

Overview of IGES CDM Cost Database

IGES CDM Cost database covers more than half of all the CDM projects

	Registered project as of 30 April 2015	The project that has final data
ASEAN	754	540 (72%)
India	1494	828 (55%)
China	3745	3271 (87%)
LDC/SIDS, Korea	195	73 (38%)
Total	6188	4712(76%)

Number of all registered project as of 30 April, 2015 is 7481.

$$4712/7481 = 63\%$$

Project type	Nr of project	Project type	Nr of project	Project type	Nr of project
Wind power	2018	Methane avoidance	89	SF6 replacement	6
Hydro power	1522	Fuel switch	55	Oilfield associated gas	4
Biomass	218	Energy efficiency	47	N2O decomposition	3
Biogas	203	Solar Power	24	PFC reduction and substitution	3
Waste gas/heat utilization	199	Geothermal power	16	Transportation	2
Methane recovery & utilization	154	Cement	9	Biofuels	1
PV	141	Solar	7	Total	4712

The content of database

Variables		
Basic information	Data from IGES project database (Host party, project type, registration date, grid emission factor, etc)	
Variables	Unit	China
Project period		Yes
NPV1, Abatement cost per ton 1	USD/tCO2	No
NPV1 (3% discount rate), Abatement cost per ton 1	USD/tCO2	No
NPV2, Abatement cost per ton	USD, USD/tCO2	Yes
NPV2 (3% discount rate), Abatement cost per ton	USD, USD/tCO2	Yes
Power generation	kWh	No
Power generation cost	USD/kWh	No
Power generation cost(3% discount rate),	USD/kWh	No

Average benchmark rate by project type and region

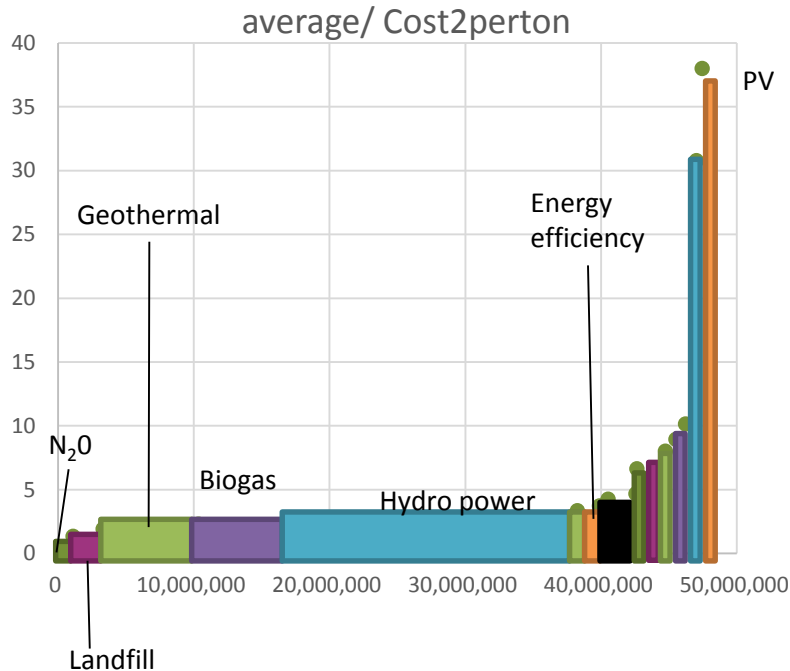
For calculating NPVs, benchmark rates are applied as discount rate.

	ASEAN	China	India
Biofuels		12.0%	
Biogas	13.4%	10.3%	13.7%
Biomass	12.9%	8.0%	13.1%
Cement	14.3%	11.6%	12.0%
Energy efficiency	13.6%	9.8%	12.3%
Fuel switch	15.7%	8.1%	13.5%
Geothermal power	17.0%	9.0%	
Hydro power	13.5%	9.4%	13.7%
Methane avoidance	11.9%	8.1%	12.8%
Methane recovery & utilization	10.5%	9.4%	11.5%
N2O decomposition	12.5%		
Oilfield associated gas	14.8%		
PFC reduction and substitution	15.7%	11.0%	
PV	12.5%	8.0%	14.2%
Solar			12.6%
Solar Power		5.5%	
Transportation			11.9%
Waste gas/heat utilization	12.5%	12.5%	15.2%
Wind power	13.4%	8.0%	14.2%
Average	13.3%	8.9%	14.0%

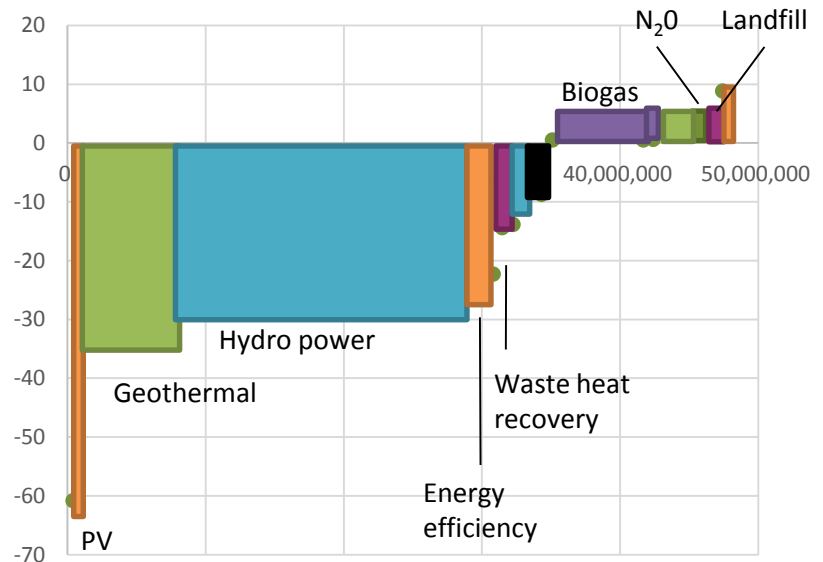
Brief analysis using IGES cost database

3.5 percent of discount rate promotes mitigation actions that needs large initial investments

Mitigation cost by the CDM in **ASEAN countries**
(Discount rate = benchmark)

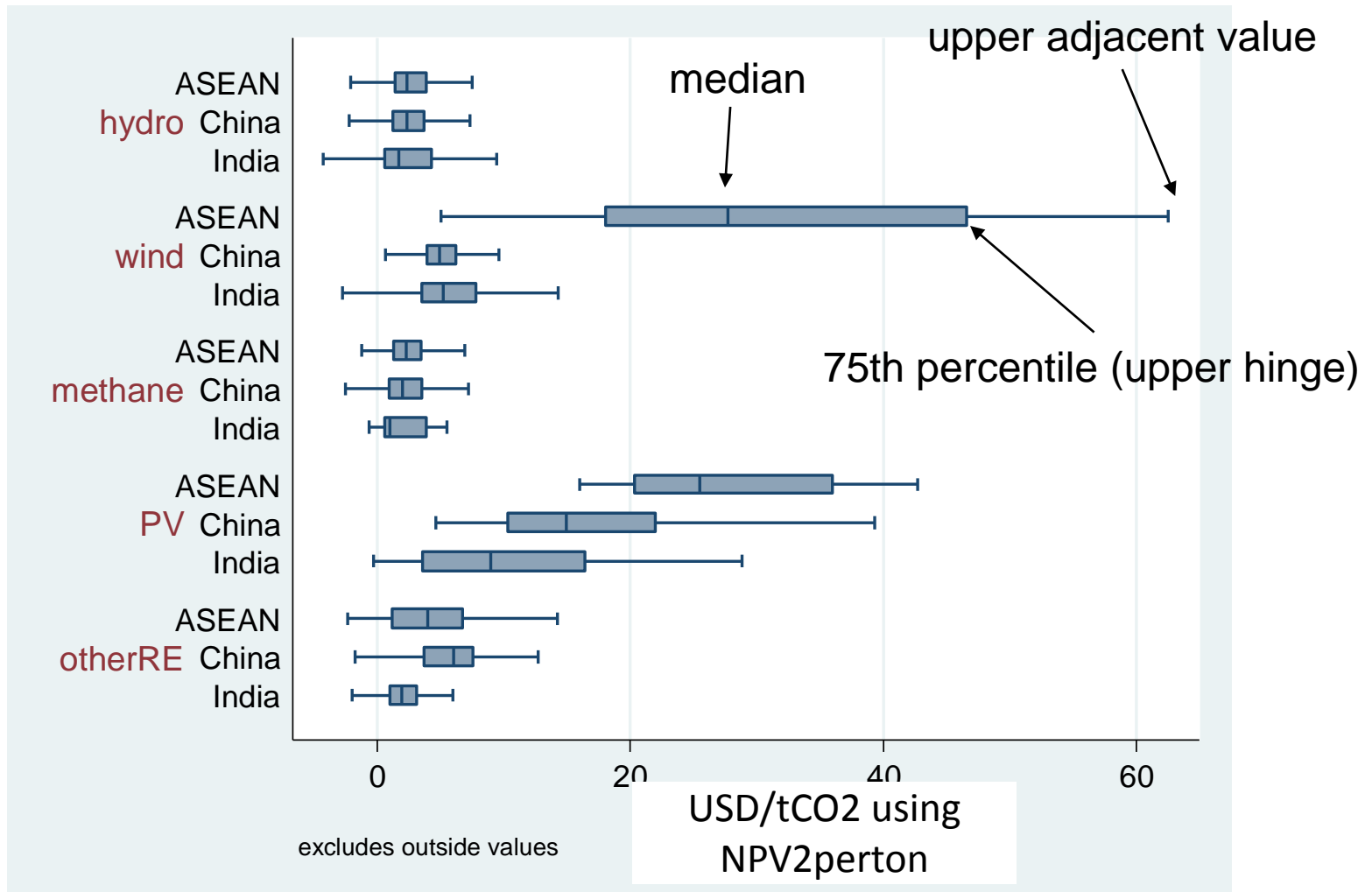


Mitigation cost by the CDM in **ASEAN countries**
(Discount rate = 3.5%)
average / Cost2per ton_3.5per



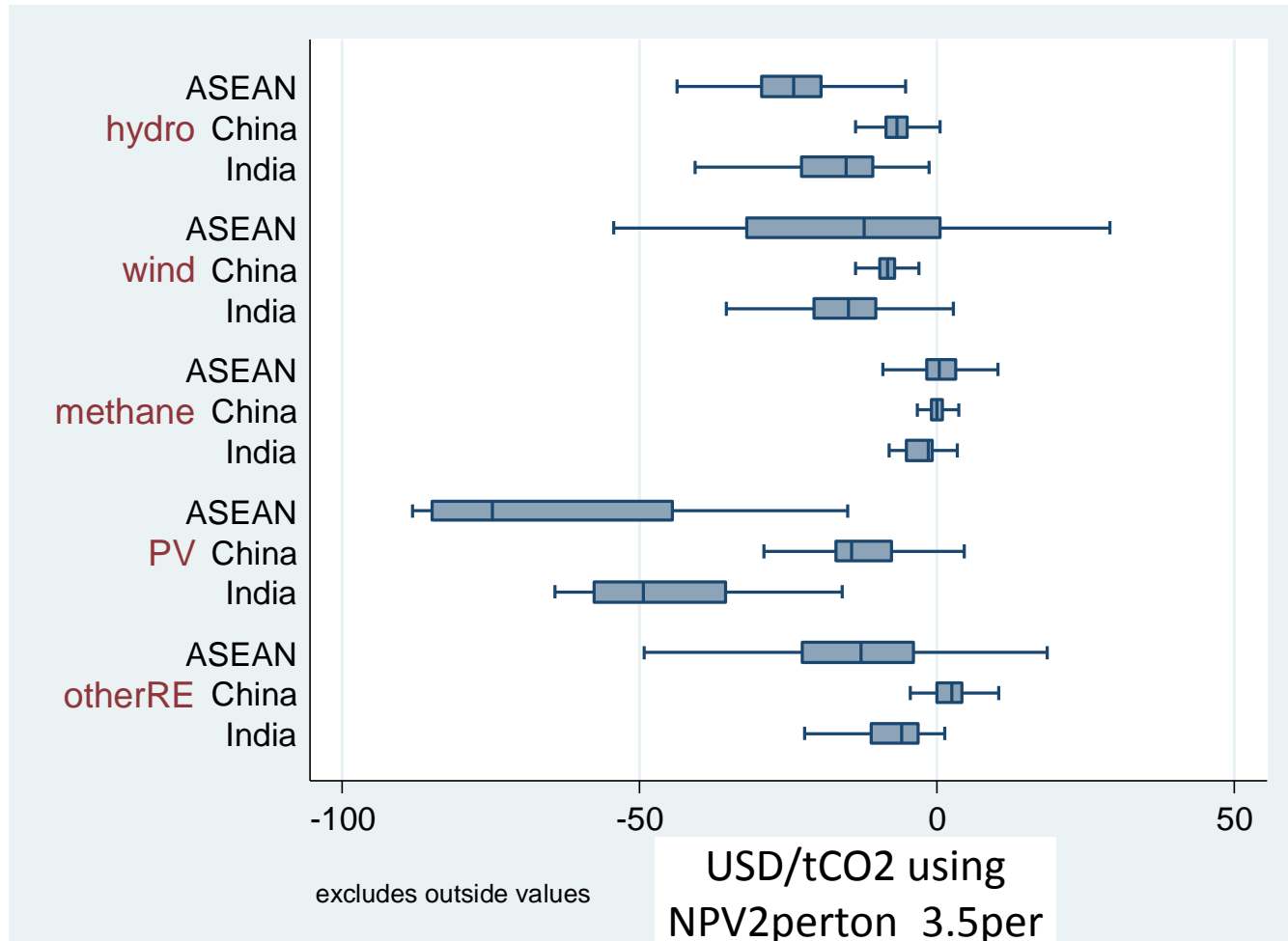
- 3.5 percent means the ‘social time preference rate’ (STPR). STPR is the rate at which society values the present compared to the future (HM Treasury’s The Green Book (2003))
- UK government recommend to use 3.5% for public services.
- It increases the weight of future generation but also increases uncertainty (IPCC, 2007).

Mitigation cost in ASEAN is more expensive than China and India, especially wind power project

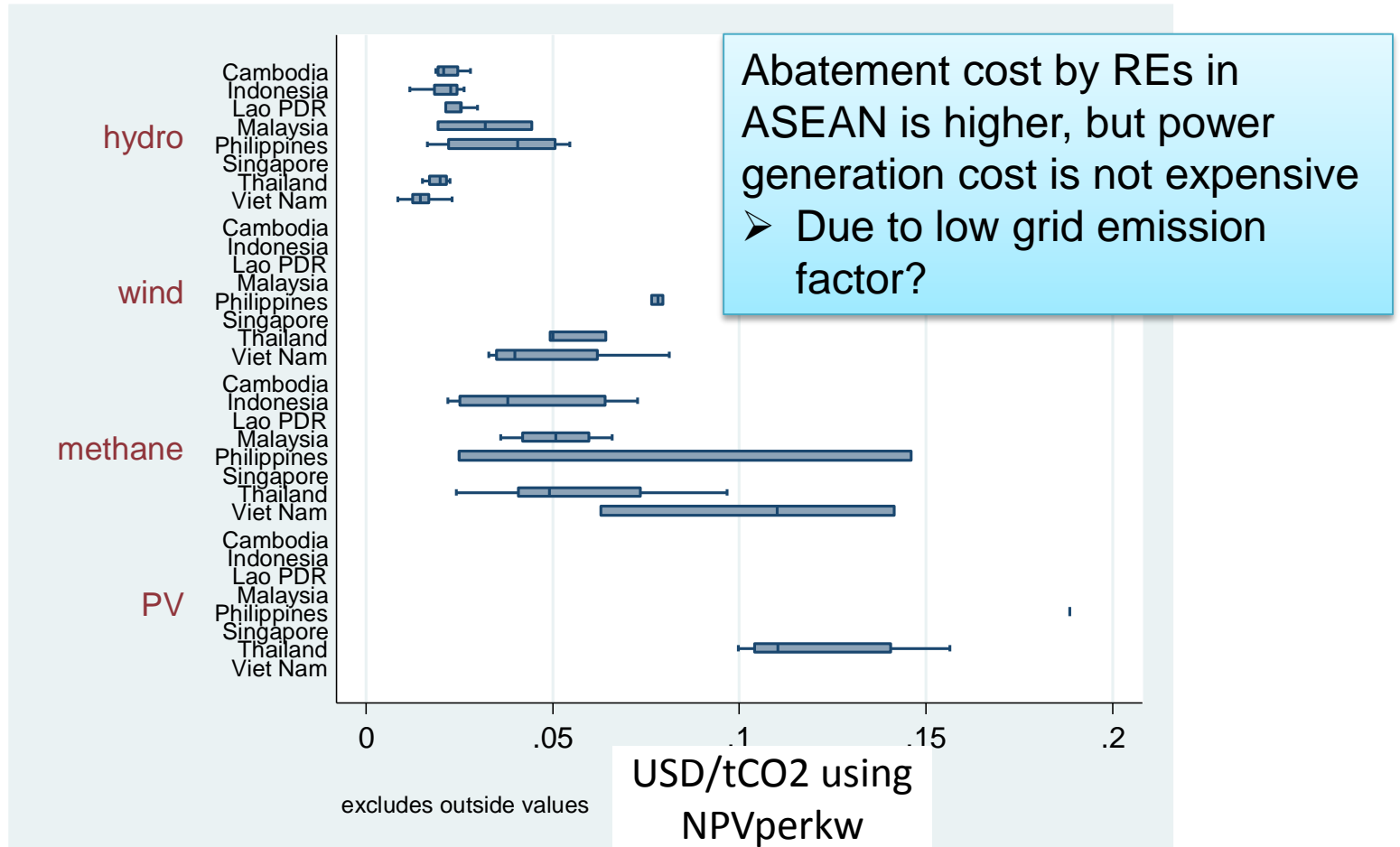


If a same discount rate is applied to all region, mitigation cost in ASEAN countries could be lower than India and China.

Change the discount rate to 3.5 % from rate of benchmark



There are low cost renewable energy sources in ASEAN countries.

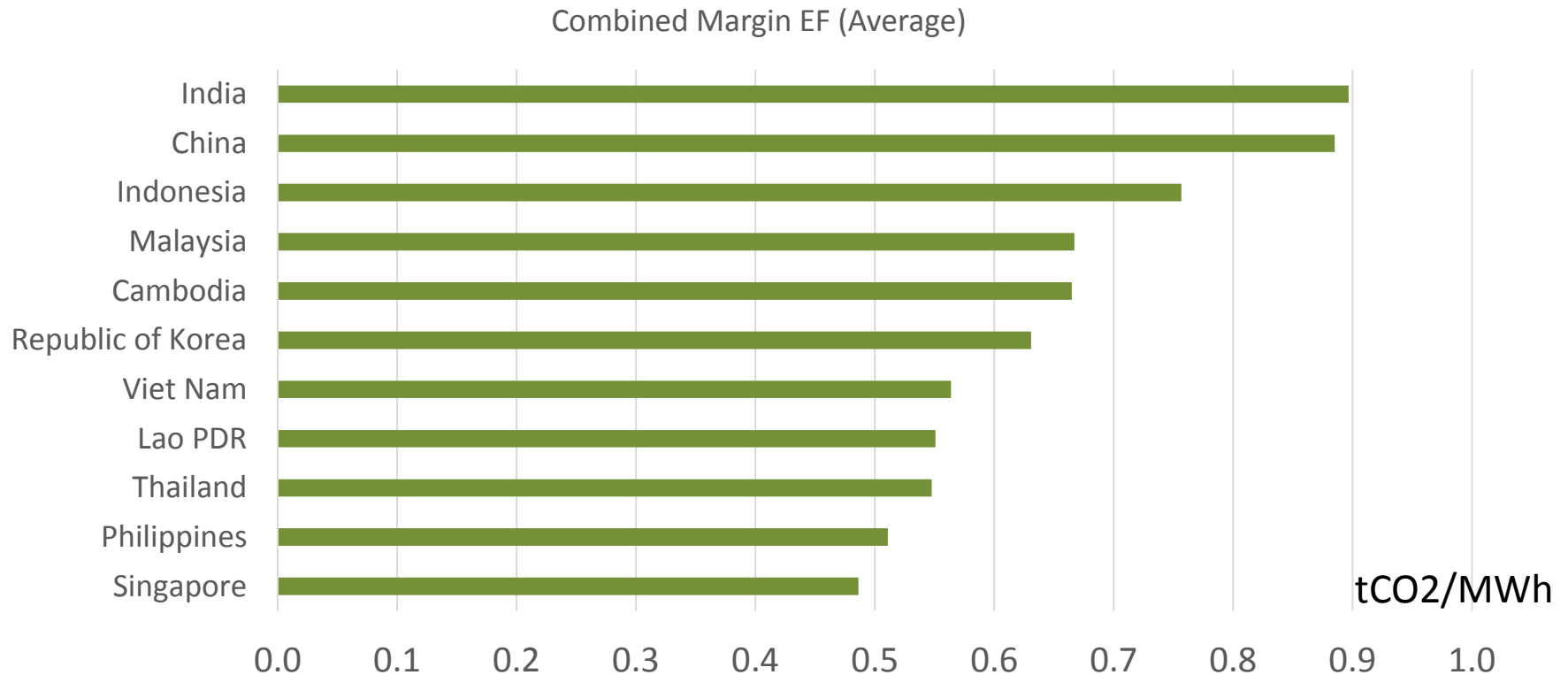


Values from our database are reasonable

Viet Nam: 450VND (0.02USD)/kWh in 2005, Tuan (2012)

Indonesia: 143IDR in 2006 (0.01USD)/kWh, Kusumawardhani(2011)

Grid emission factors in India and China are higher than ASEAN countries



Emission from power sectors in ASEAN countries would be increased due to the construction of coal fire plant (e.g. Indonesia, Thailand)