

# Implications of Paris Agreement: Case of Indonesia

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# Indonesia at a glance

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- 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

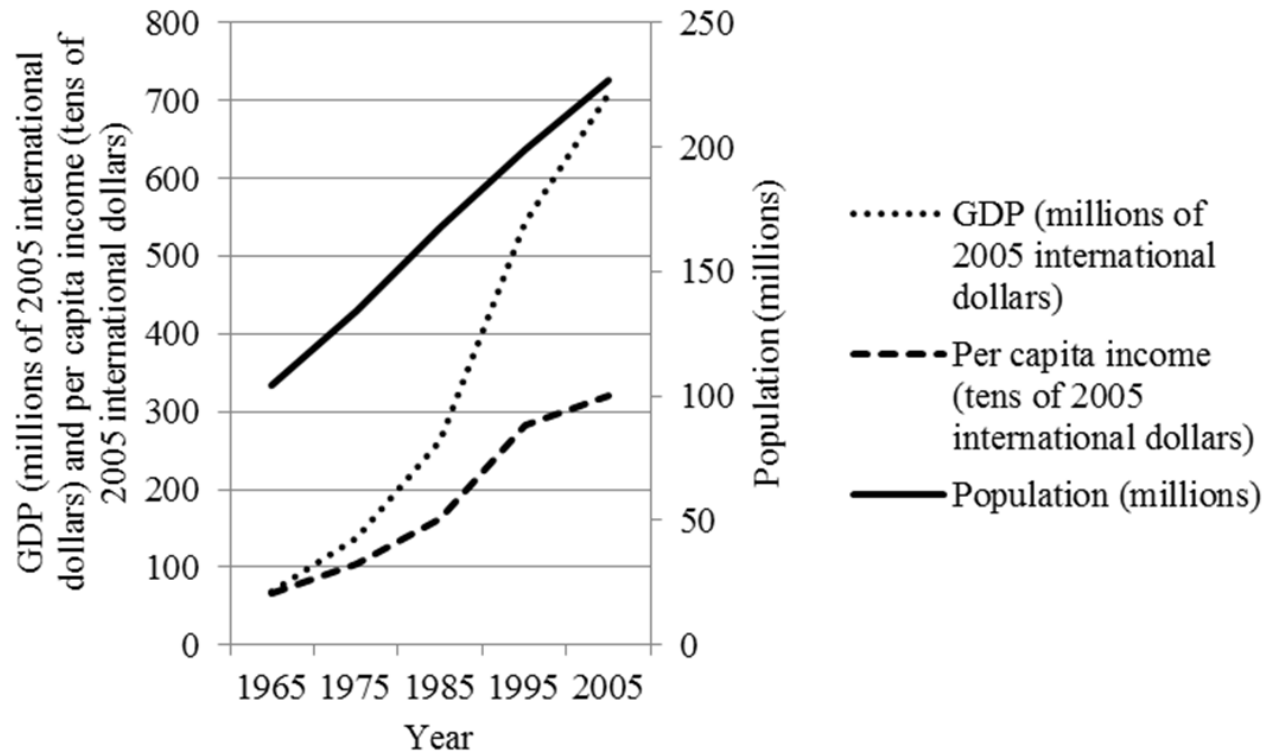
\* BPS Indonesia (2016)

\*\* World Development Indicators (2013)

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# Indonesia: Growing population & economy

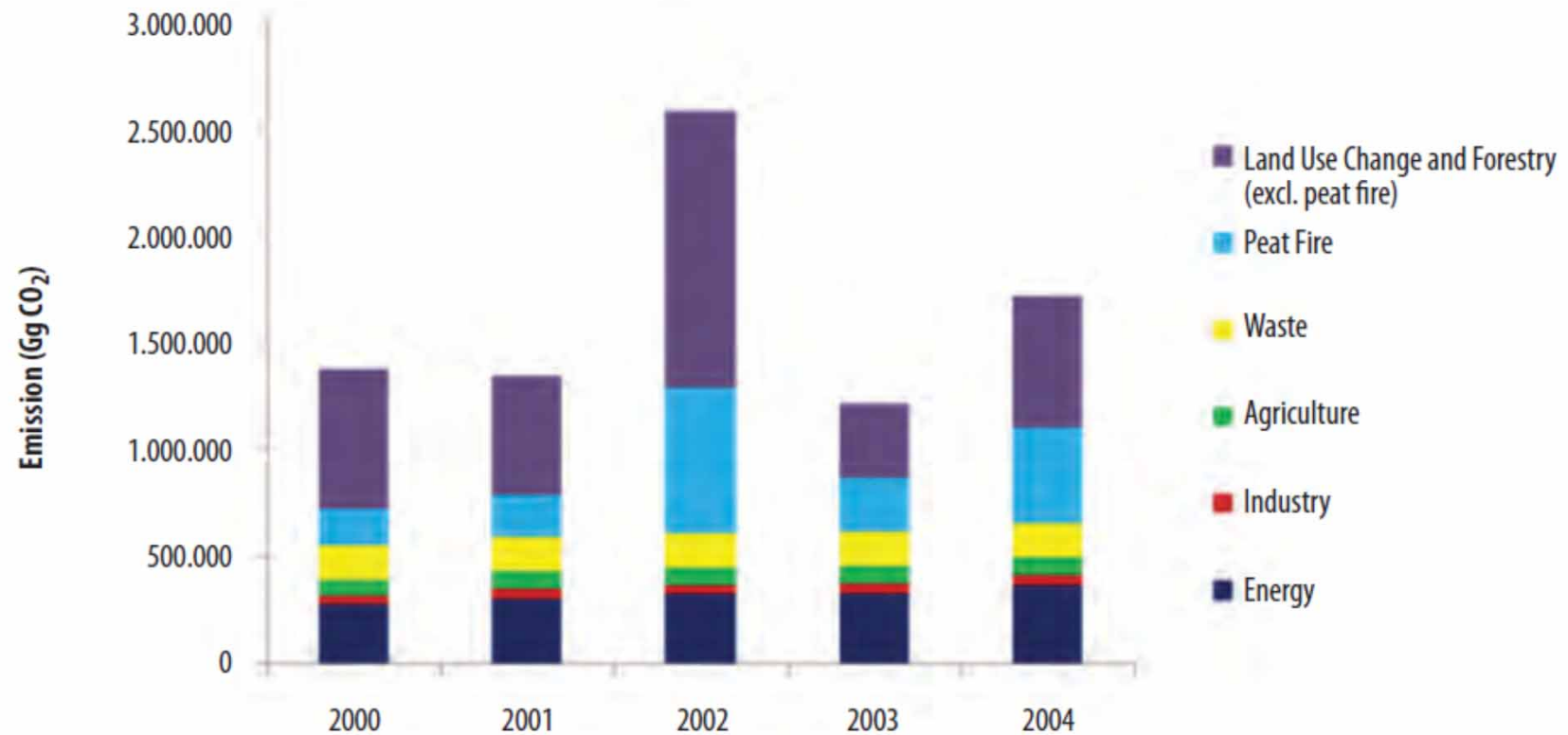
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Produced based on World Development Indicators (2013)

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# Indonesia: GHG national inventory by sector



Indonesian Ministry of Environment (2010)

# Oil palm trees

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Jakarta Post, Oct. 15, 2015

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# Oil palm fruits and palm oil

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

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# Use of palm oil for food (1)

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

Megmilk Snow Brand Co., Ltd. (2016)

# Use of palm oil for food (2)

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Ezaki Glico Co., Ltd. (2016)  
Morinaga & Co., Ltd. (2016)  
Calbee, Inc. (2016)



# Use of palm oil for soap & shampoo

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Rakuten, Inc. (2016)

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# Use of palm oil for biodiesel

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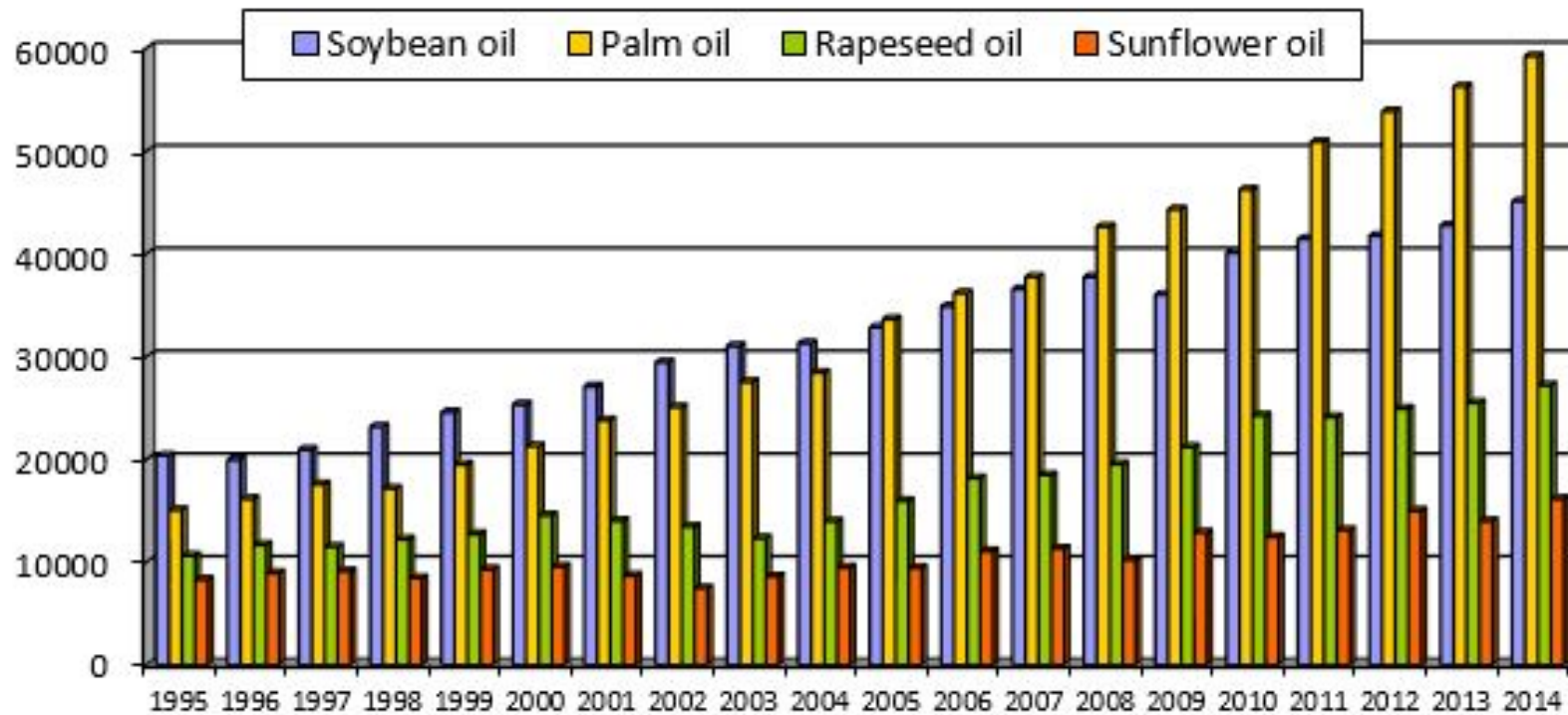


Tokyo Metropolitan Government (2016)

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# World production of vegetable oils

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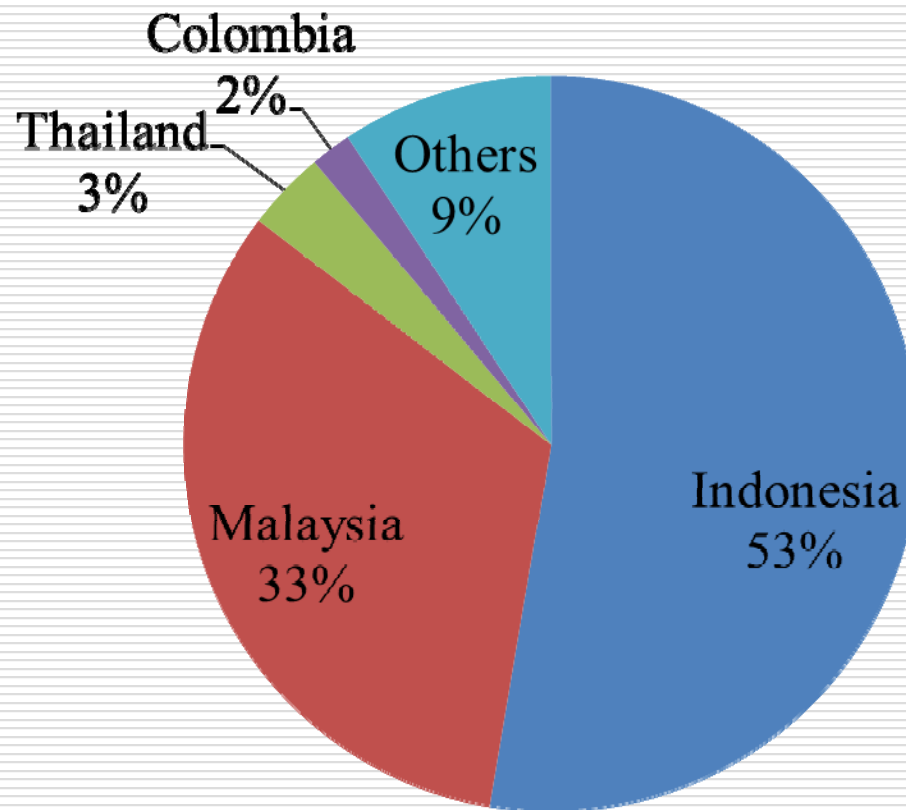


FEDIOL Homepage (accessed May 5, 2016); in 1,000 Mt

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# Oil palm production by country (2015)

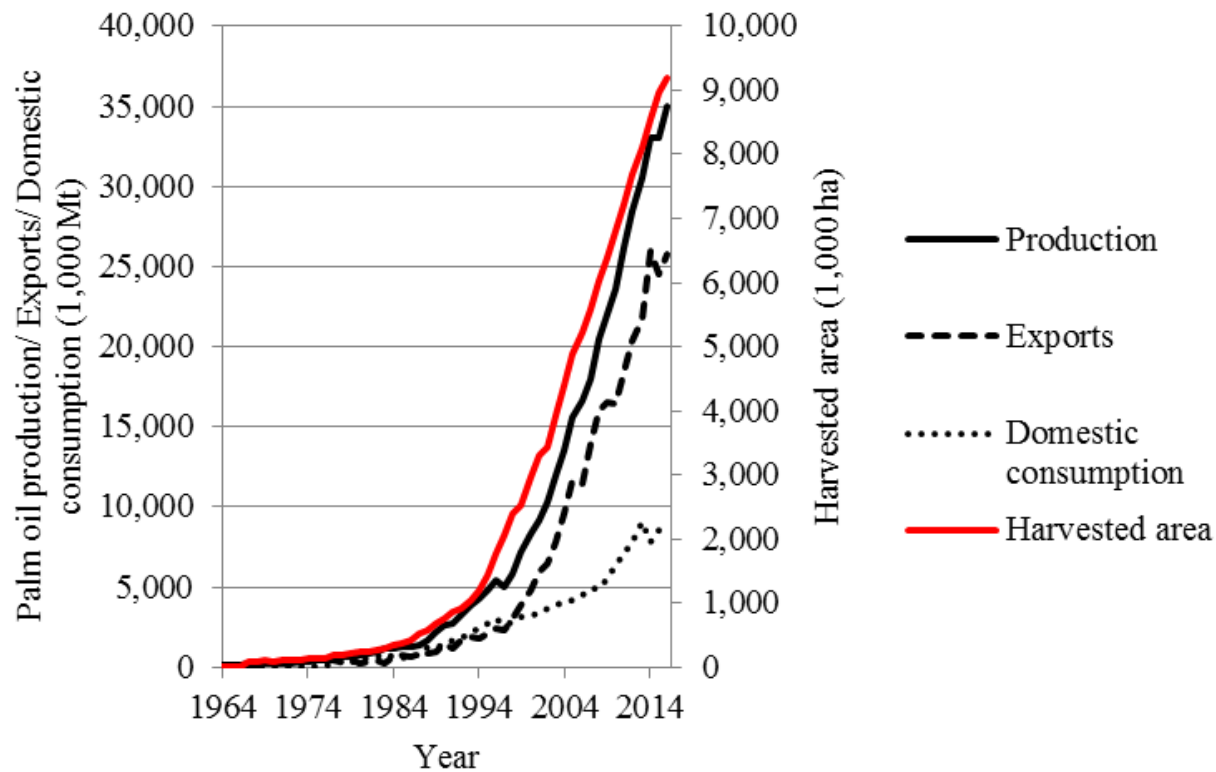
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Produced based on USDA (2016)

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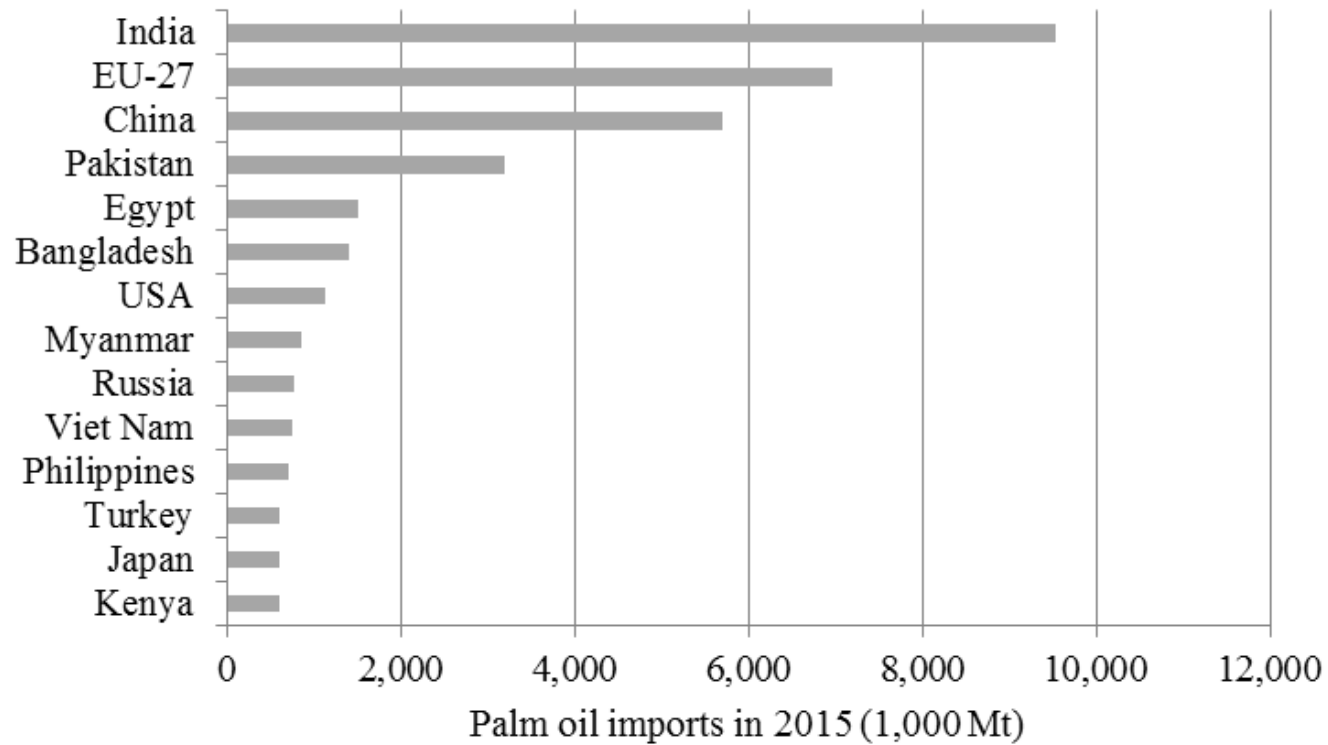
# Indonesia: Oil palm production



Produced based on USDA (2016)

# Palm oil imports by country (1)

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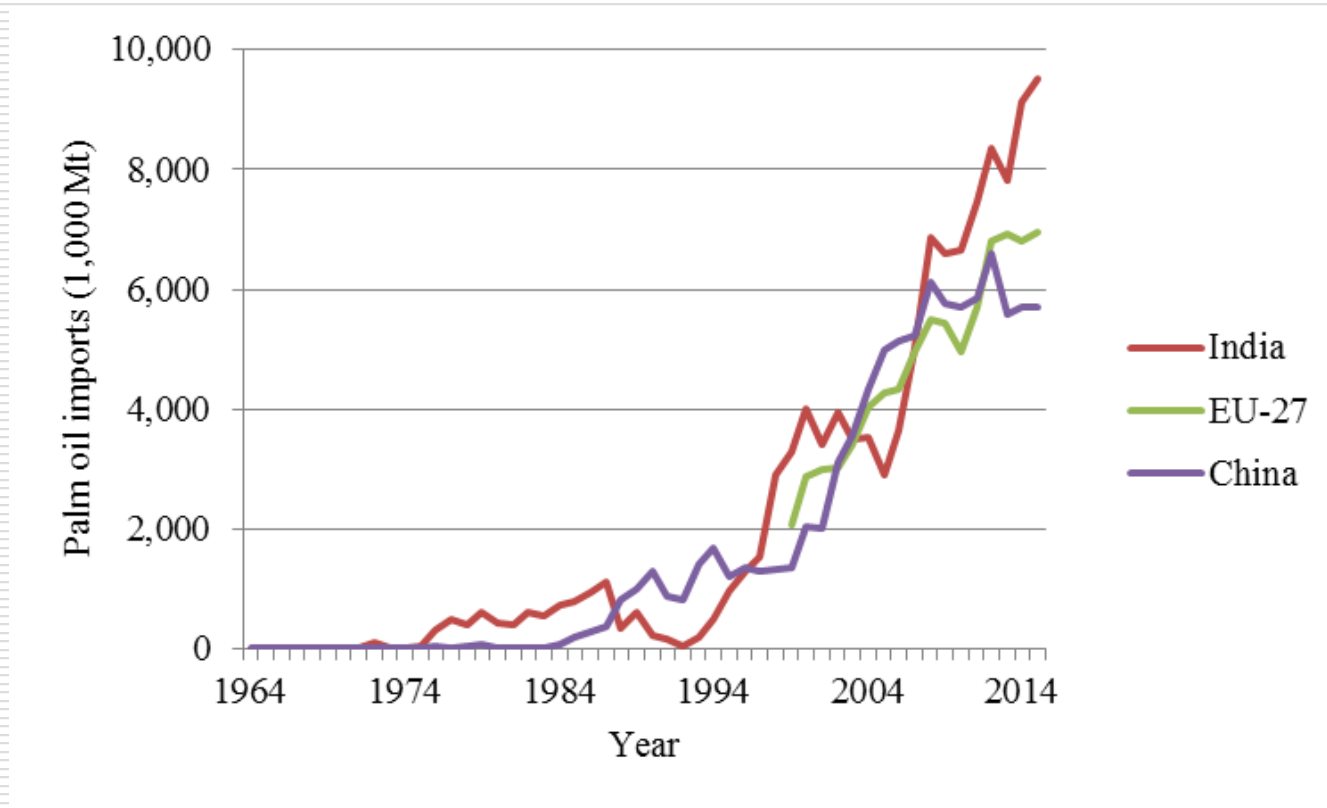


Produced based on USDA (2016)

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# Palm oil imports by country (2)

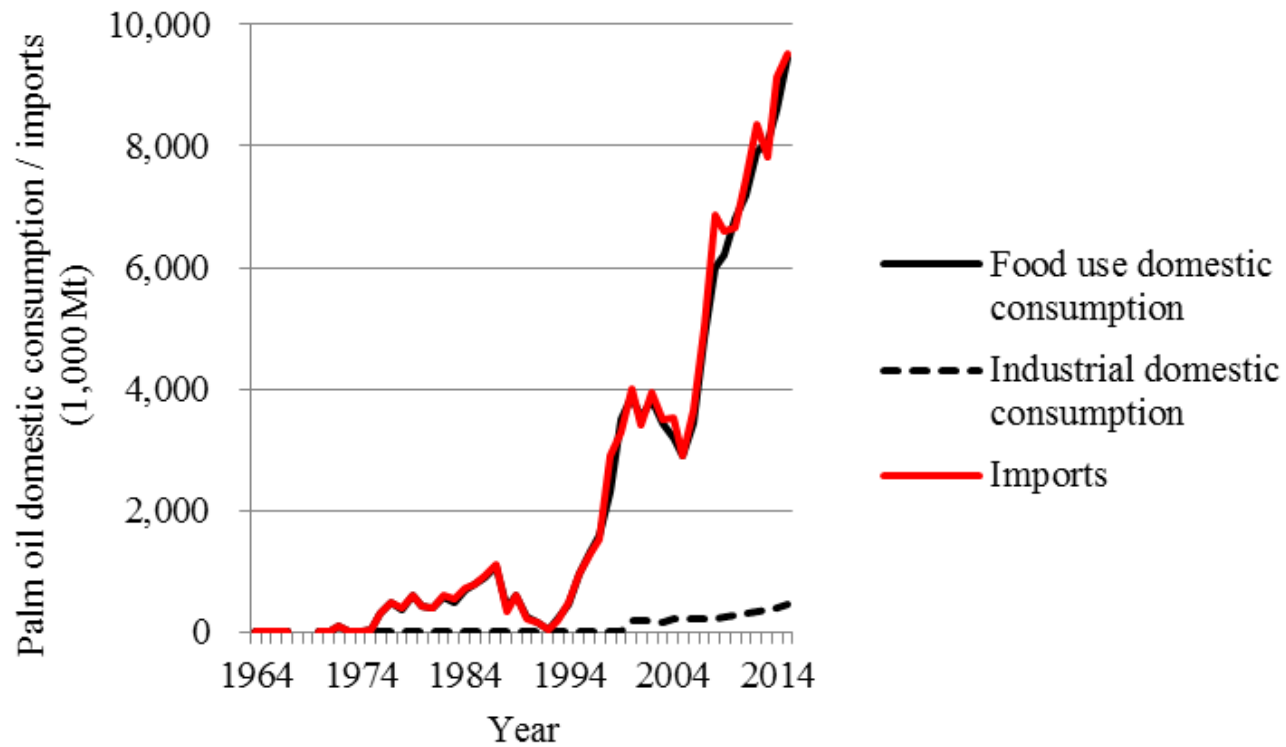
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Produced based on Index Mundi (2016)

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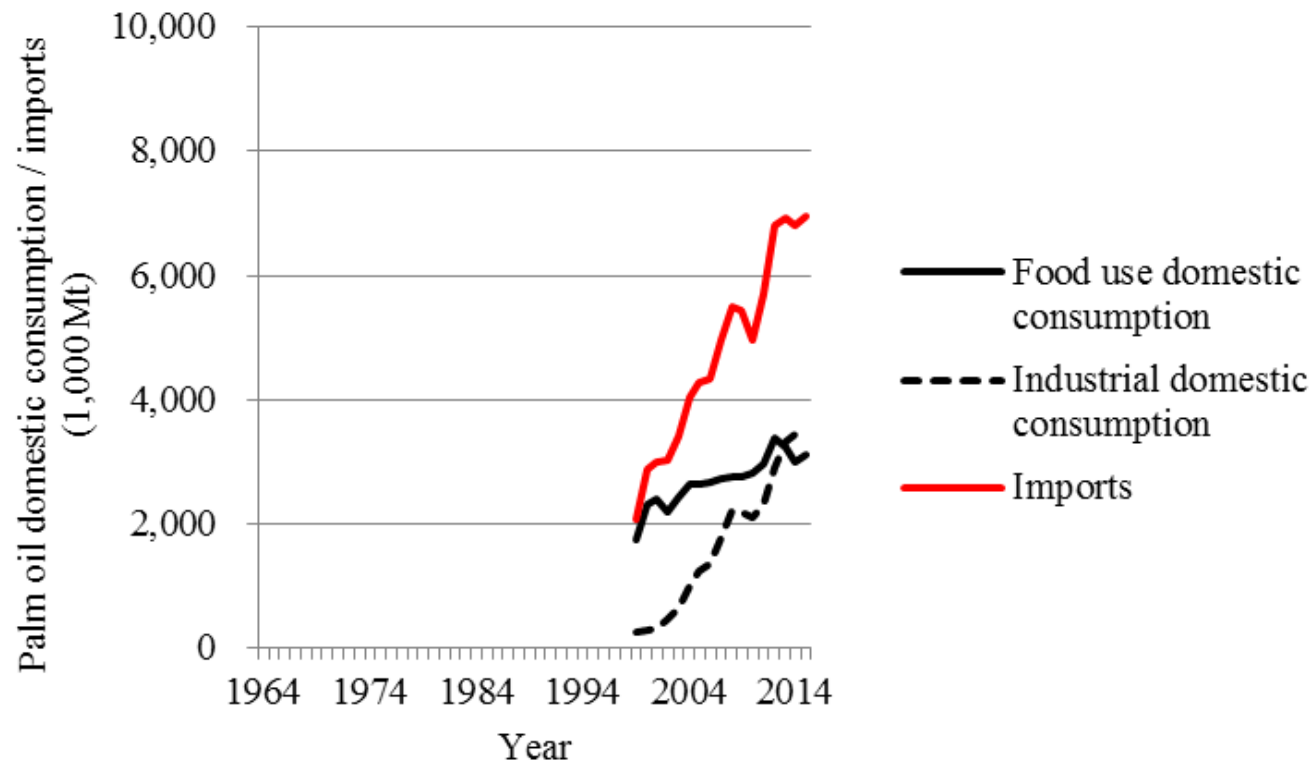
# India: palm oil consumption & imports



Produced based on USDA (2016)

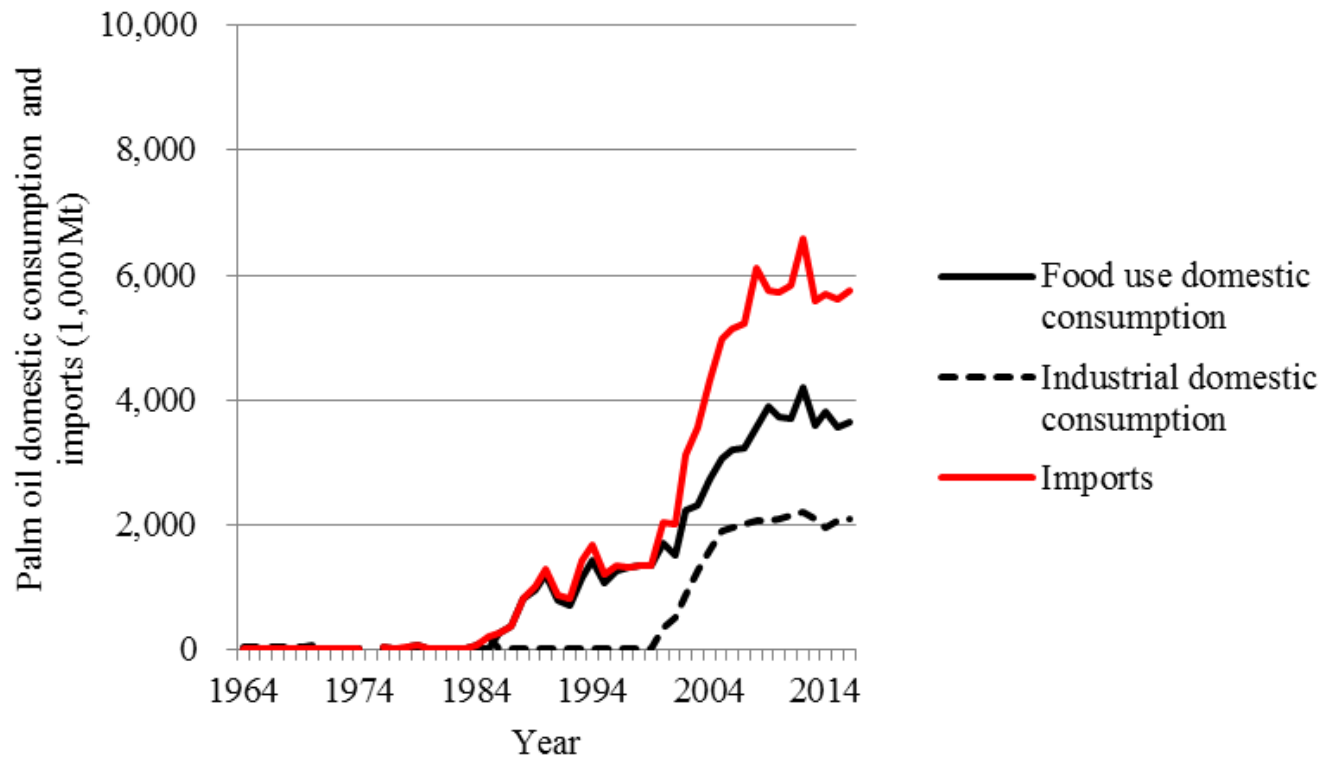


# EU27: palm oil consumption & imports



Produced based on USDA (2016)

# China: palm oil consumption & imports



Produced based on USDA (2016)

# Paris Agreement

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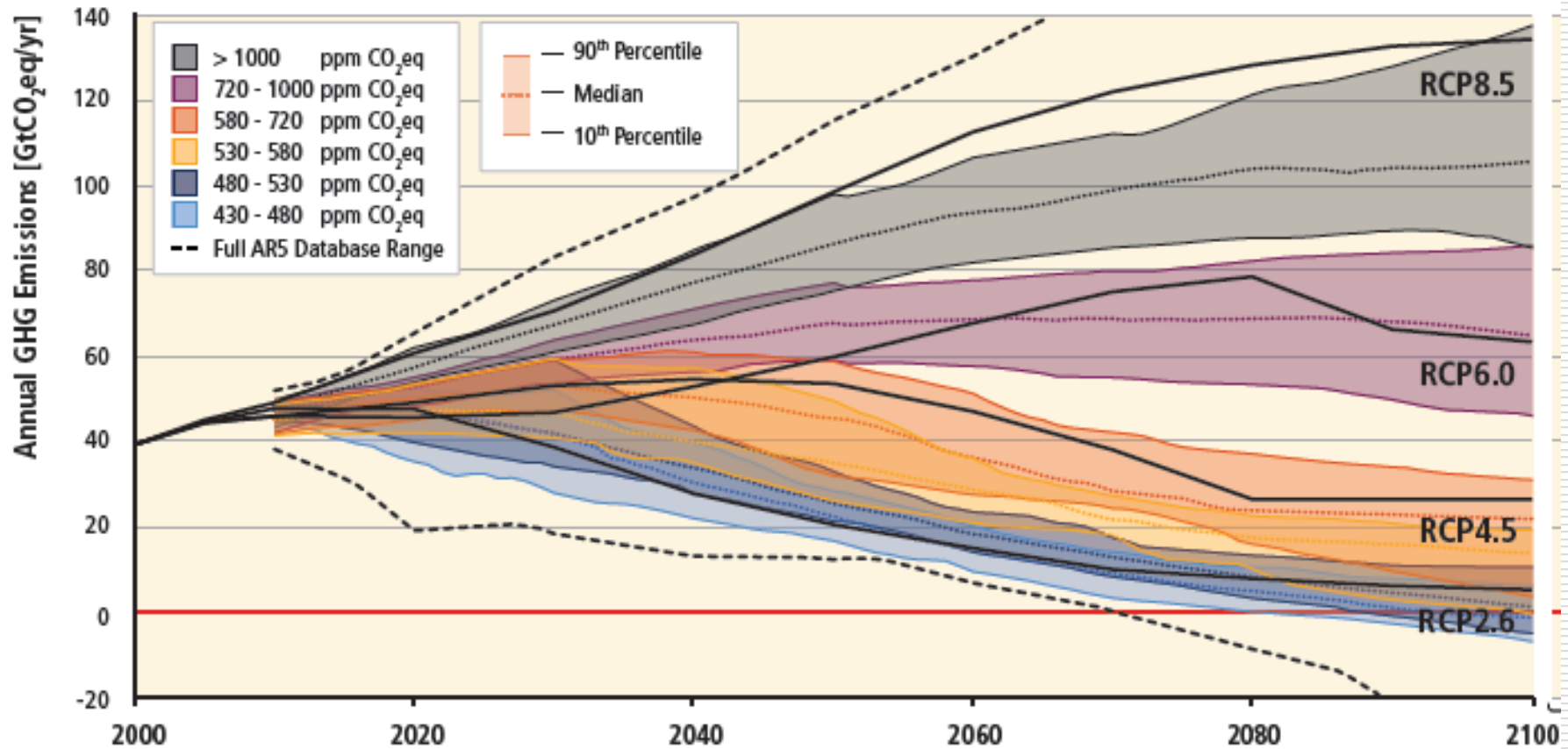
## □ Article 2 (a)

- *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)

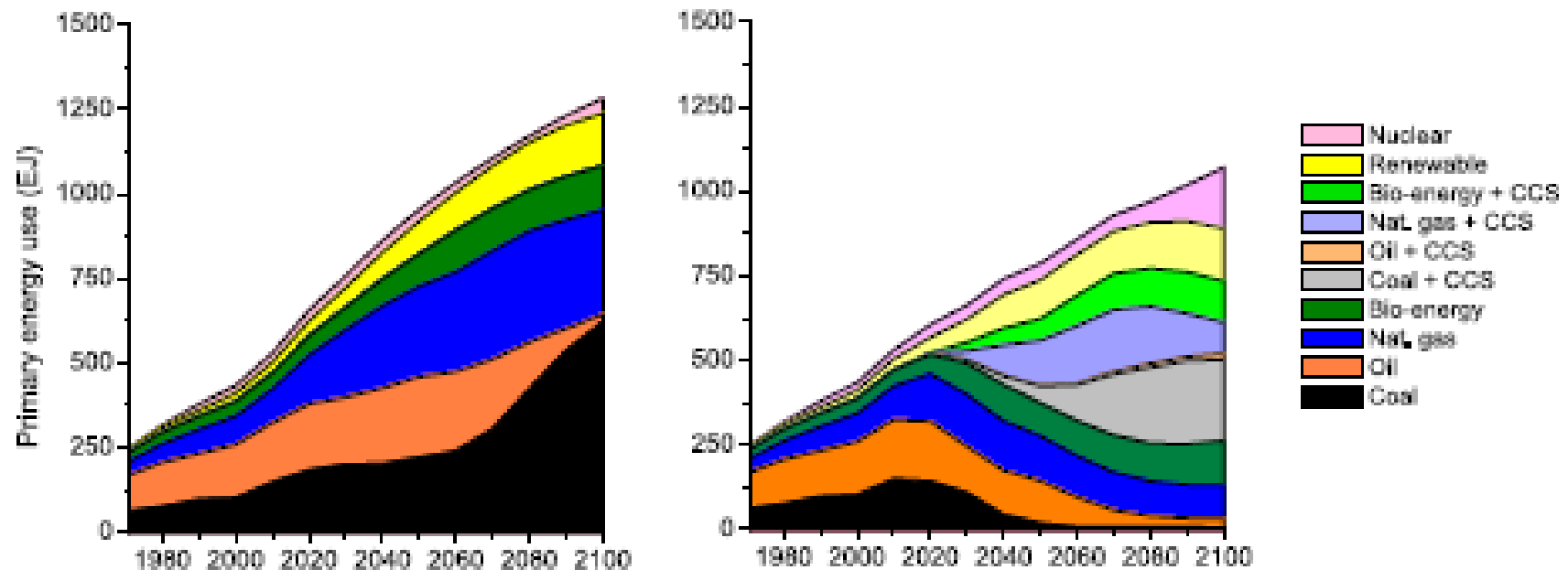


Fig. 2 Trends in global energy use for the baseline (left) and the mitigation scenario RCP2.6 (right)

(van Vuuren et al. 2011)

## RCP2.6: critical conditions & potential effects

(van Vuuren et al. 2011)

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- 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

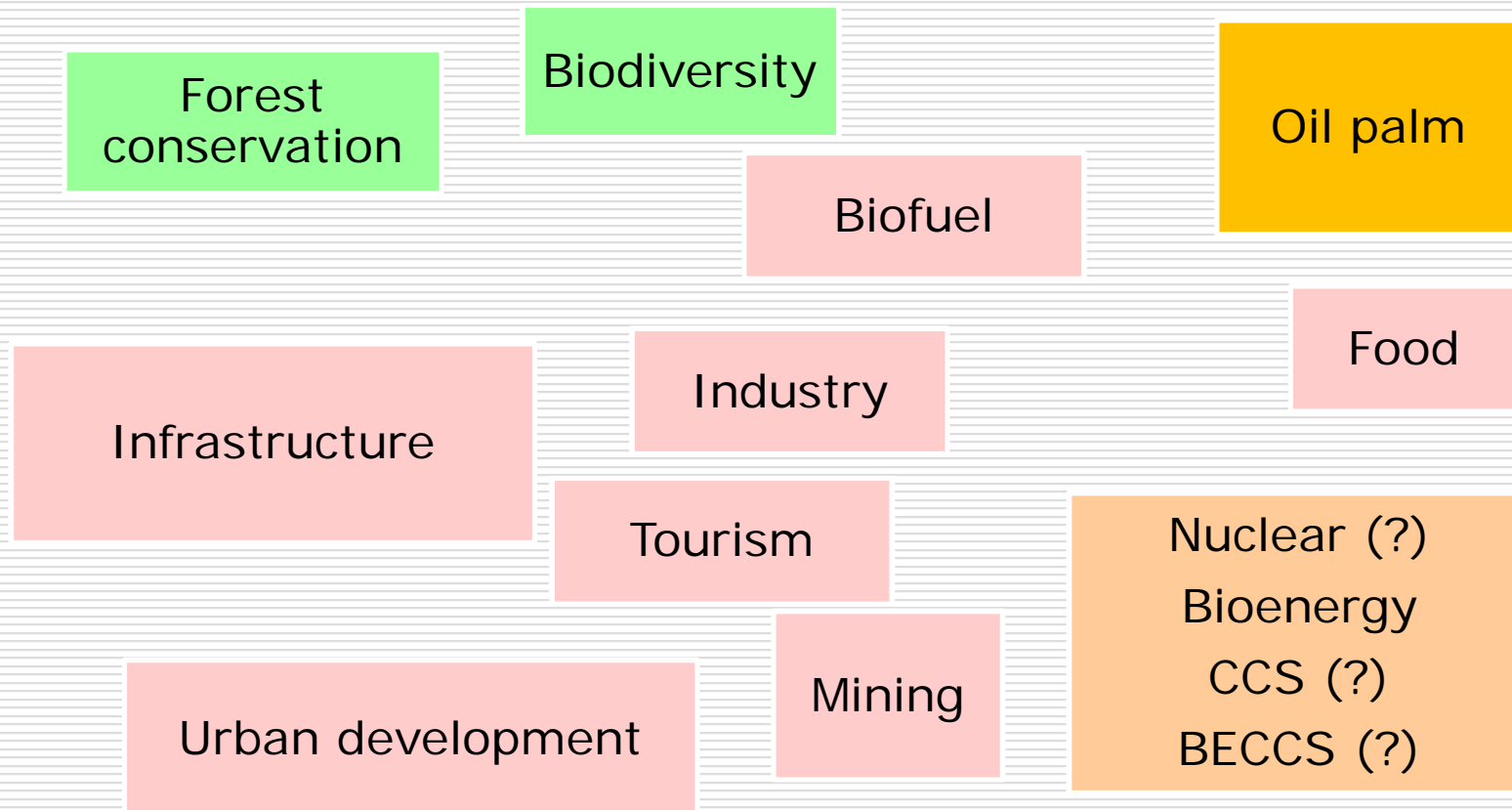
# National development plan in Indonesia: Climate policy and development priorities

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- 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

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*Thank you*