

# **A Policy Paper:**

## **Supporting Indonesia's Carbon Tax Proposal**

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### **The Green Paper**

According to a World Bank's report, Indonesia is the world third largest carbon emitter by 3,014 billion tones CO<sub>2</sub> contributed by deforestation and land conversion (85%); energy sector (9%) and; agriculture and waste (6%). Concurrently, as an archipelago country lies on tropical zone, Indonesia will be badly affected by climate change impacts such as decreasing food security, rising sea level, and increasing diseases<sup>2</sup>.

Taking responsible actions, in the Copenhagen meeting, President Yudhoyono had pledged an ambitious target to reduce 26% CO<sub>2</sub> emission level by 2020. Furthermore, a proposal of 2014 carbon tax which imposing 80,000 rupiah (US\$8) per ton CO<sub>2</sub>, increasing the rate by 5% every year until 2020, and expecting 95 trillion rupiah (US\$ 10 billion) tax revenue by 2020 had been announced. The proposal and other policies to mitigate the climate change, is well documented in 173 pages of the Ministry of Finance Green Paper<sup>3</sup>.

However, the carbon tax seems hardly to gain supporters. Even, the Coordinating Minister for Economic Affairs Hatta Radjasa, the finance and other economic-related ministers' superior, told the press that carbon tax is less effective than incentives to renewable energy productions<sup>4</sup>. As an illustration, France authority is facing widespread protests

against carbon tax implementation in 2011. Despite its effectiveness to address a problem, tax remains as something people do not like.

Therefore, this policy paper aims to support, to answer doubts and to refine the carbon tax as proposed in the Green Paper. Indeed, it is very hard to find flaws since the Green Paper perfectly prepared by both Indonesia and Australia prominent experts; still, this policy paper presents possible developments to the successful implementation of the carbon tax. Beforehand, important to remember, the objective of carbon tax is to stimulate people in changing preference from carbon intensive energy to the less one, not to control the use of energy.

#### **Comparing carbon tax to other instruments, *vis-à-vis***

According to Joseph E. Stiglitz, taxes and subsidy/incentives are some public sector solutions to environmental externalities including carbon emission problems. Comparing these two solutions, the former known as corrective taxes or Pigouvian taxes is better reducing inefficiency which occurs under the latter scheme. Furthermore, imposing taxes generates double dividend: discourages carbon energy production and raises revenue<sup>5</sup>.

Clearly, if the government solely conducts the incentive policy to renewable energy productions, at least two problems arise. Firstly, government has to find funds to finance the incentive policy. Secondly, the fossil fuel producers never face the true social cost of their production (no tax in carbon emissions) and more likely to maintain the current

production level. Hence, the policy objective -to reduce fossil fuels - is hardly to be achieved.

This logical framework could be employed to the debate in public policy choice between taxing carbon and reducing fuel subsidy. A research by Yusuf and Ramayandi showed in the same budget amount, taxing carbon is superior to reducing fuel subsidy in terms of a lower economy cost; a better impact toward income inequality and poverty; and better in accelerating the reduction of CO<sub>2</sub> emissions<sup>6</sup>.

Consequently, compared to subsidy/incentive, tax is the best solution to reduce carbon emissions. Of course, the combination of these three instruments -carbon tax, incentive to renewable energy productions and reducing fuel subsidy- as advocated in Chapter 2 and 4 of the Green Paper (including carbon trading scheme) will bring better achievements.

#### **Additional subjects of carbon tax**

In Table 2.2 of page 42, the Green Paper has proposed three carbon tax subject based on output paid by end consumers as follow: (a) electricity; (b) diesel/kerosene; and (c) gasoline. Despite its convenience in collecting taxes, the major weakness for this approach is a possibility of several marketable fossil fuels could be delivered to end consumers without paying carbon tax. In this regard, the classification of carbon tax as regulated by the British Columbia Carbon Tax Act<sup>7</sup> may be followed and hence, additional fossil fuels to be subjected to the carbon tax:

1. Liquid fuels: aviation fuel, jet fuel, methanol, naphtha, light and heavy fuel oil.

2. Gaseous fuel: natural gas, propane, butane, ethane, refinery gas, and coke oven gas.
3. Solid fuels: coke.
4. Combustibles: tire and peat.

Moreover, these additional subjects may prevent the substitutes of taxed fuels to non-taxed ones.

However, the main problem of high level CO<sub>2</sub> emission comes from deforestation could not easily addressed by the carbon tax including an idea to taxing carbon to palm-oil<sup>8</sup>. Thus, a policy suggested in Chapter 5 of the Green Paper could be agreed as the best solution which line ministries' law enforcement undertaken simultaneously with fiscal policy instruments of Ministry of Finance by employing taxation, intergovernmental transfers and REDD (Reducing Emissions from Deforestation and Degradation) schemes financing. This policy aims to provide adequate incentives to local authority and companies to promote sustainable forest management.

### **Intervention policy measures**

Geothermal policy is stated in Chapter 4 of the Green Paper as one of the best example for renewable energy policy intervention. Meanwhile, the roadmap for energy policy as stated in a Presidential Regulation<sup>9</sup> mentioned about diversifying the energy sources and geothermal energy is only one of renewable energy sources that Indonesia rich of<sup>10</sup>.

According to John Humphreys, the best policy to government is proposing a carbon price as a signal to market and allowing them to choose the best alternative. Picking winners practice by favoring or funding a particular sector should be avoided because government (including politicians and bureaucrats) generally does a poor job than private agency<sup>11</sup>. Hence, the Green Paper should leave this favoring policy from its recommendation.

### **Conclusions**

These three developments to carbon tax proposal along together with persuasive public communication, hopefully, will bring a better carbon tax implementation in Indonesia. Finally, its climate change mitigation efforts will boost Indonesia to play greater role in the making of a greener earth.

## Endnotes

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<sup>2</sup> *PEACE and the World Bank (2007)*, Indonesia and Climate Change: Current Status and Policies, [http://siteresources.worldbank.org/INTINDONESIA/Resources/Environment/ClimateChange\\_Full\\_EN.pdf](http://siteresources.worldbank.org/INTINDONESIA/Resources/Environment/ClimateChange_Full_EN.pdf)

<sup>3</sup> *Ministry of Finance (2009)*, Ministry of Finance Green Paper: Economic and Fiscal Policy Strategies for Climate Change Mitigation in Indonesia, *Ministry of Finance and Australia Indonesia Partnership, Jakarta*, <http://www.illegal-logginq.info/uploads/IndonesiasiaranpdfGreenPaperFinal.pdf>

<sup>4</sup> *Bisnis Indonesia (12 Dec 2009)*, Pajak karbon tak efektif kurangi emisi CO<sub>2</sub>, *Indonesian version*, <http://web.bisnis.com/edisi-cetak/edisi-harian/ekonomi-makro/1id151134.html>

<sup>5</sup> *Joseph E. Stiglitz (2000)*, *Economics of the Public Sector*, 3<sup>rd</sup> edition, p.223-229

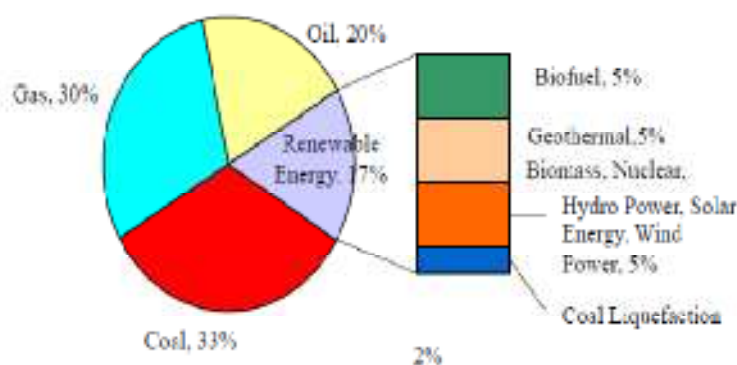
<sup>6</sup> *Arief Anshory Yusuf and Arief Ramayandi (2008)*, Reducing fuel subsidy or taxing carbon? Comparing the two instruments from the economy, environment, and equity perspective for Indonesia, <http://www.equitablepolicy.org/wpaper/200808.pdf>

<sup>7</sup> *British Columbia (2008)*, *British Columbia Carbon Tax Act (2008)*, Carbon tax rates by fuel type, p. 5, [http://www.sbr.gov.bc.ca/documents\\_library/notices/BC\\_Carbon\\_Tax\\_Update.pdf](http://www.sbr.gov.bc.ca/documents_library/notices/BC_Carbon_Tax_Update.pdf)

	Units for Tax Rates	July 1 2008	July 1 2009	July 1 2010	July 1 2011	July 1 2012
<b>Liquid Fuels</b>						
Gasoline	¢/Litre	2.31	3.51	4.68	5.95	7.02
Light Fuel Oil *	¢/Litre	2.69	4.04	5.38	6.73	8.07
Heavy Fuel Oil	¢/Litre	3.15	4.73	6.30	7.88	9.45
Aviation Fuel	¢/Litre	2.46	3.69	4.92	6.15	7.38
Jet Fuel	¢/Litre	2.61	3.92	5.22	6.53	7.83
Kerosene	¢/Litre	2.54	3.81	5.09	6.36	7.62
Naphtha	¢/Litre	2.55	3.83	5.10	6.38	7.65
Methanol	¢/Litre	1.09	1.64	2.18	2.73	3.27
<b>Gaseous Fuel</b>						
Marketable Natural Gas	¢/GJ <sup>***</sup> or ¢/M <sup>3****</sup>	49.66	74.49	99.32	124.15	148.98
Raw Natural Gas	¢/M <sup>3****</sup>	1.90	2.85	3.80	4.75	5.70
Propane	¢/Litre	1.54	2.31	3.08	3.85	4.62
Butane	¢/Litre	1.76	2.64	3.52	4.40	5.28
Ethane	¢/Litre	0.98	1.47	1.96	2.45	2.94
Refinery Gas	¢/M <sup>3****</sup>	1.70	2.04	3.02	4.40	5.20
Coke Oven Gas	¢/M <sup>3****</sup>	1.61	2.42	3.22	4.03	4.83
<b>Solid Fuels</b>						
Low Heat Value Coal	\$/Tonne	17.77	28.86	35.54	44.43	53.31
High Heat Value Coal	\$/Tonne	20.77	31.16	41.54	51.93	62.31
Coke	\$/Tonne	24.97	37.31	49.74	62.16	74.61
Petroleum Coke	¢/Litre	3.67	5.51	7.34	9.18	11.01
<b>Combustibles</b>						
Tires - shredded	\$/Tonne	23.91	35.07	47.02	59.79	71.73
Tires - whole tires	\$/Tonne	20.80	31.20	41.60	52.00	62.40
Peat	\$/Tonne	10.22	15.33	20.44	25.55	30.66

<sup>8</sup> This debate according to the former environmental minister Rachmat Witoelar statement during climate talks in Copenhagen reported in *The Jakarta Globe.com (9 Dec 2009)*, Indonesia's Palm Oil Producers Condemn Carbon Tax Plan, <http://thejakartaglobe.com/national/indonesias-palm-oil-producers-condemn-carbon-tax-plan/346501>

<sup>9</sup> *Presidential Regulation of the Republic of Indonesia No. 5/2006*, National Energy Policy 2025, graphed by Hermawan and Sudarto (2006), <http://faolex.fao.org/docs/pdf/ins64284.pdf>



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<sup>10</sup> *Hermawan and Sudarto P. Hadi (2006)*, Existing Sustainable (Renewable) Energy System in Indonesia, Table 2 page 3 Indonesia's potential of renewable energy, <http://www.igsee.kmutt.ac.th/see1/cd/file/F-045.pdf>

Type	Potential	Installed Capacity
Hydro Power	75.67 GW	4,200 MW
Geothermal	27 GW	807 MW
Mini/micro-hydro	500 MW	84 MW
Biomass	49.81 GW	445 MW
Solar Energy	4.8 kWh/m <sup>2</sup> -day	8 MW
Wind Energy	3-6 m/sec	0.6 MW

<sup>11</sup> *John Humphreys (2007)*, Exploring a Carbon Tax for Australia, [http://www.cis.org.au/policy\\_monographs/pm80.pdf](http://www.cis.org.au/policy_monographs/pm80.pdf)