

Implications of Paris Agreement: Case of Indonesia

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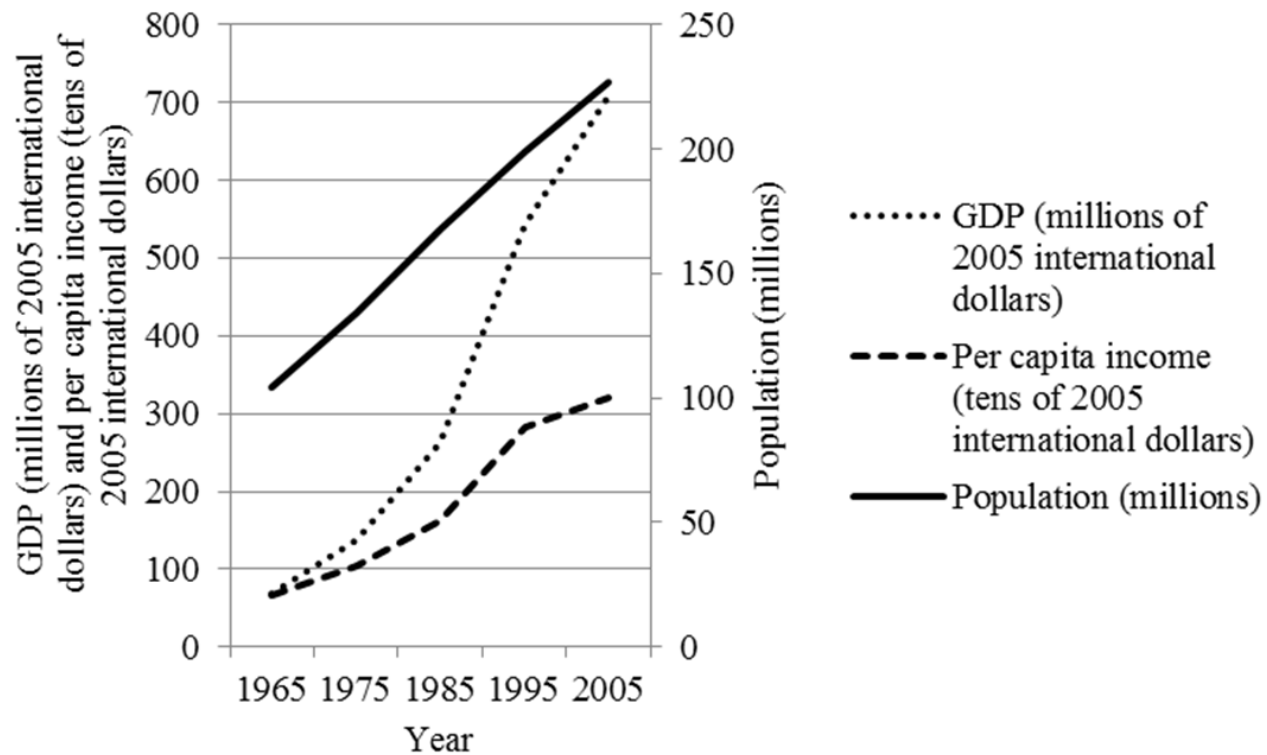
Indonesia at a glance

- Growing population and economy
 - Population doubled in the last 40 years
 - 238 million (2010)*, world 4th largest
 - Real GDP by over 10 times in this period**
- One of the largest GHG emitters
 - Forest loss and peatland fire
 - Expansion of oil palm plantation

* BPS Indonesia (2016)

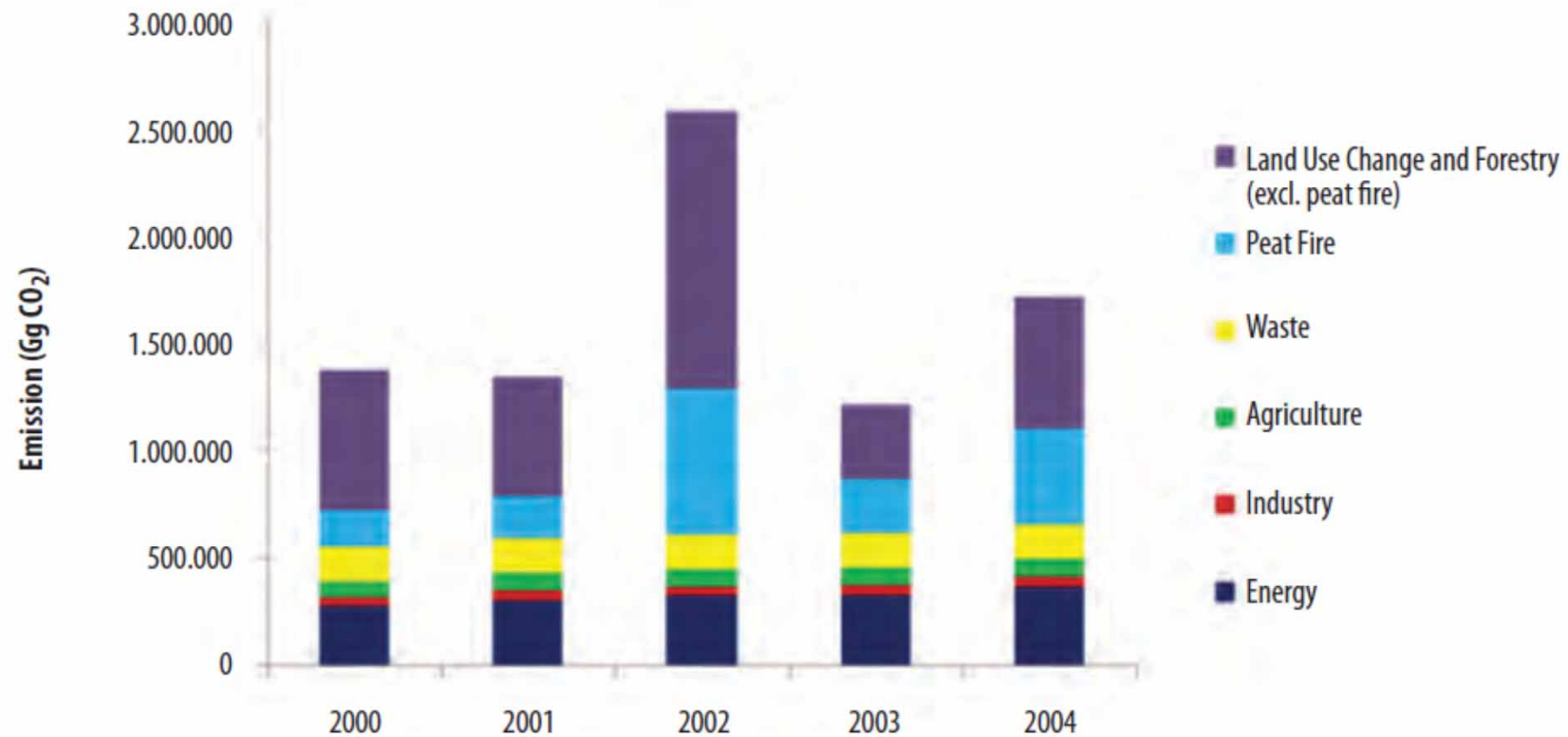
** World Development Indicators (2013)

Indonesia: Growing population & economy



Produced based on World Development Indicators (2013)

Indonesia: GHG national inventory by sector



Indonesian Ministry of Environment (2010)

Oil palm trees



Jakarta Post, Oct. 15, 2015

Oil palm fruits and palm oil



Oil Palm India Limited Homepage (accessed May 6, 2015)

Use of palm oil for food (1)



Nissin Foods Holdings, Co., Ltd. (2016)

Megmilk Snow Brand Co., Ltd. (2016)

Use of palm oil for food (2)



Ezaki Glico Co., Ltd. (2016)

Morinaga & Co., Ltd. (2016)

Calbee, Inc. (2016)

Use of palm oil for soap & shampoo



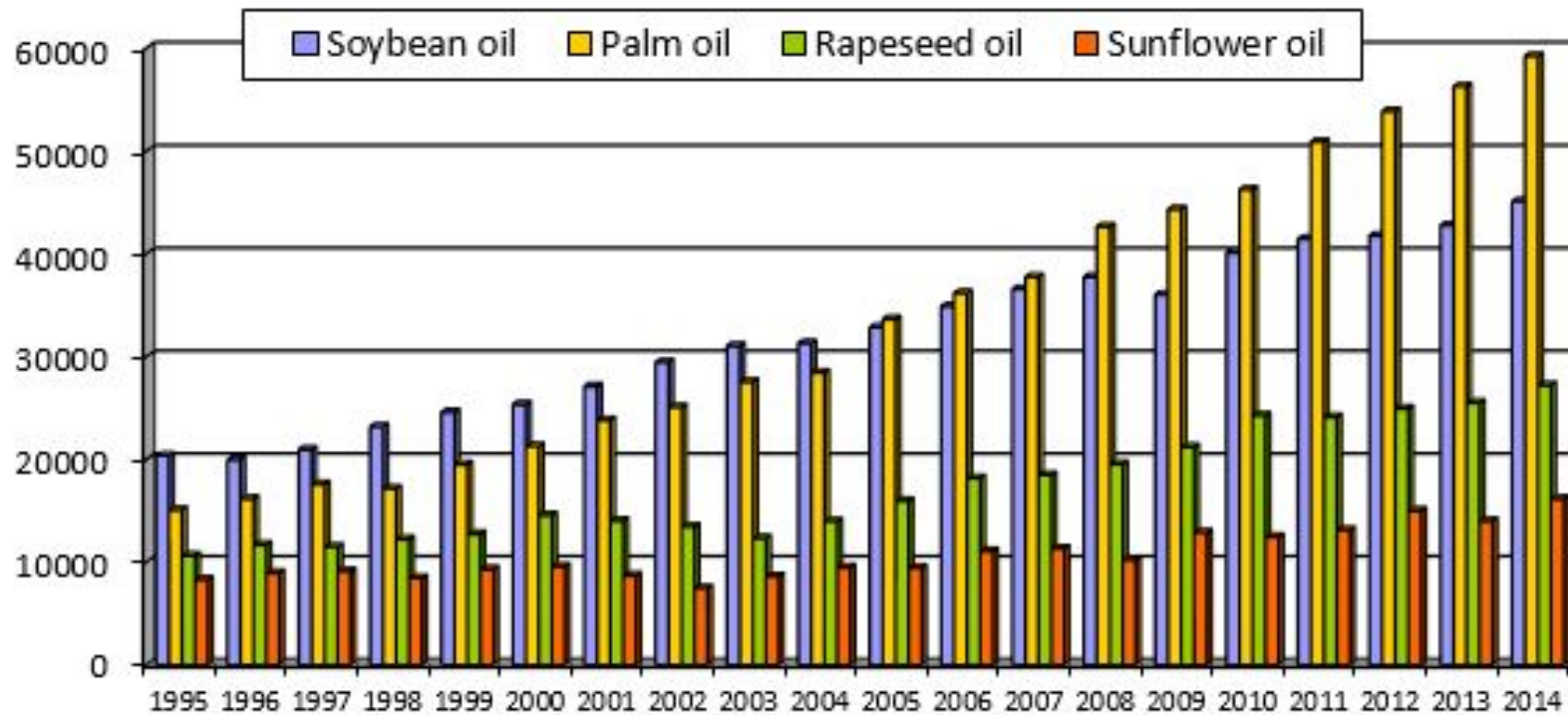
Rakuten, Inc. (2016)

Use of palm oil for biodiesel



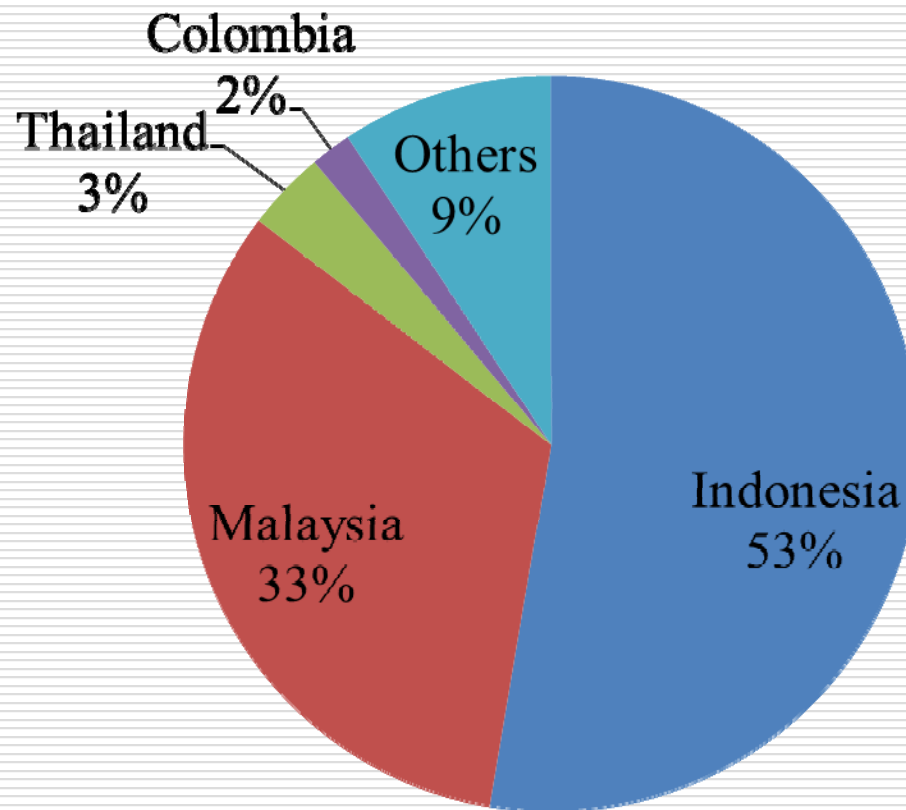
Tokyo Metropolitan Government (2016)

World production of vegetable oils



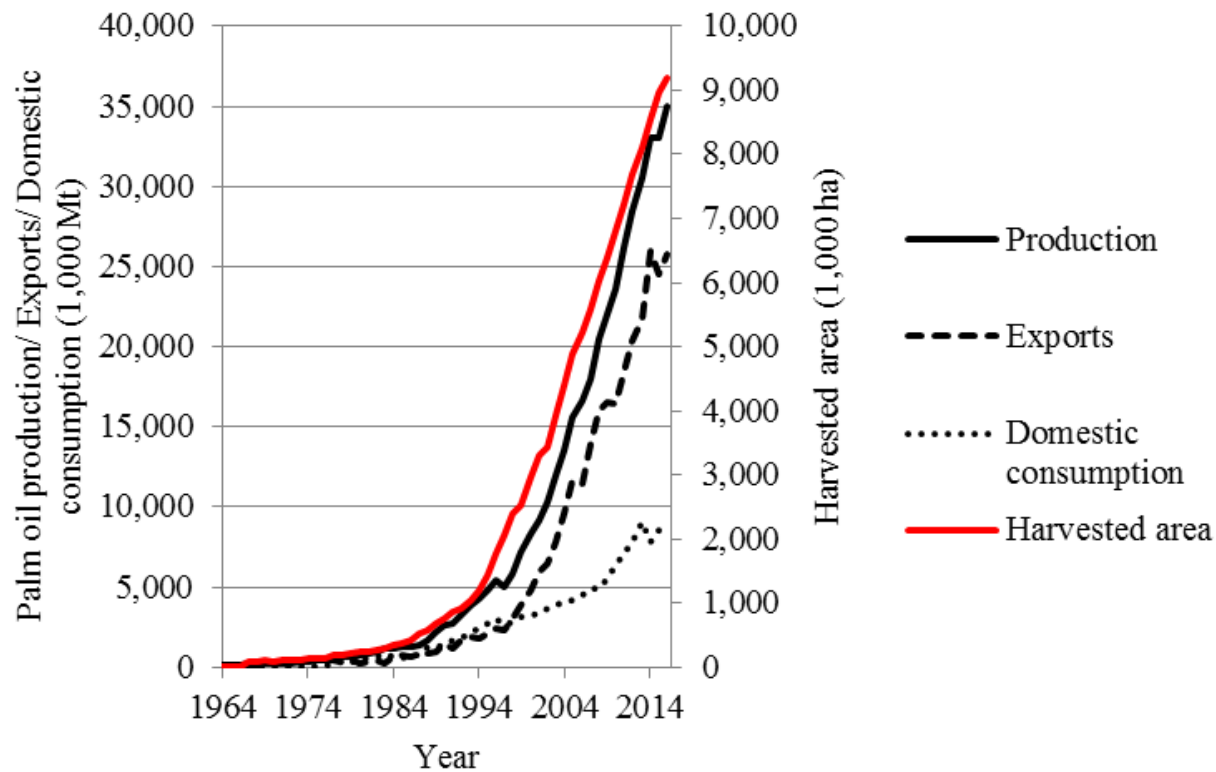
FEDIOL Homepage (accessed May 5, 2016); in 1,000 Mt

Oil palm production by country (2015)



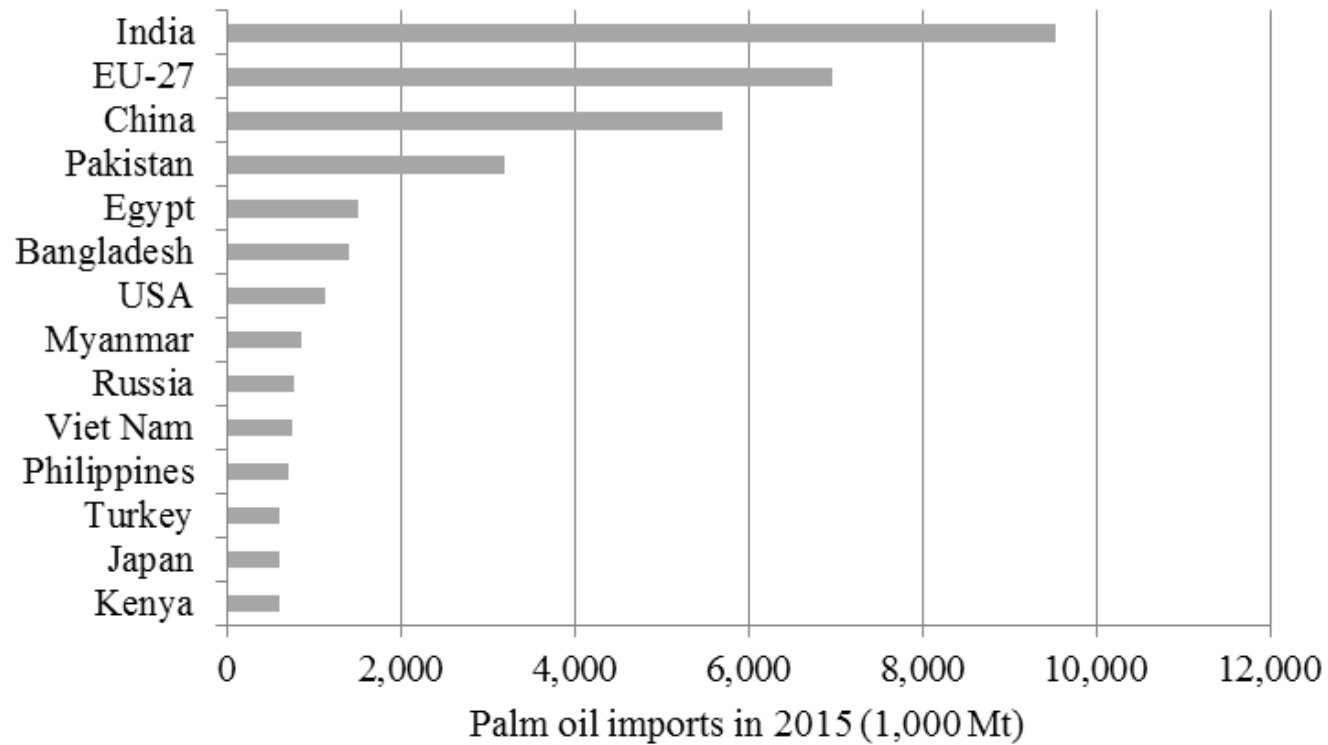
Produced based on USDA (2016)

Indonesia: Oil palm production



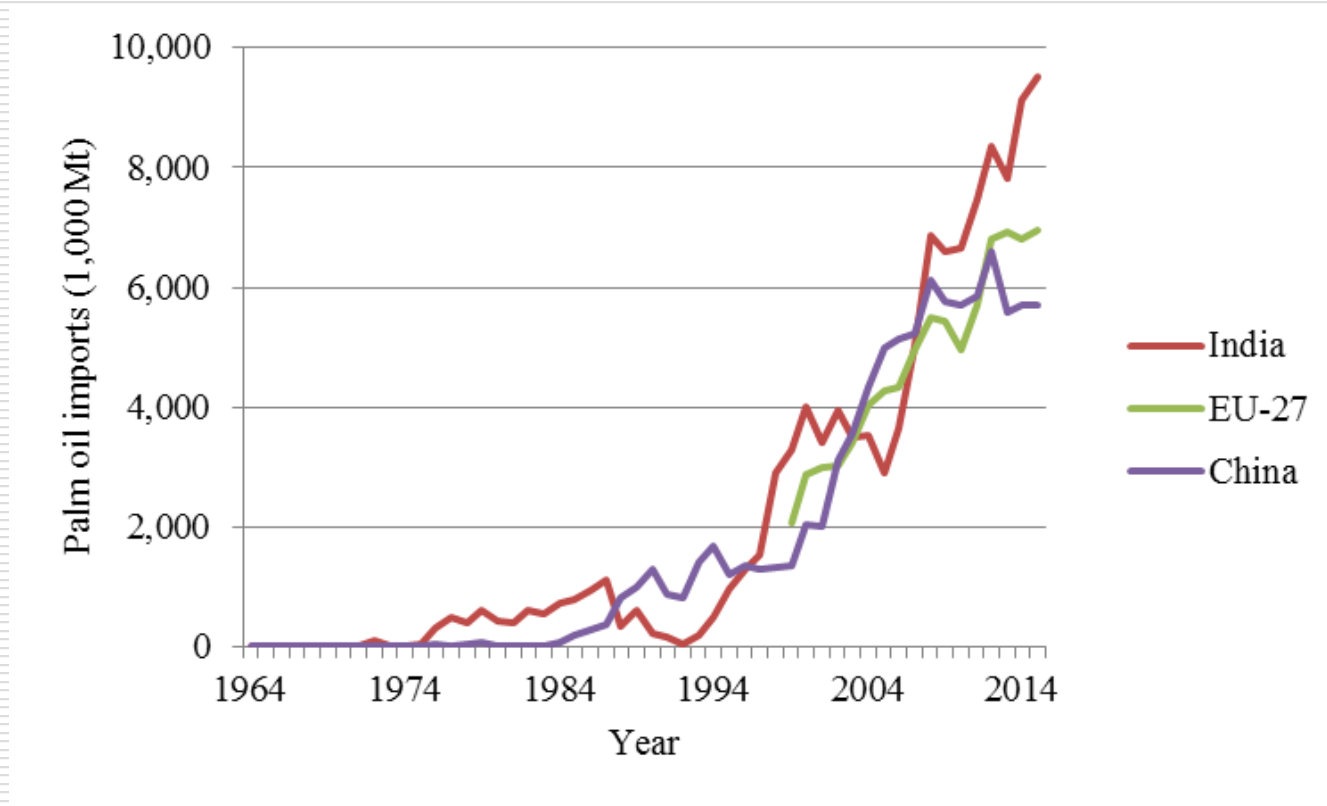
Produced based on USDA (2016)

Palm oil imports by country (1)



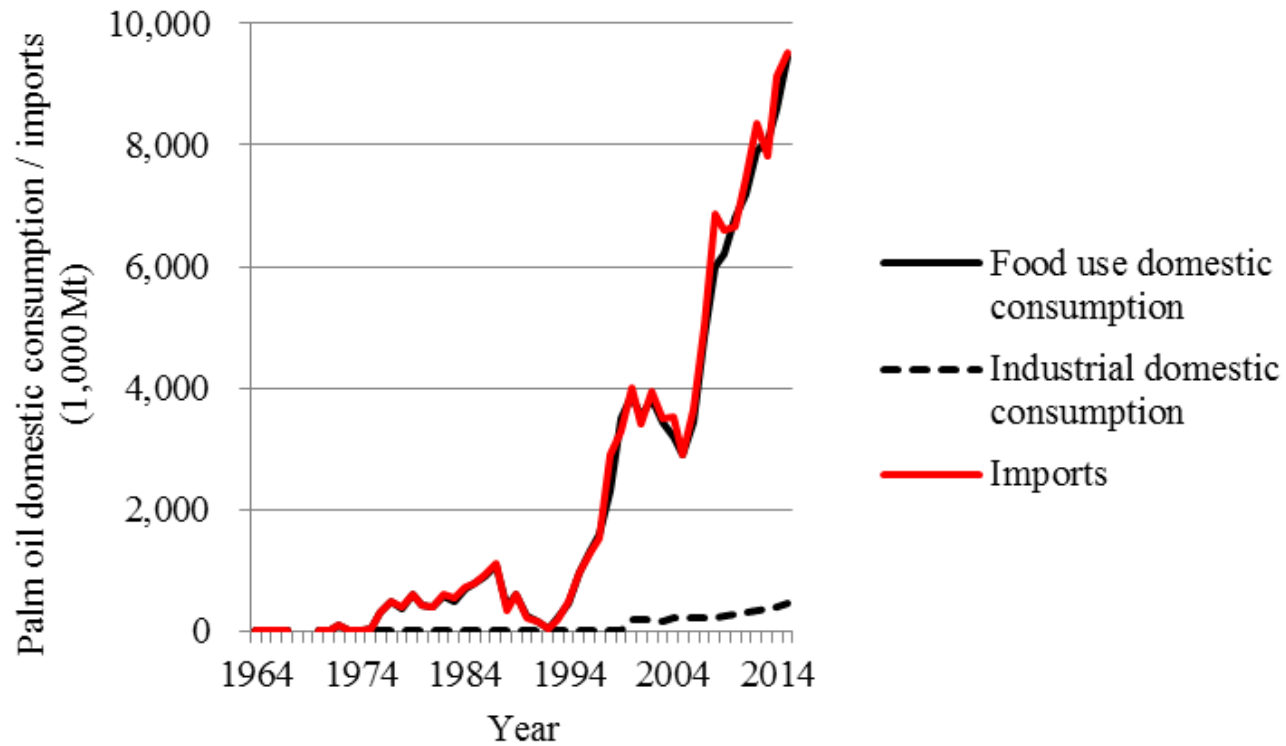
Produced based on USDA (2016)

Palm oil imports by country (2)



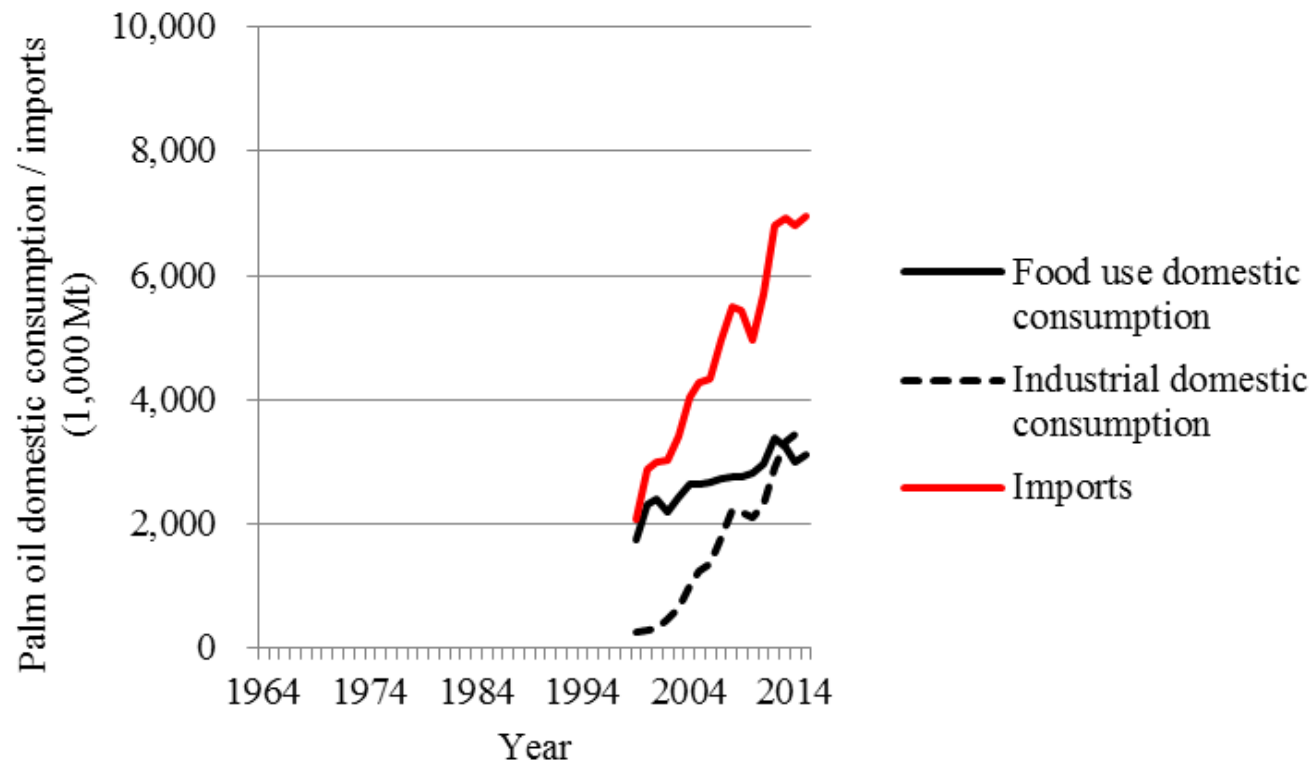
Produced based on Index Mundi (2016)

India: palm oil consumption & imports



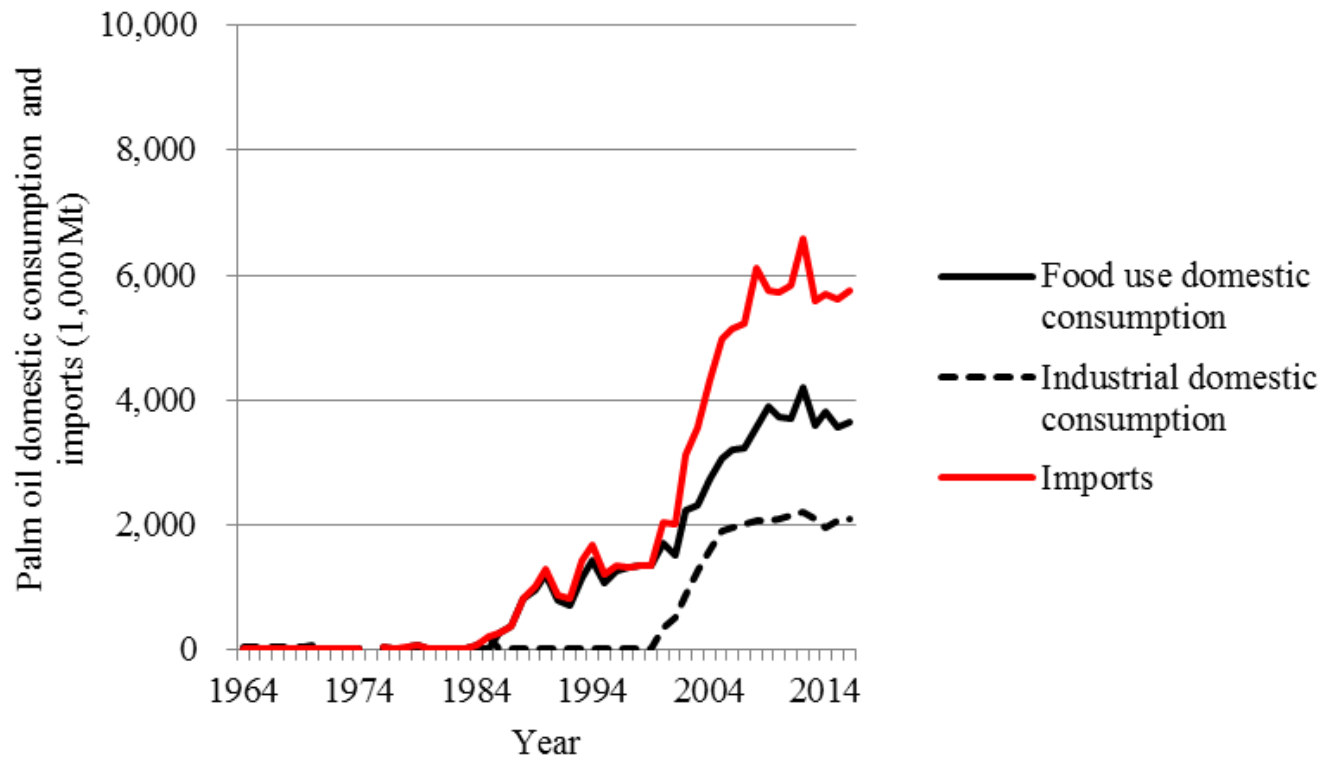
Produced based on USDA (2016)

EU27: palm oil consumption & imports



Produced based on USDA (2016)

China: palm oil consumption & imports



Produced based on USDA (2016)

Paris Agreement

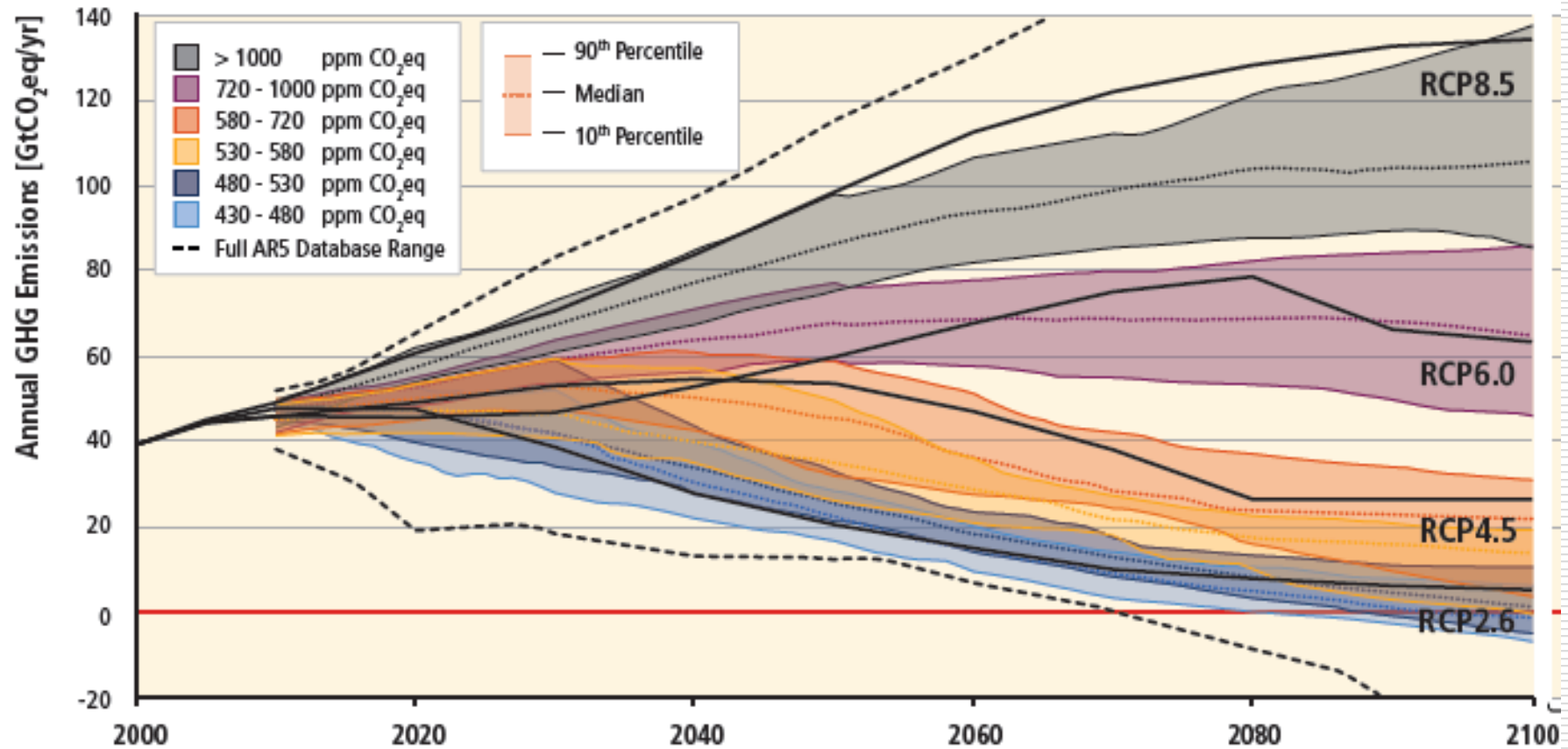
□ Article 2 (a)

- *Holding the increase of the global average temperature well below 2 °C above pre-industrial levels ...*

□ Article 4

- *... to achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of the century ...*

GHG emission pathways (IPCC AR5 WGIII)



Global energy use under RCP2.6: Critical roles of bioenergy, carbon capture and storage (CCS) and the combination (BECCS)

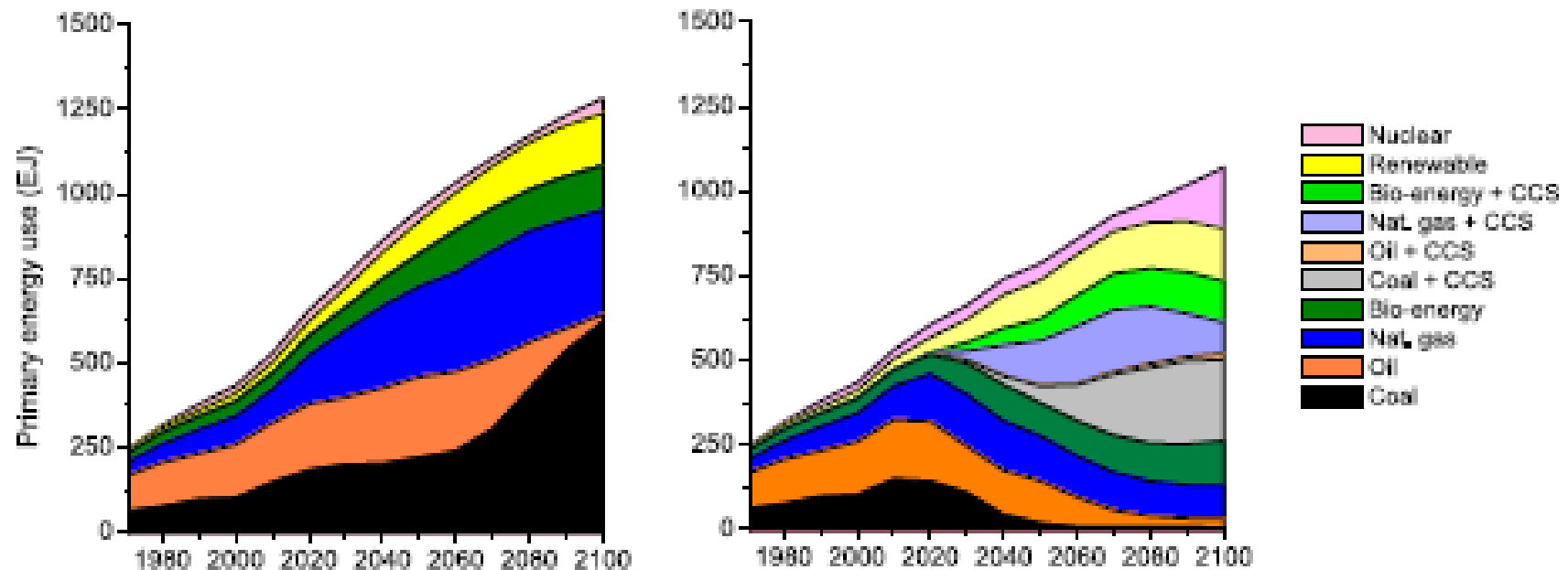


Fig. 2 Trends in global energy use for the baseline (left) and the mitigation scenario RCP2.6 (right)

(van Vuuren et al. 2011)

RCP2.6: critical conditions & potential effects

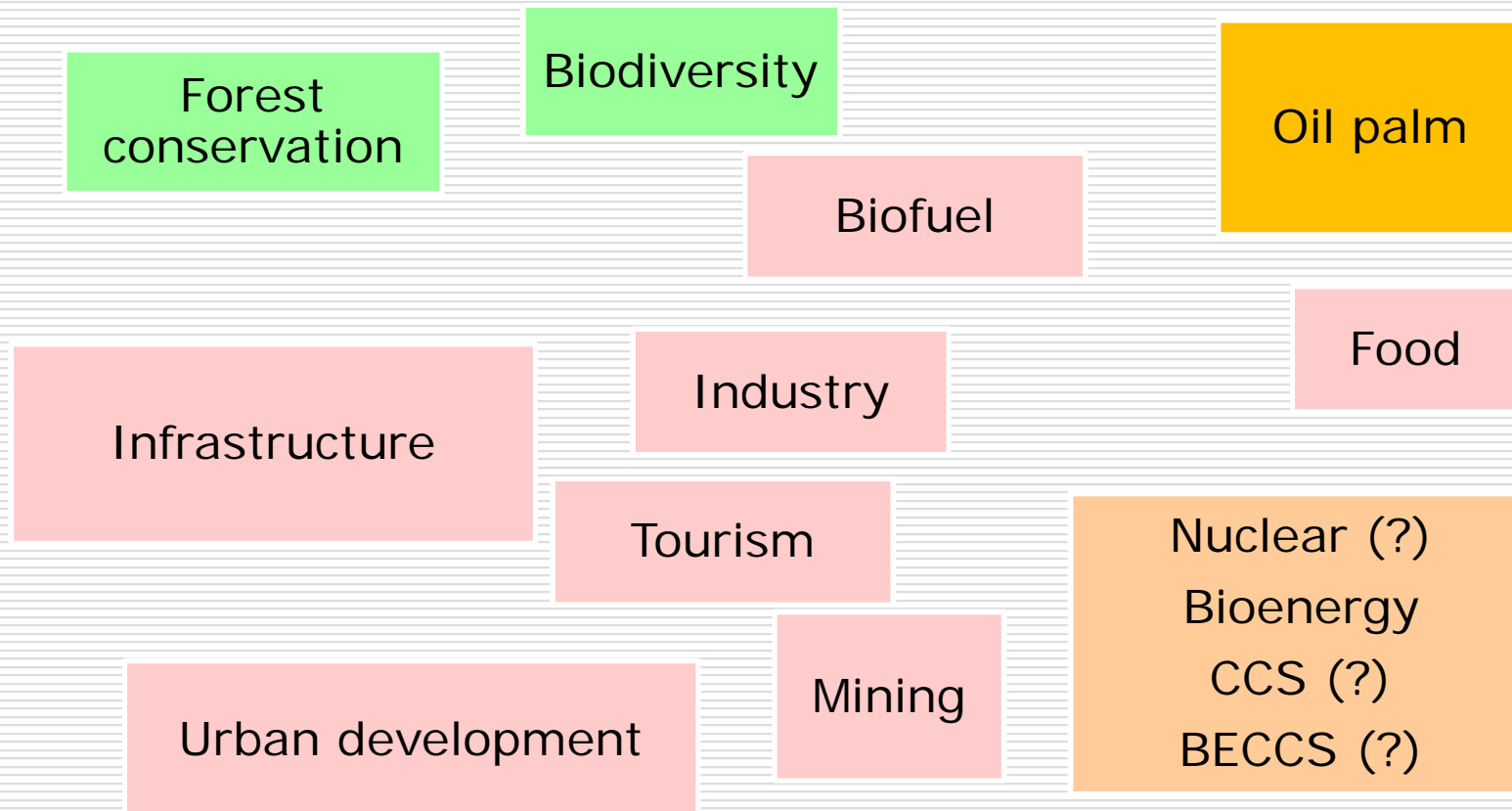
(van Vuuren et al. 2011)

- Significant role of bioenergy, CCS, and the combination (BECCS)
- Potential negative effects
 - Increasing competition for land and water
 - Impact on biodiversity, etc.
- More efforts required for harmonization between global, national & local concerns

National development plan in Indonesia: Climate policy and development priorities

- Development priorities (2015-19)
 - Economic growth under increasing population
 - Tackling poverty and unemployment
 - Food and energy security
 - Marine and coastal development, etc.
- Integration of climate change mitigation and adaptation policies

Potential trade-offs between climate change countermeasures and development priorities





Thank you