Indonesia's position on climate change negotiations

Informal Discussion at EU Coordination Meeting

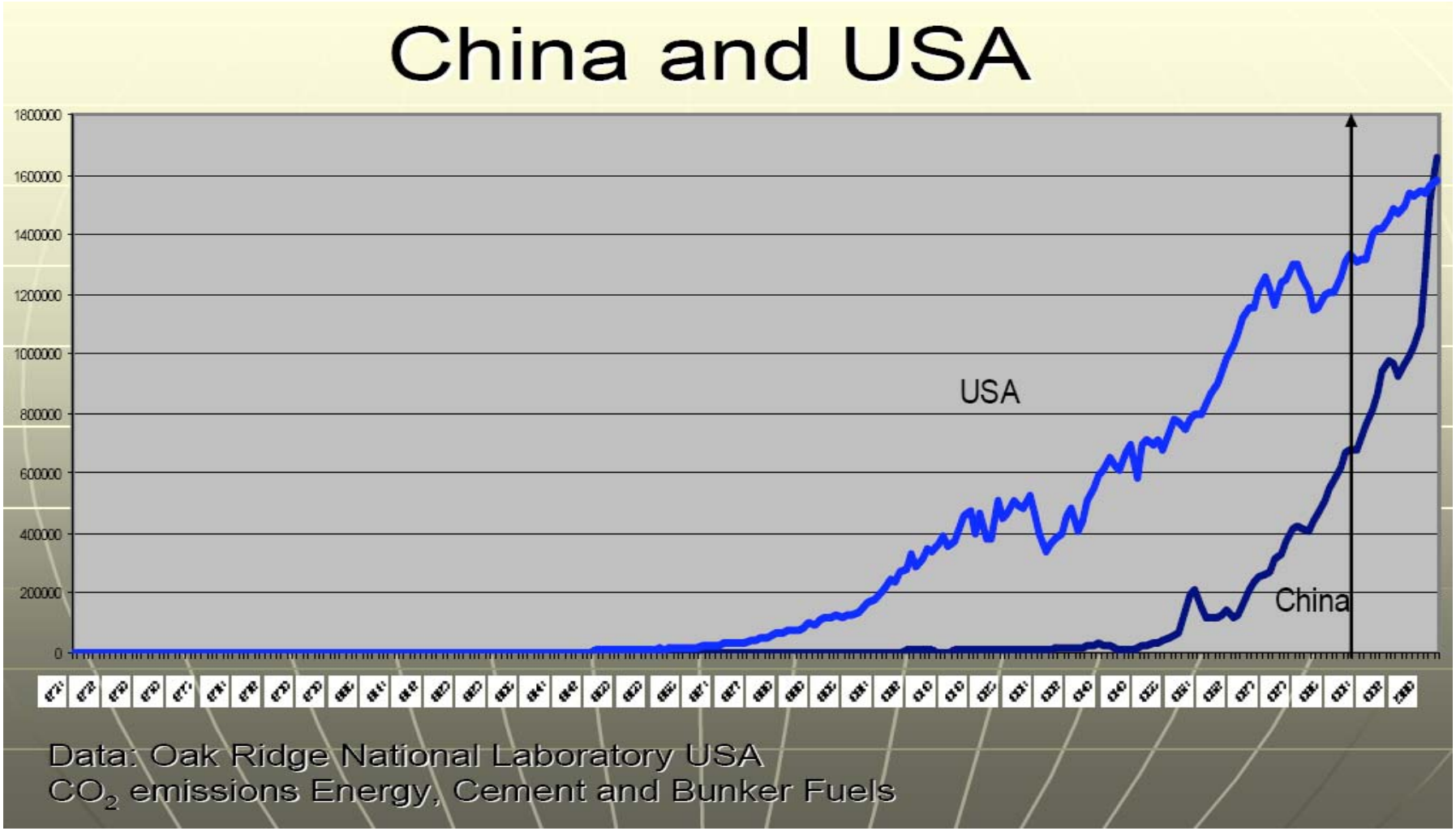
Jakarta - October 21, 2009

Agus Purnomo – National Council on Climate Change

Presentation outline

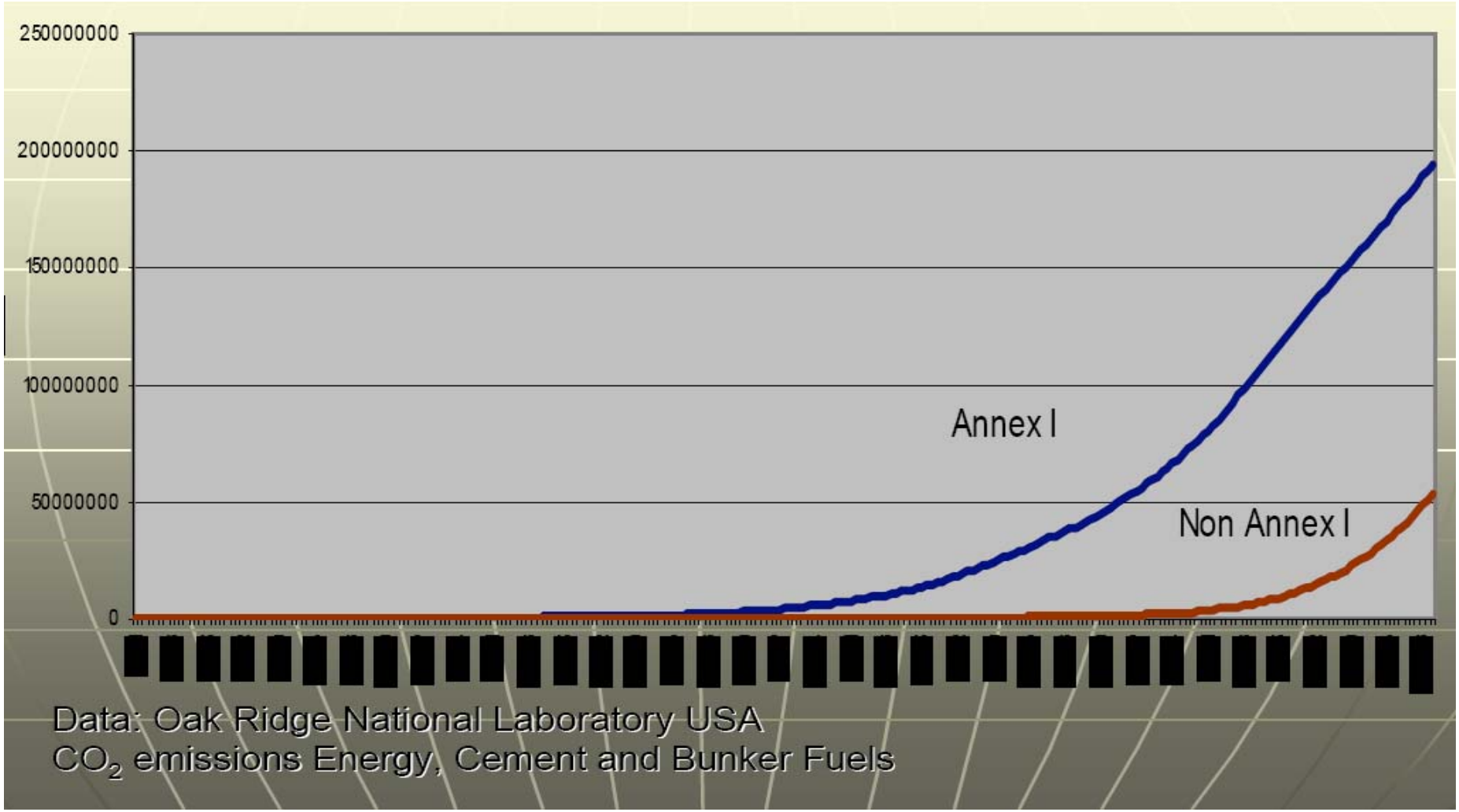
- ☑ Navigating the Bali Road Map
- ☐ Findings on Indonesian emission
- ☐ Indonesia’s voluntary commitment
- ☐ Copenhagen elements

Science-1: Historical emissions (a)



Source: José Miguez, Ministry of Science and Technology, Brazil

Science-1: Historical emissions (b)



Science-1: Historical emissions (c)

Figure 6.1. Cumulative CO_2 Emissions, 1850–2002

Country	% of World	(Rank)
United States	29.3	(1)
EU-25	26.5	(2)
Russia	8.1	(3)
China	7.6	(4)
Germany	7.3	(5)
United Kingdom	6.3	(6)
Japan	4.1	(7)
France	2.9	(8)
India	2.2	(9)
Ukraine	2.2	(10)
Canada	2.1	(11)
Poland	2.1	(12)
Italy	1.6	(13)

Figure 6.1. Cumulative CO_2 Emissions, 1850–2002

Country	% of World	(Rank)
South Africa	1.2	(14)
Australia	1.1	(15)
Mexico	1.0	(16)
Spain	0.9	(20)
Brazil	0.8	(22)
South Korea	0.8	(23)
Iran	0.6	(24)
Indonesia	0.5	(27)
Saudi Arabia	0.5	(28)
Argentina	0.5	(29)
Turkey	0.4	(31)
Pakistan	0.2	(48)
Developed	**76**	
Developing	**24**	

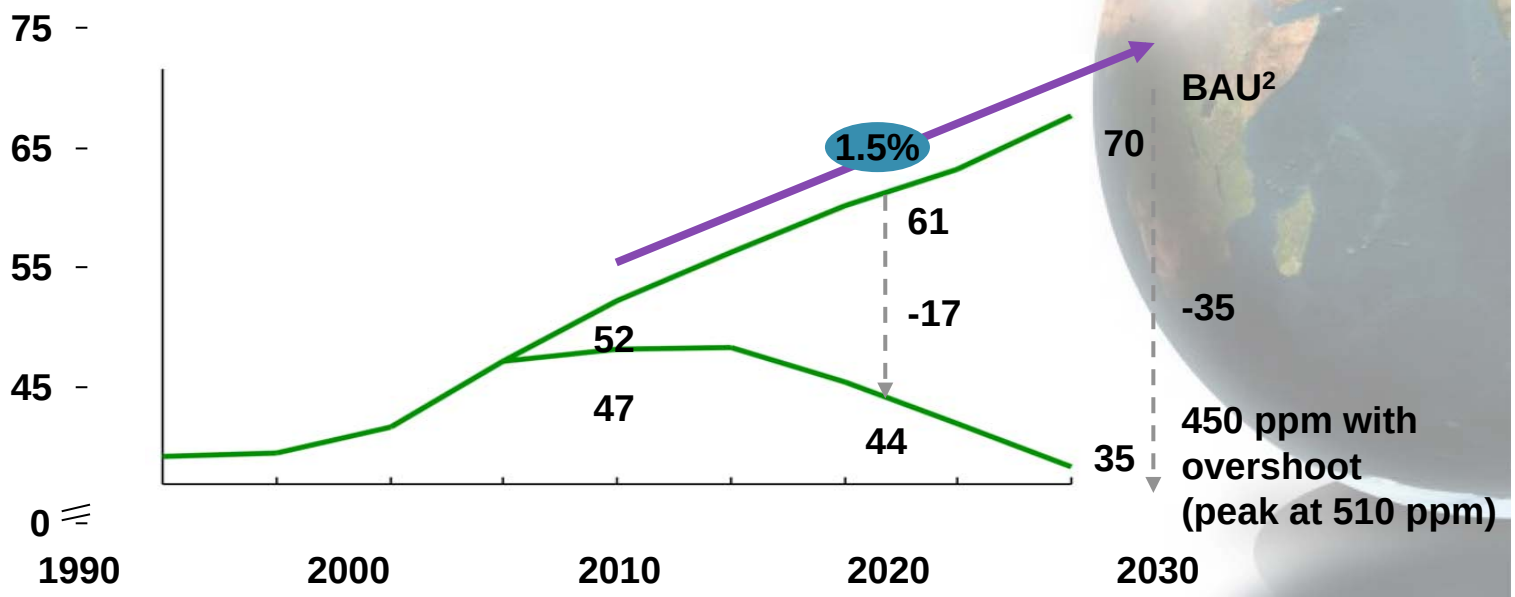
Source: WRI, CAIT.

Science-2: Concept of Negotiation Goal

- CO2 concentration in the atmosphere is an issue of equitable carbon stock management, not only a matter of reducing the speed of emitting CO2.
- Developing countries at sometime in the future are likely to emit CO2 higher than developed countries under the existing/current BAU scenario.
- Balancing the concept of historical emission and future emission projections.
- Breaking the negotiation impasse through elaboration of the Common But Differentiated Responsibility and Respective Capacities (CBDR) principle.

To get on to a sustainable 450 ppm pathway[1], the world needs to reduce emissions of GHG by 35 Gt CO2e relative to a business-as-usual scenario by 2030

Global annual emission, Gt CO_2e

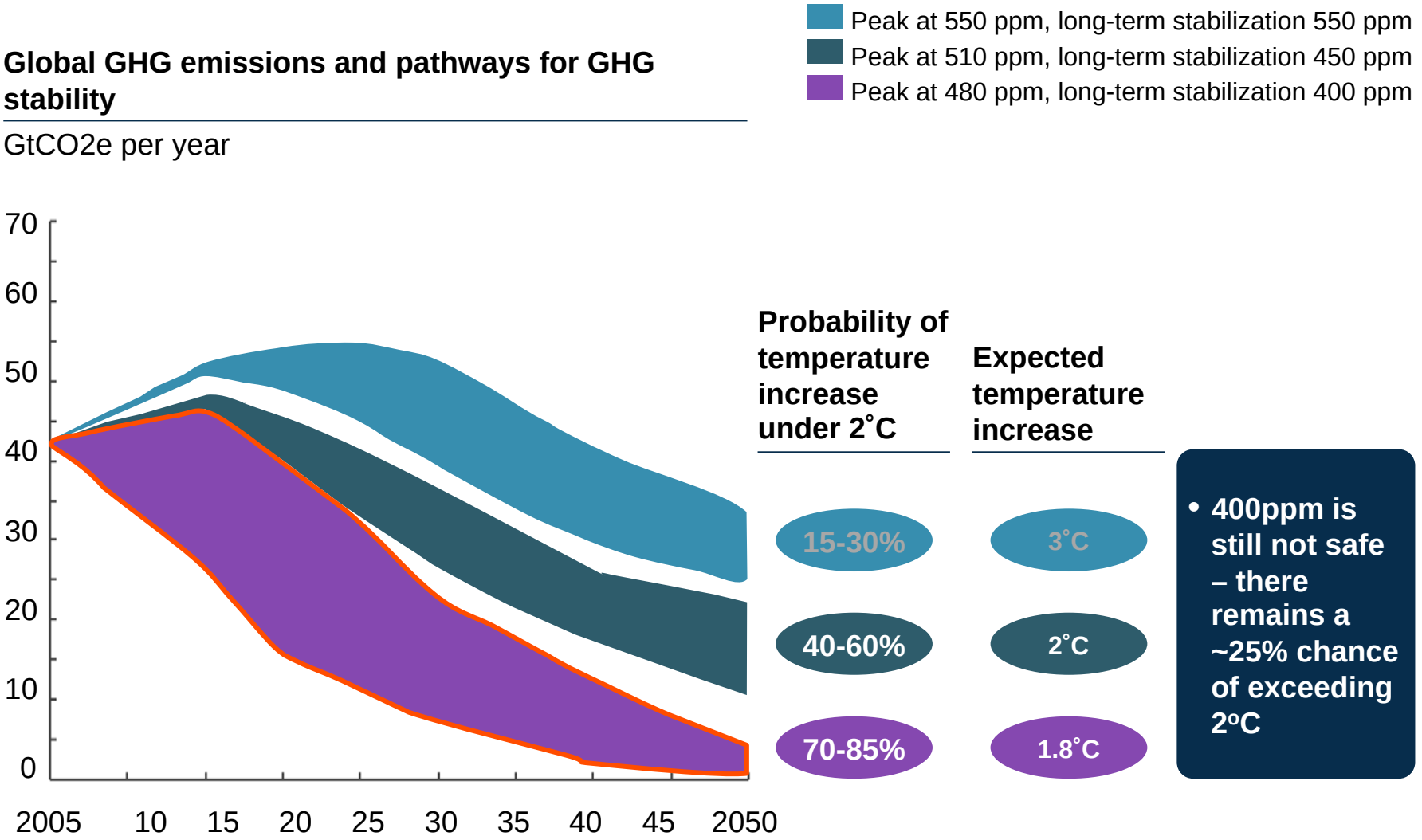


	2010	2020	2030
Change relative to 1990[1], %	29	20	-3
Change relative t0 BAU[1], %	-9	-29	-50

1 Scientists believe that reducing global CO_2e emissions to the 450 ppm level provides a 40-60% chance of preventing global temperatures from rising more than 2 degrees Celsius. One gigaton is equal to one million tons
2 Business as Usual

SOURCE: IPCC, McKinsey & Company Pathways to a Low-Carbon Economy

A 400 ppm CO_2e pathway would increase the chances of limiting global warming to 2 degrees to 70-85%



Source: IPCC WG3 AR4, den Elzen, van Vuuren; Meinshausen; Global GHG Abatement Cost Curve v2.0, Project Catalyst analysis

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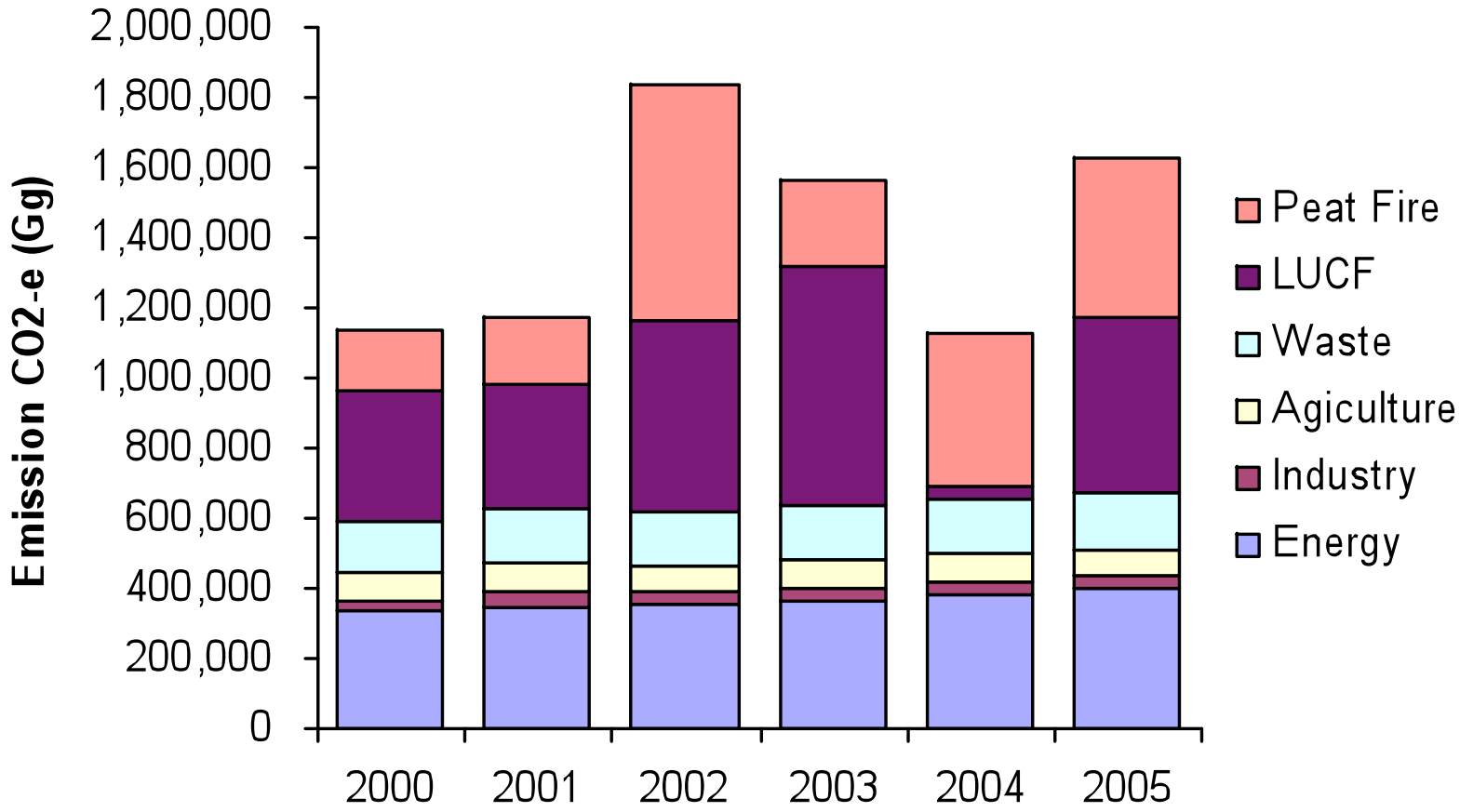
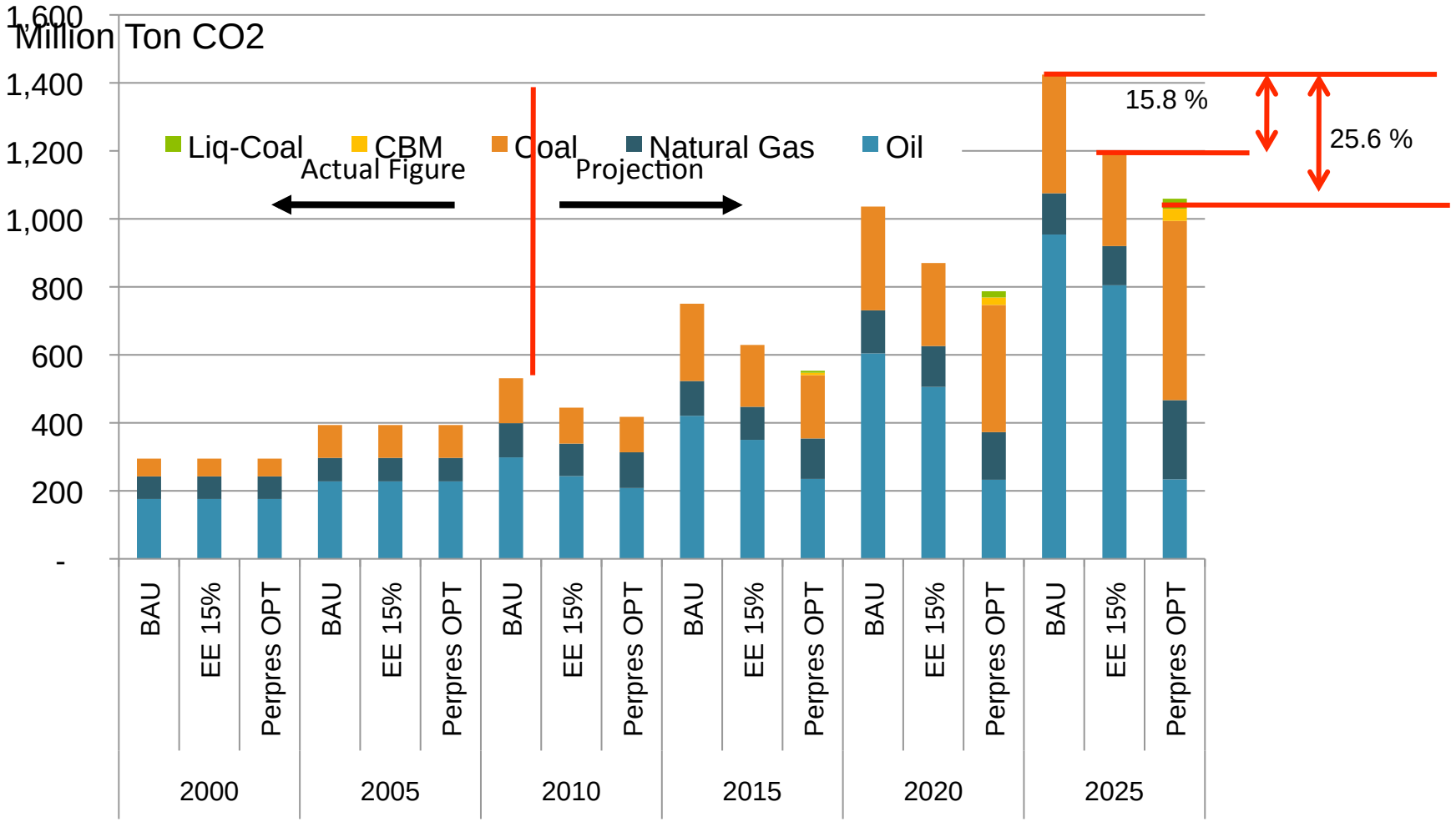
GHG Emissions Trend 2000-2005



SOURCE: Second National Communication - DRAFT

Energy Sector Emission Projection

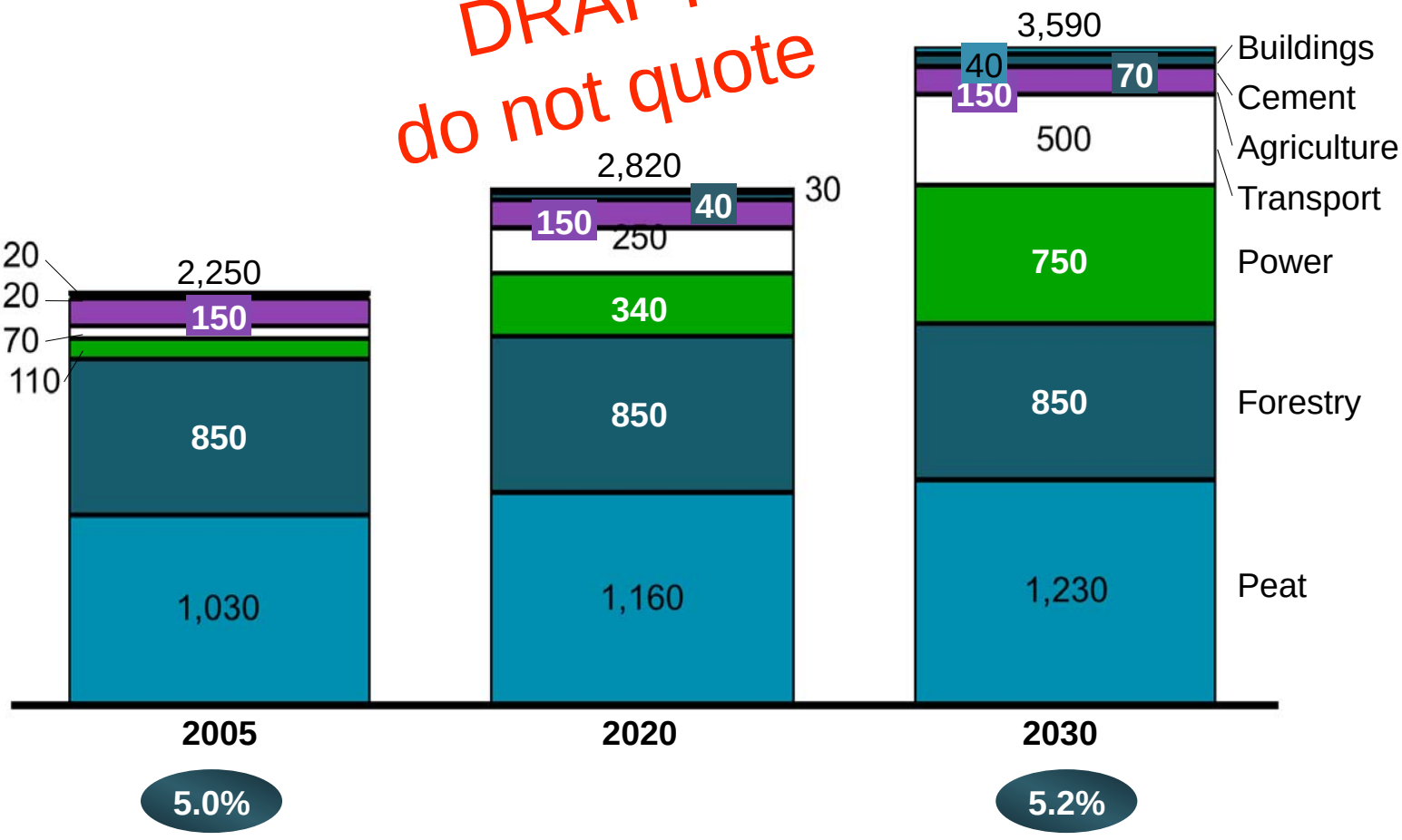
Optimal Scenario PEN 2005-2025



SOURCE: Second National Communication - DRAFT

Indonesian emissions are estimated to grow from 2.3 to 3.6 $GtCO_2e$ between 2005 and 2030

Projected emissions[1], Million tons CO_2e



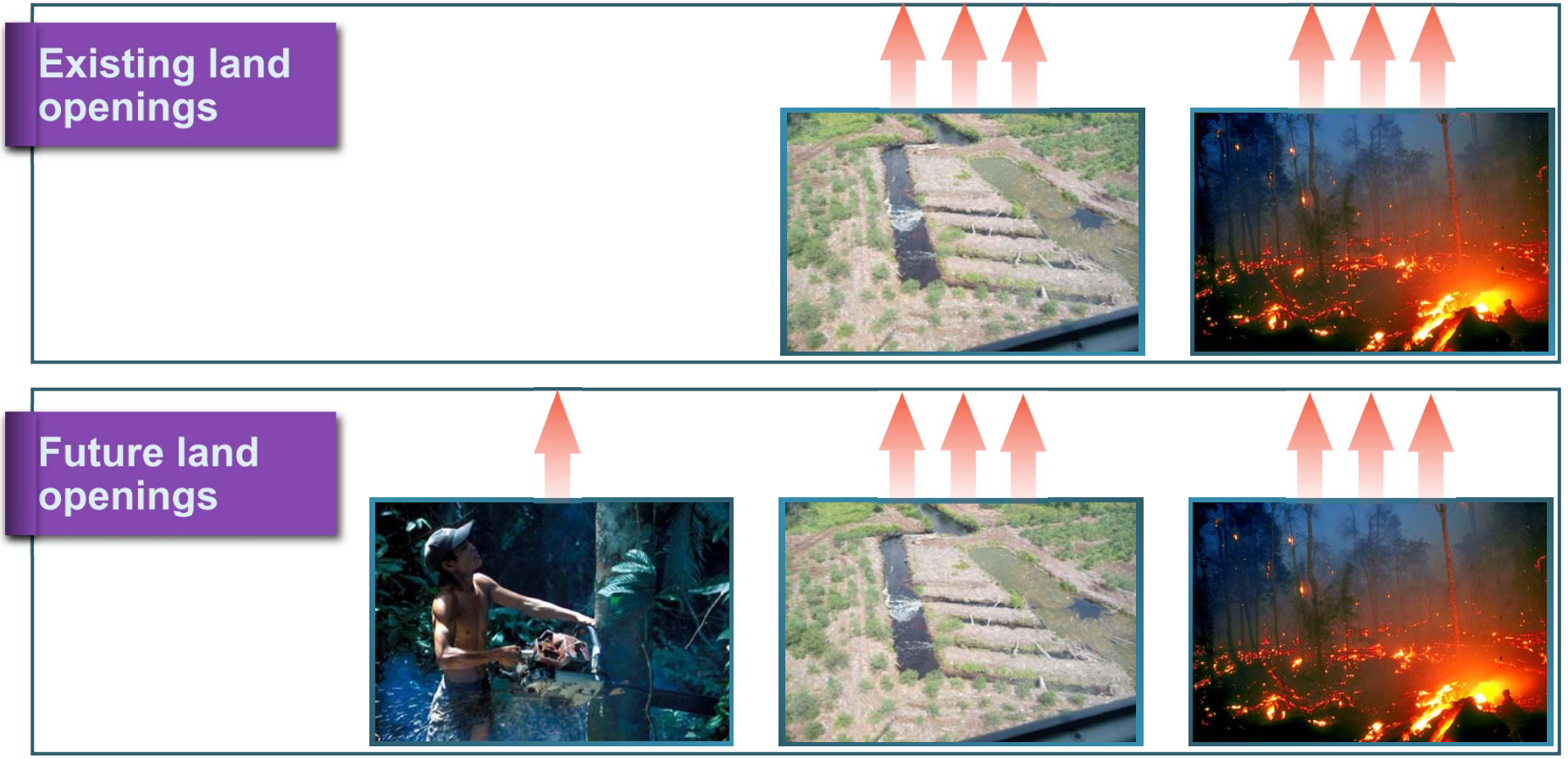
Share of global emissions

1 Includes only direct emissions from each sector

SOURCE: Indonesia GHG Abatement Cost Curve - DRAFT

… and from peat decomposition and fires on degraded land and peatland forests

ILLUSTRATIVE



Indonesia is responsible for almost 60 percent of global emissions from peat decomposition

Breakdown of global peatland area by surface and corresponding CO_2 emissions
Percent

- 5% of global and 50% of tropical peatlands are located in Indonesia
- Topical peat has a share of more than 80% of emissions from peat decomposition
- Indonesia's share of total emissions from peat decomposition is 58% or 12 times more than share of area

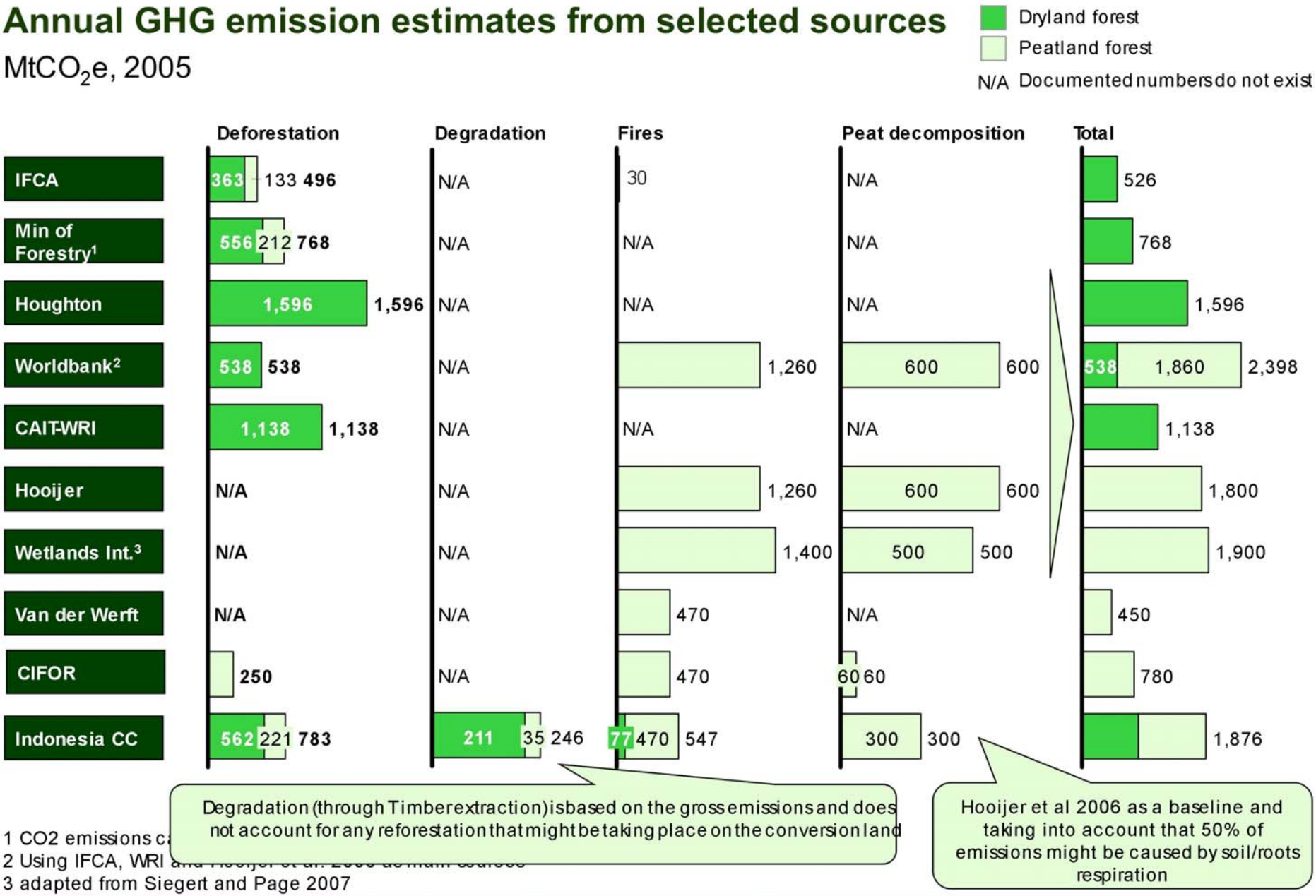
1 Malaysia, Papua New Guinea; Democratic Republic of Congo, Brazil
2 Canada, Russia, Scandinavia, USA

SOURCE: Hooijer et al 2006; Wetlands International

LULUCF

Annual GHG emission estimates from selected sources

$MtCO_2e$, 2005



1 CO2 emissions c
2 Using IFCA, WRI
3 adapted from Siegert and Page 2007

SOURCE: IFCA; Ministry of Forestry Indonesia; Houghton; Worldbank; CAIT – WRI; Hooijer 2006; McKinsey analysis

Emissions from the power sector while relatively small today, are expected to increase 7 times by 2030

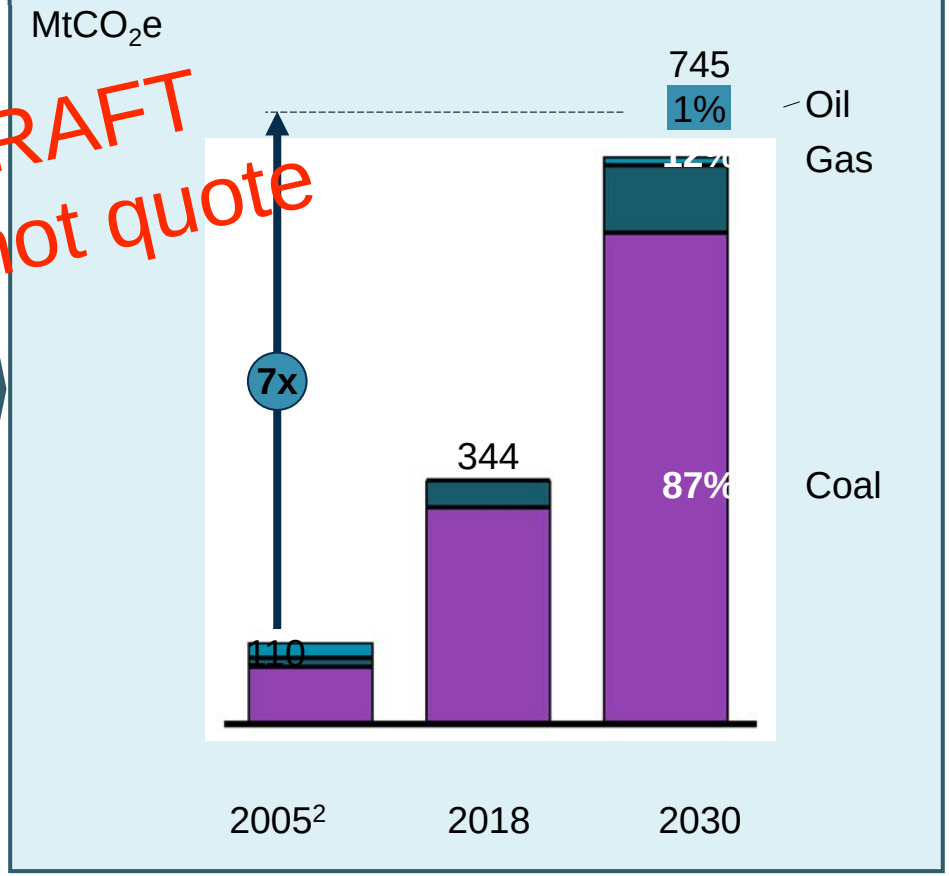
Indonesia's power demand is expected to increase 8 times driven by

- Growth in residential consumption
- Electrification of rural Indonesia
- Strong growth in manufacturing and services
- Realization of latent and suppressed demand

On supply-side, effects of an ambitious geothermal capacity expansion is offset by increasing share of coal in the energy mix

- There are plans to increase Geothermal capacity from 1 GW in 2005 to 9 GW in 2030
- Continued **shift from oil to coal** offsets this emission reduction and keeps the emission factor relatively constant

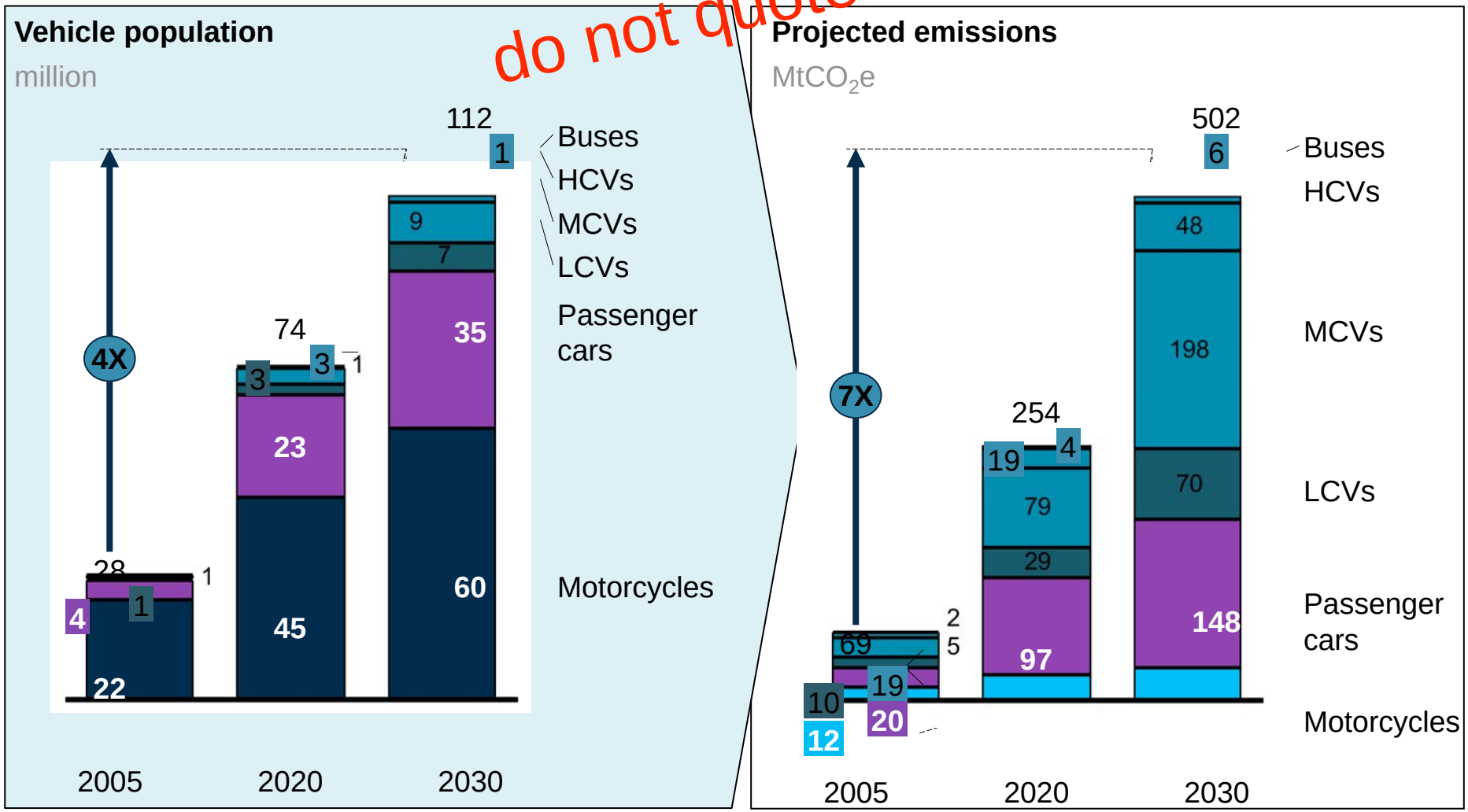
Leading to a 7-fold increase in emissions from the power sector



1 Electricity production estimated by PLN in the RUPTL 2007-18
2 2030 has been projected assuming similar shares of technologies in 2018

SOURCE: RUPTL 2007-18; McKinsey analysis

Indonesia will also see a similar seven fold increase in business as usual emissions from the road transport sector

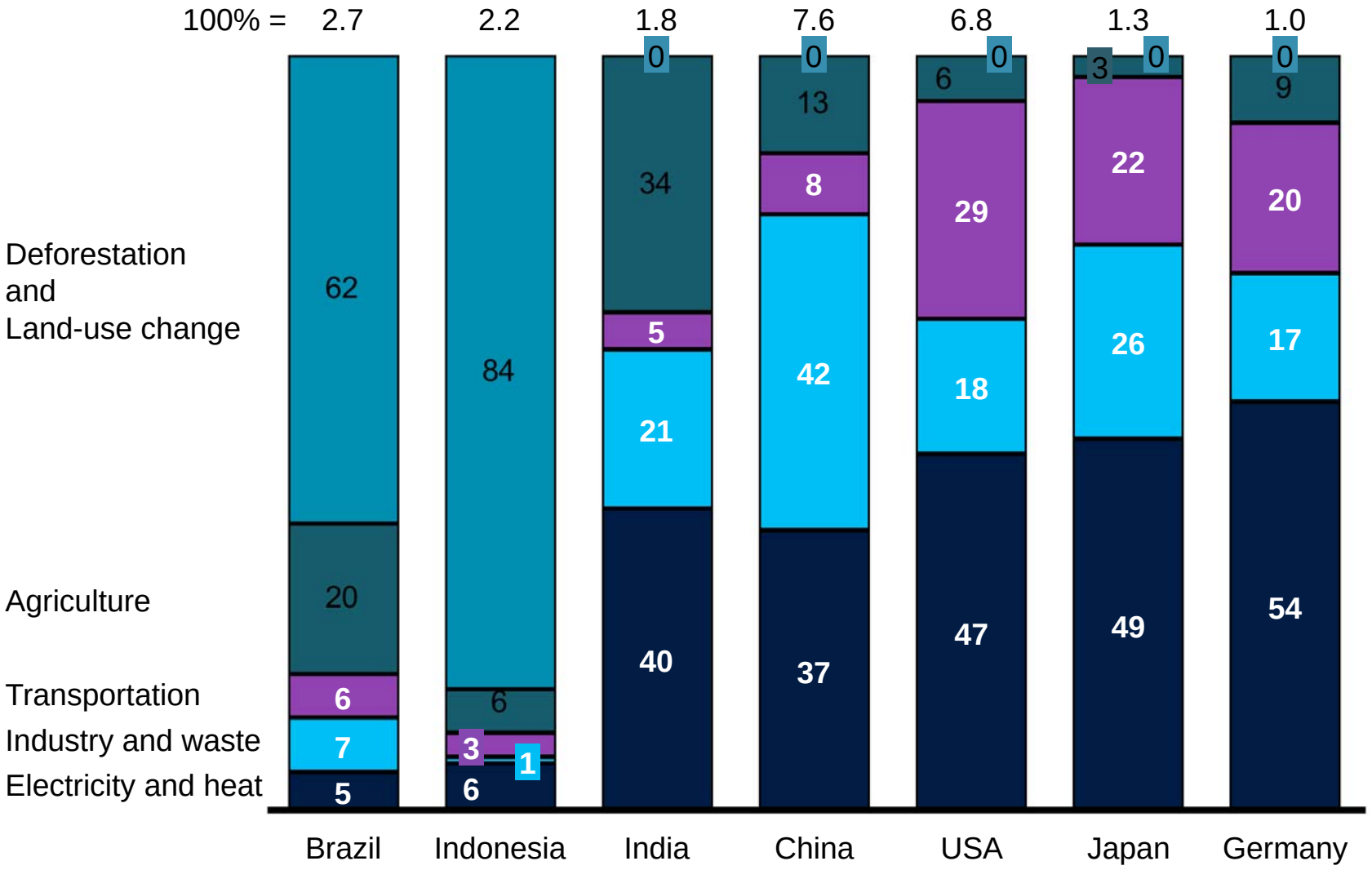


Notes on Indonesian emissions

- Major sources of emissions: LULUCF (deforestation, peat-land conversion and fires), electricity power generation, transportation and selected industries
- LULUCF: high opportunity costs (palm oil and timber), an issue of poverty and complicated management regimes.
- Electricity Power Generation: fuel price distortion and high investment costs of renewable energy
- Transportation: creating attractive investment climate for mass rapid transportation in urban areas

GHG emissions profiles for selected countries – 2005[1]

Percent, Gigatons CO_2e



1 Including emissions associated with deforestation and land-use change, excluding carbon sink

SOURCE: UNFCCC, WRI, IEA, EPA, Mckinsey's Pathway to a Low Carbon Economy, Indonesia GHG Abatement Cost Curve - DRAFT

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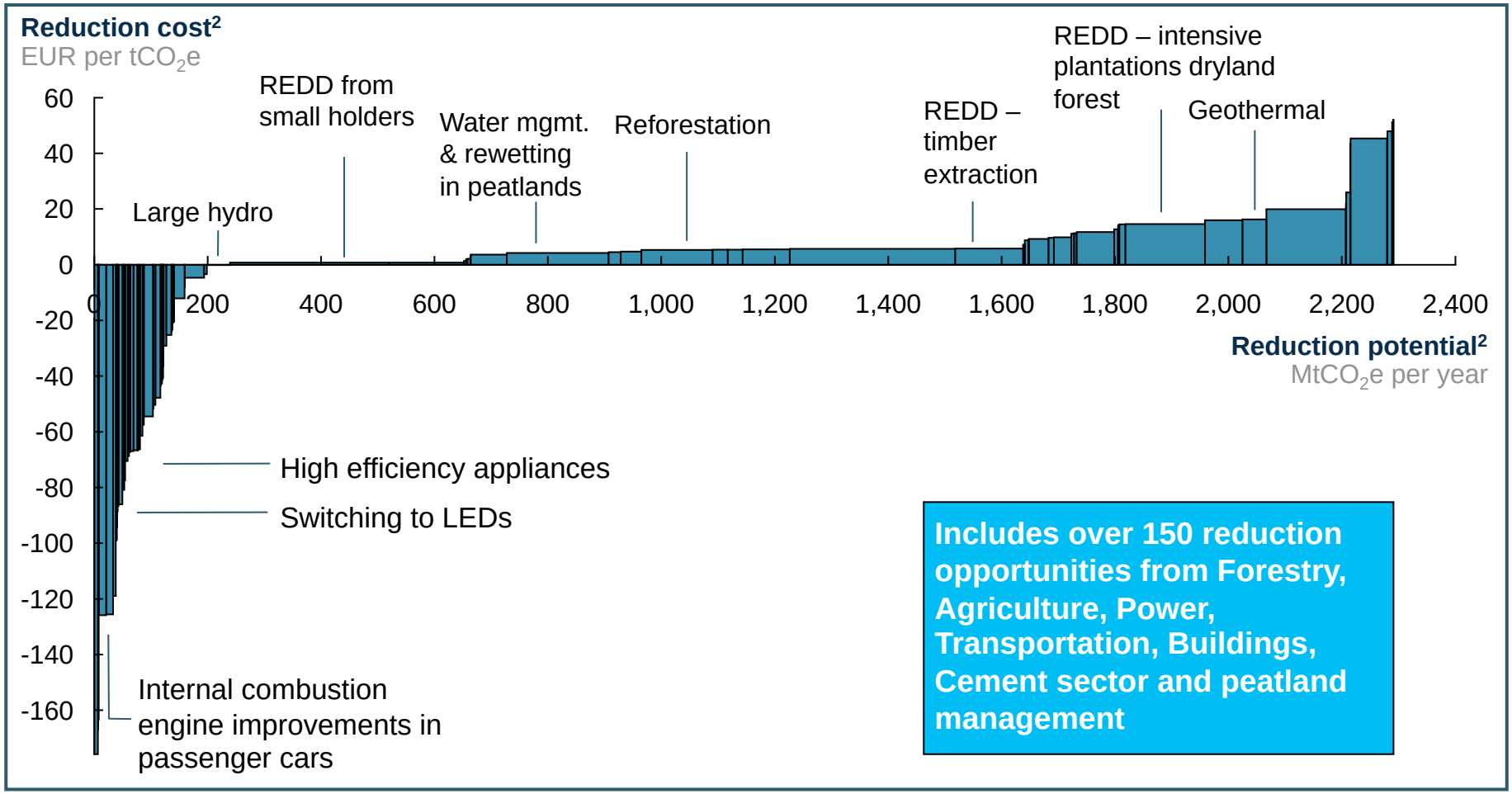
Indonesia has the potential to reduce CO_2 emissions by up to 2.3 Gt per year by 2030

Societal perspective[1], 2030



1 Societal perspective implies utilizing a 4% discount rate
2. The width of each bar represents the volume of potential reduction. The height of each bar represents the cost to capture each reduction initiative

SOURCE: Indonesia GHG Abatement Cost Curve

Indonesian voluntary mitigation plans

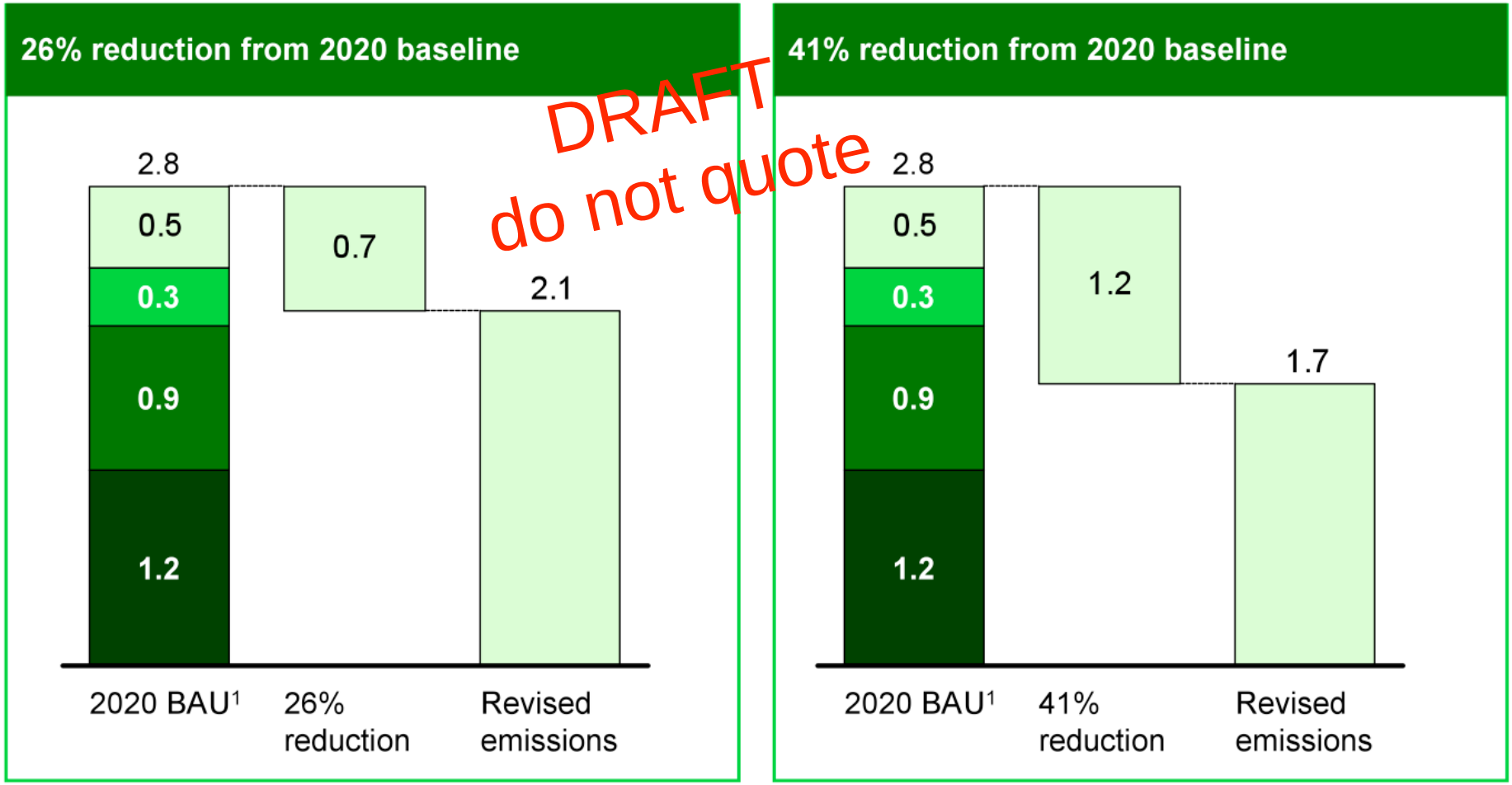
- President Yudhoyono has recently announced a bold move of greenhouse gas emission reductions ranging from 26% to 41% by 2020, depending on the level of international support.

- Based on preliminary projections of 2020 baseline emissions by the Dewan Nasional Perubahan Iklim, this would imply annual reductions ranging from 0.7-1.2 Gt CO_2e in 2020.

Achieving 26-41% reductions from the 2020 baseline would require reducing annual emissions by 0.7-1.2 $GtCO_2e$

PRELIMINARY

$GtCO_2e$ per year; 2020



1 Business As Usual
SOURCE: Indonesia GHG Abatement Cost Curve

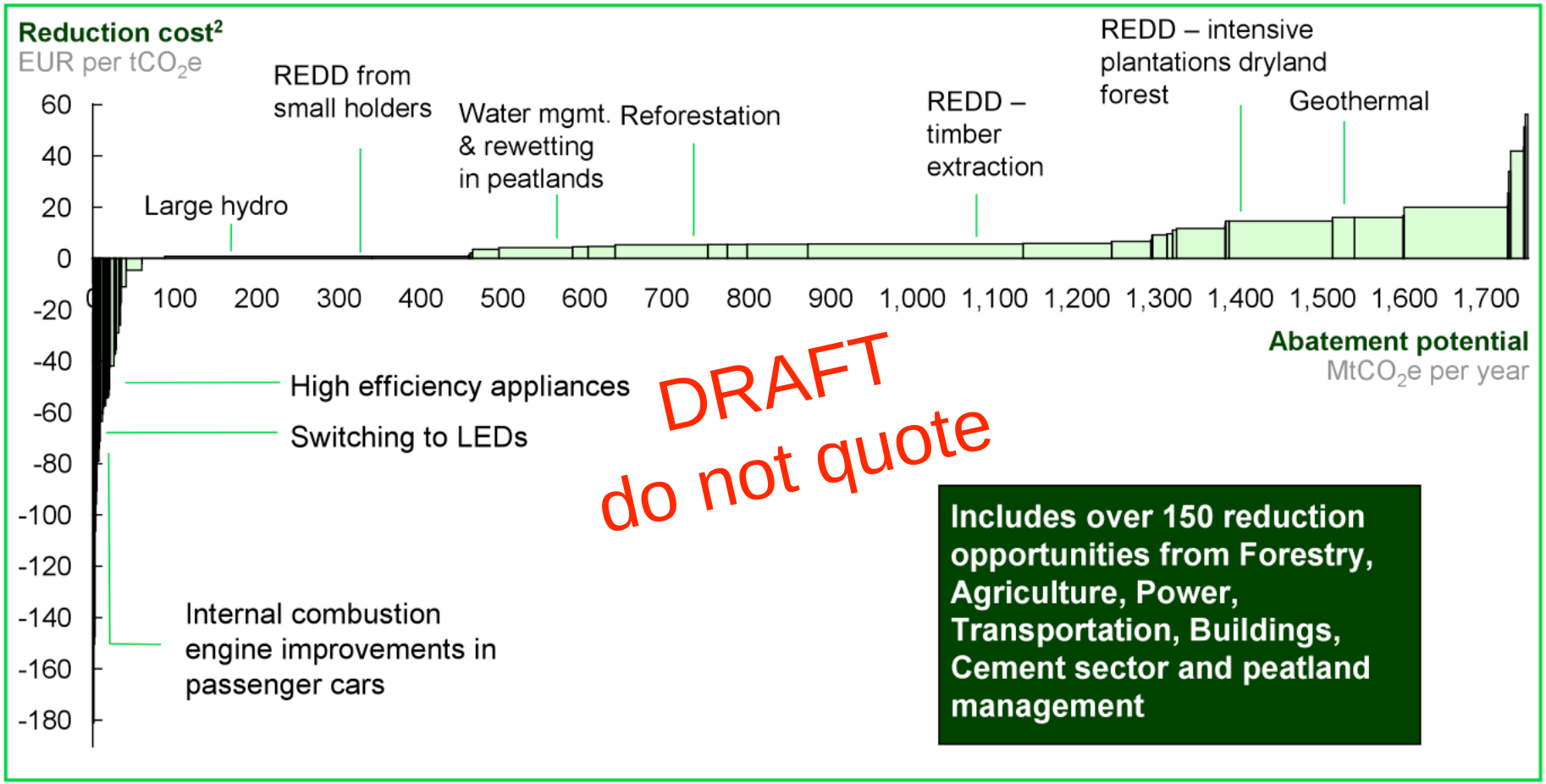
Achieving these ambitions is possible, but it will be difficult and expensive to implement

Based on analysis of carbon abatement opportunities in Indonesia by DNPI, Indonesia could potentially reduce emissions by up to 62 percent against a 2020 baseline. However, many of these reduction options will be relatively expensive to implement, or will be challenging for other reasons (e.g. requirements for upfront capital investment, lack of technological readiness, problems with entrenched behavior). Once we factor in implementation and other costs, estimates of the resources required will surely rise.

Indonesia has a full technical potential of reducing GHG emissions by 1.7 $GtCO_2e$ by 2020, representing 62 percent of 2020 baseline emissions

PRELIMINARY

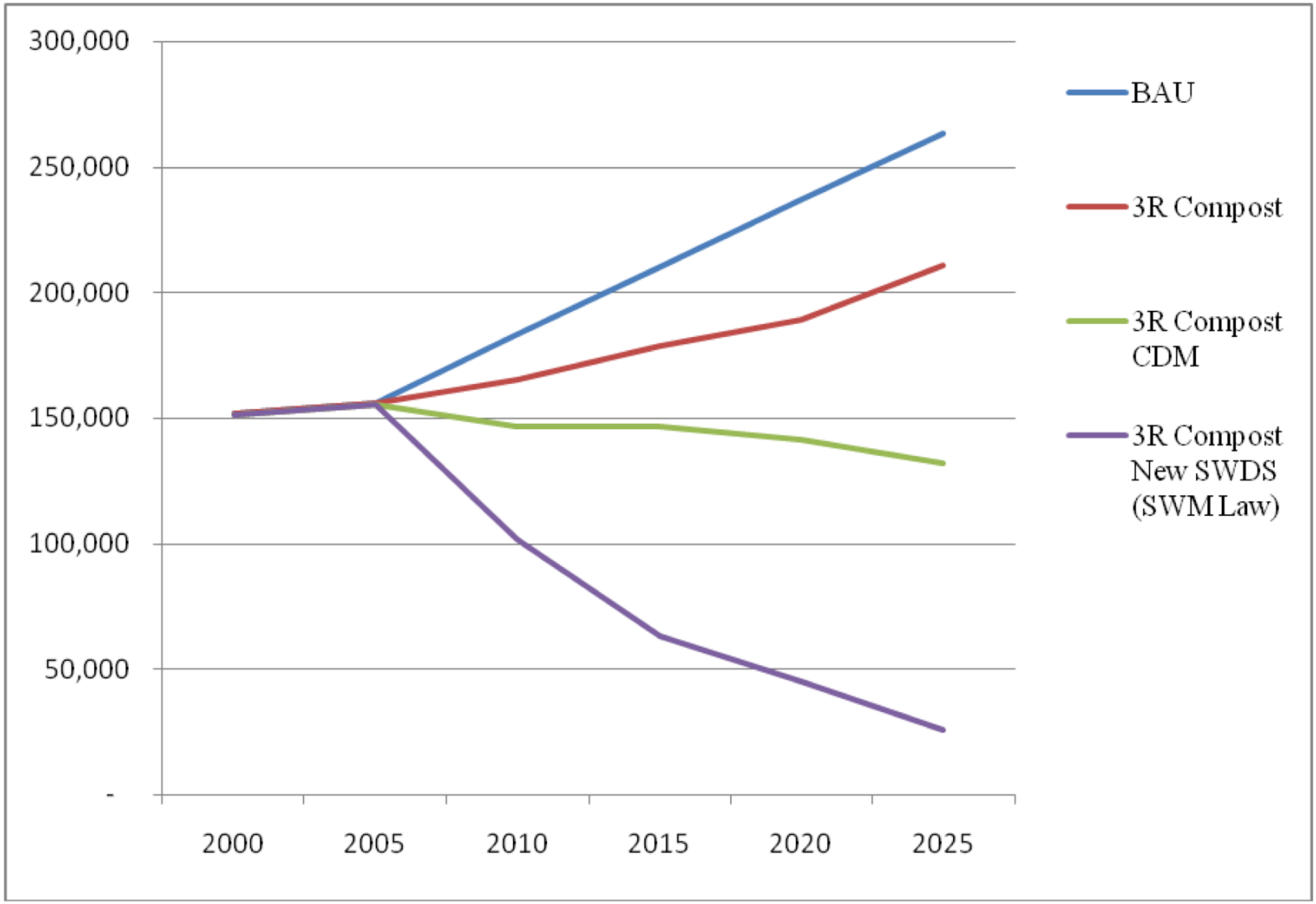
Societal perspective[1]; 2020



1 Societal perspective implies utilizing a 4% discount rate
2. The width of each bar represents the volume of potential reduction. The height of each bar represents the cost to capture each reduction initiative

SOURCE: Indonesia GHG Abatement Cost Curve

CO2-eq from waste sector and the impact of each mitigation scenario



SOURCE: Second National Communication - DRAFT

Forestry and peat sectors have the potential to achieve 55 to 85 percent of Indonesia's abatement:

- *Sustainable dry-land forest management:* reduction of emissions from degradation by enforcing sustainable forest management practices (*Potential 2020 abatement* 262 $MtCO_2e$)
- *Avoided deforestation on small holder forestlands:* reduction of emissions caused by subsistence agriculture in dry-land forests. This will require compensation and income support to rural and forest people (252 $MtCO_2e$)
- *Avoided deforestation on small holder peat-lands:* reduction of emissions caused subsistence agriculture on peat land forests. This will require compensation and income support to rural and forest people (118 $MtCO_2e$)

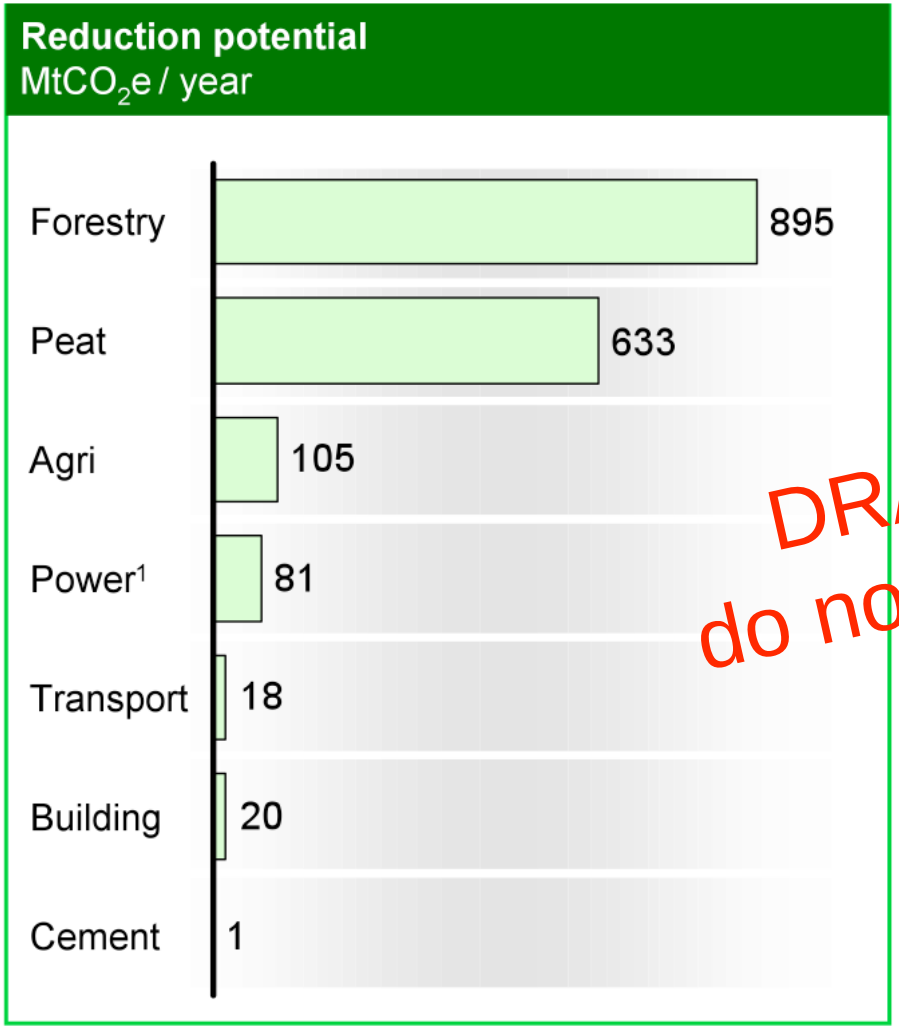
Other levers are smaller in abatement potential but greater feasibility to implement, such as: sustainable management of and reforestation on dry-land and peat-land forests; better fire management.

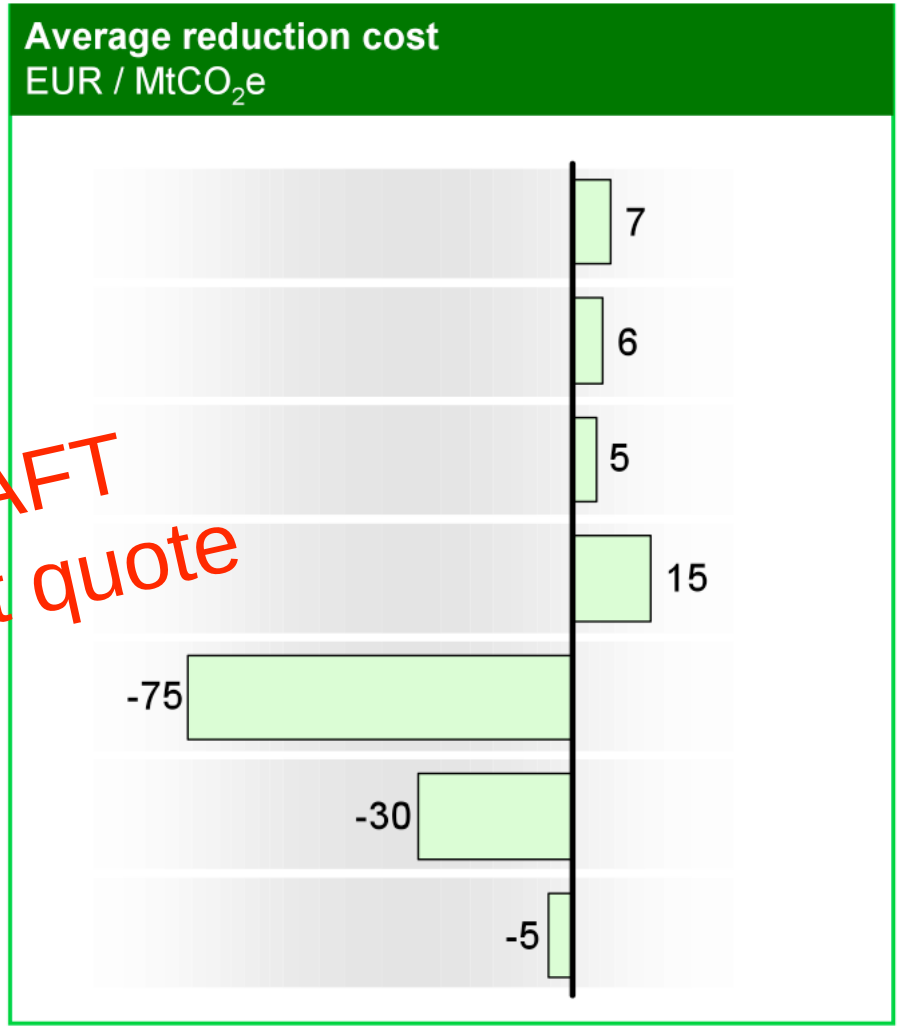
Emission reduction potentials from Forestry Sector

Program	2007-2009	2010-2014	2014-2020	2021-2025	2025-2030
Rehabilitation mangrove and coastal area	Planting of mangrove and coastal vegetation	Planting of mangrove and coastal vegetation	Planting of mangrove and coastal vegetation	Planting of mangrove and coastal vegetation	Planting of mangrove and coastal vegetation
Control of forest fires	Reduction of 50% hot spots compared to 2006	Reduction of 78% hot spots compared to 2006	Reduction of 87% hot spots compared to 2006	Reduction of 95% hot spots compared to 2006	No more forest fires.
Reduction of forest fires	To change agriculture pattern without slash burning	Regulation of compulsary tree planting by community	Continuity application of compulsary tree planting regulation by community	Continuity application of compulsary tree planting regulation by community	Continuity application of compulsary tree planting regulation by community
Utilization of ex 1 million ha peat land	Mapping of ex 1 million ha peat land using SPOT4 images	Regulating integrated spatial planning of peatland for each island.	Continuity of sustainable management of peatland	Continuity of sustainable management of peatland	Evaluation and monitoring of peatland sustainable management

SOURCE: Second National Communication - DRAFT

Indonesia's reduction potential is concentrated largely in the forestry and peat sectors





1 Exclusive of demand side reductions from other sectors

SOURCE: Indonesia GHG Abatement Cost Curve

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Copenhagen elements:

- **Emission reductions commitments:**
  - Developed countries or Annex 1: international binding commitments
  - Developing countries: national binding (law or regulation) commitments
- **Registry and MRV (Measurable, Reportable, Verifiable):**
  - Domestic MRV (using international standards) for Unilateral Actions
  - International MRV Internationally Supported Actions
  - Differentiated National Schedules: Developed and Developing Countries
- **Adaptation support:**
  - Additional financing for Adaptation Fund
  - Accountability and delivery mechanism
- **Financing mechanism:** governance, access, accountability, delivery
- **REDD agreement:** definitions, interim financing and elaboration steps
- **Technology Transfer:** capacity building and investments






I thank you