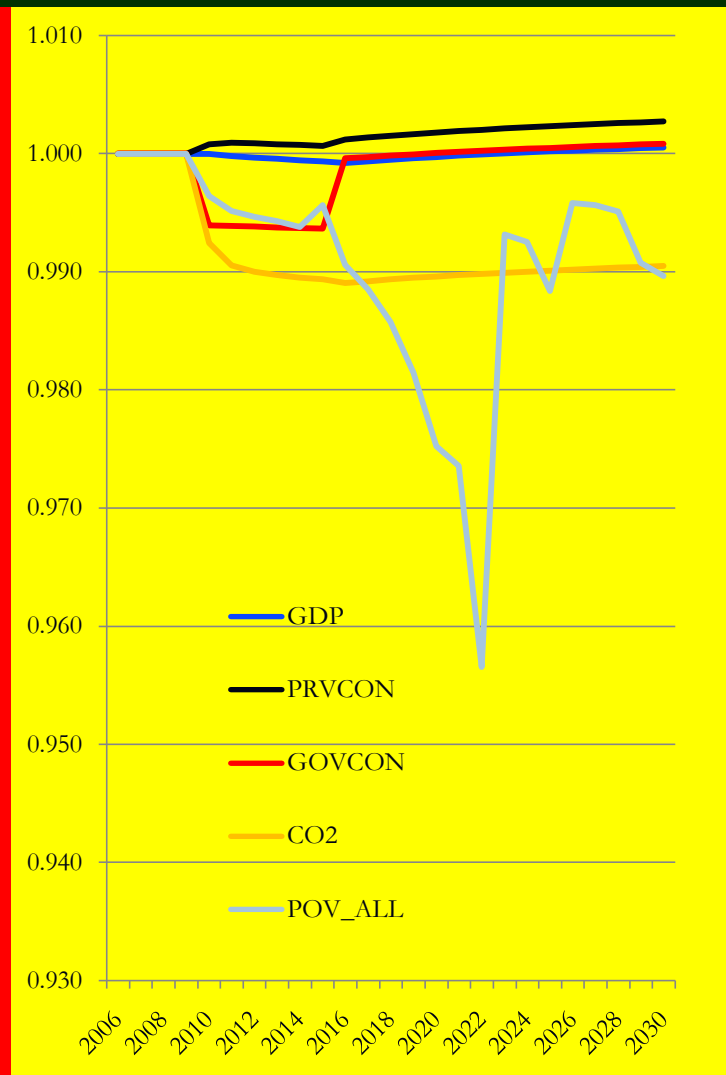
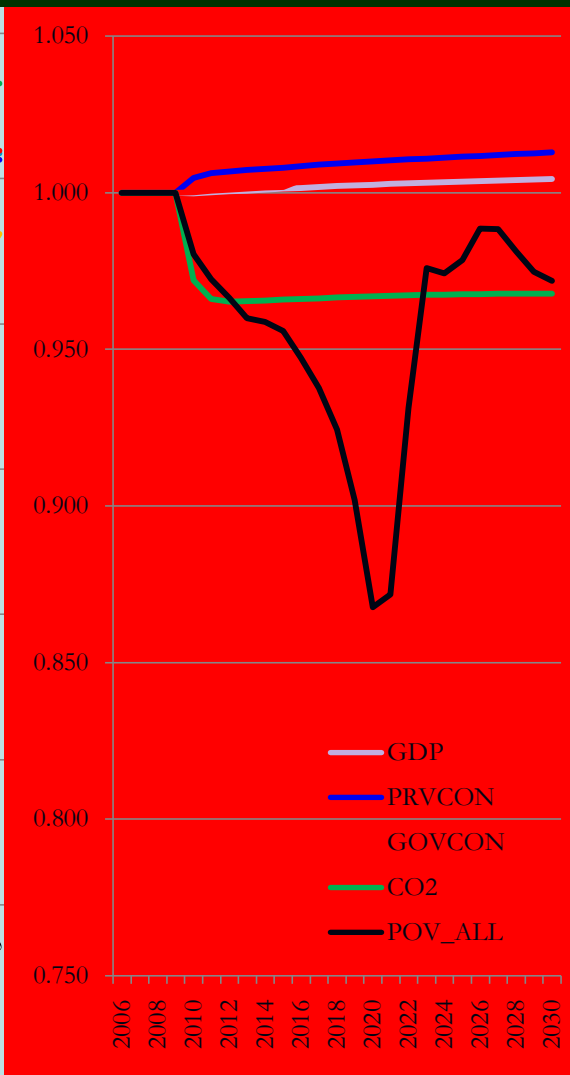
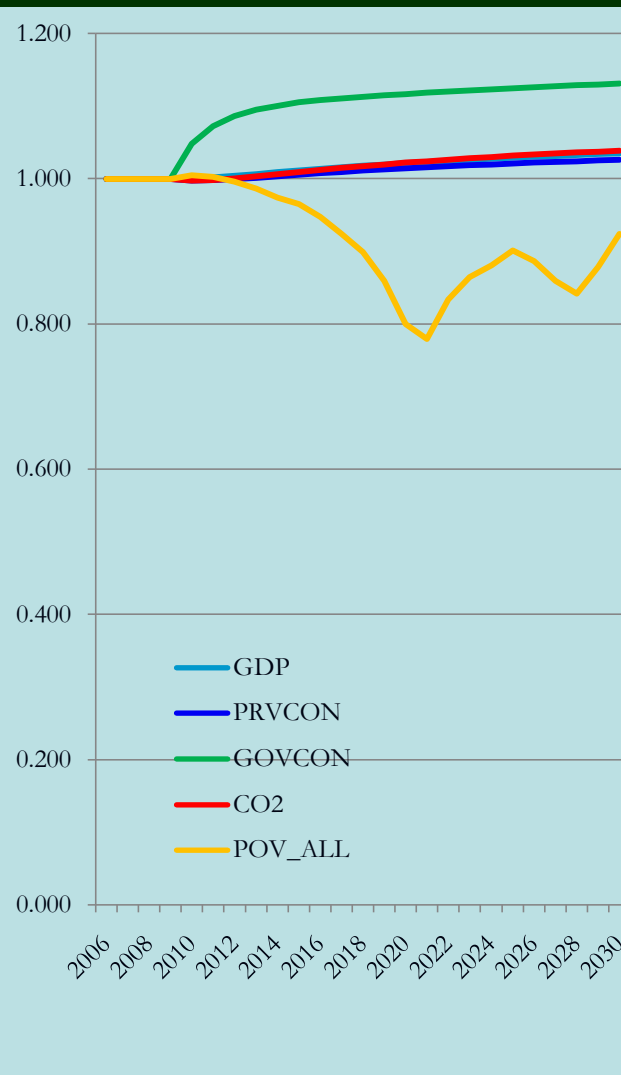
Indonesia's Approach Toward LCE (5)

- 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
- Energy mixed (fuel switching policy)
 - Clear ? Consistent with INDC ?
- 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 – should lead/set example

Impact of low carbon energy policy



Removal of subsidy, fuel switching to renewables, energy efficiency: all bring positive impacts on growth, poverty reduction, consumption, and emission reduction

Local Governments & Cities: Future Challenges for Going Greener and Becoming Climate Resilient

Pop'n growth, urbanization: Urban growth 4%/yr → greater concentration, greater vulnerability to environmental threats

Weak zoning enforcement & poorly maintained infrastructure contribute: 25 million people lives in slums, informal settlements

More frequent disaster events + increased exposure + lower coping capacity = higher impacts.

Climate variability / change increase risk level: impacts on food production, uncertainty, frequency of floods and drought

Strategy:

- Mapping of vulnerability, identifying priority threats & opportunities
- Assessment and development of tools and capacities based on local perspectives
- Develop and implement ecosystem-based adaptation

Concluding notes: challenges to move forward

- **Shifting strategy toward green economy ? Need change in mind set**
 - Low carbon track: Decarbonizing energy and manufacturing sectors
 - Ecosystem service tracks: valuing nature's environmental services
 - Biodiversity tracks: promoting IPES and local conservation
- **Technology is available and deployable**, cost sharing still an issue
- **Uncertainty is the reason to do more** (precautionary principle), not to wait and do nothing
- **It's a multistakeholder endeavor**: government, civil society, corporate sector, media
- **Governance matters**
- **Incentive matters** (economic, regulations, institutions, law & its enforcement matters)
- We tend to say “we are on the right track”, but often fail to deal with devils in the details