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2011 The Environmental Aspect of Sustainable Development for CDM
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The Environmental Aspect of Sustainable Development for CDM Projects in
China This paper seeks to review the Clean Development Mechanism ("CDM") projects in China on the environmental aspect of sustainable development. The author provides an overview of the definition of sustainable development and suggests the standard, criteria and approaches in deciding whether a CDM project contributes to sustainable development. In the meanwhile, observations are made on why the CDM projects in China could be said to have come a long way and yet not actually contributing to environmental sustainability. In particular, the HFC-23 projects and the lack of an international definition of sustainable development have much to do with China's CDM project not being environmentally sustainable. This paper then provides suggestions in making China's CDM projects sustainable in the environmental sense.

Introduction This paper seeks to review the Clean Development Mechanism ("CDM") projects in China on whether they are contributing to sustainable development in its environmental aspect. It is worth having a look of some of the definitions of sustainable development which includes a standard, criteria and approaches in deciding whether a CDM project contributes to sustainable development. It should be noted that this is neither an exhaustive list of criteria, nor an inflexible definition, especially when this area of law has yet to be agreed among various parties. In the meanwhile, observations are made on why the CDM projects in China

could be said to have come a long way and yet not actually contributing to environmental sustainability. In particular, the HFC -23 projects and the lack of an international definition of sustainable development have much to do with China's CDM project not being environmentally sustainable. This paper then provides suggestions in making China's CDM projects sustainable in the environmental sense. Definition of Sustainable Development Art. 16 of the Kyoto Protocol states that the Clean Development Mechanism ("CDM") is intended to promote sustainable development. Yet the Kyoto Protocol has yet to adopt a legal definition for sustainable development to cover such legal lacuna. In light of 2 | Page 16th December 2011 IEL 2011 Research Essay such lacuna, we should consider the Brundtland Commission's widely accepted definition of sustainable development: "development that meets the need of the present without compromising the ability of the future generations to meet their own needs". It is therefore commonly understood that sustainable development is meant to encompass social, economic and environmental aspects. The last of these three would be our focus on determining the meaning of sustainable development. In the context of CDM, it has been suggested that the test for sustainable development should be for the applicant to "show that the CDM project promotes the stabilization of atmospheric greenhouse gases concentrations at a safe level". Whether this test has been satisfied would depend on the consideration of several criteria

1. These criteria could be categorized into those based on emission and those that foster the goals of sustainable development. It should be noted that these lists of criteria are non-exhaustive. The criteria based on emission include additionality and verification. The additionality of a CDM project

ensures the Certified Emission Reductions (" CERs") produced are real and thereby ensures the environmental integrity² of the CDM. Such additionality should neither slow down climate mitigation effort elsewhere, nor create an adverse policy incentive to avoid legislating sustainable development law that would otherwise disqualify a CDM project³. As for verification, it necessarily follows from additionality. A robust standard adopted for verification could not only ensure the accuracy of additionality, but also ensure the environmental integrity of the CDM. However, the verification process should not be overly complex as to make it too costly. As for the criteria that foster the goals of sustainable development⁴, they include technology transfer, environmental benefit and sustainable energy consumption. These criteria should contribute to climate strategies that seek to ensure long-term climate benefit⁵. For technology transfers, it should be of a sufficient degree in contributing to a low-carbon economy with greater energy efficiency and lower energy intensity. With 1 C. Voigt, Sustainable development as a principle of international law: resolving conflicts between climate measures and WTO law, ed. (Boston: Martinus Nijhoff Publishers, 2009) at 342. 2 It is not within the scope of this essay to discuss the scope of environment integrity. But the environmental integrity mentioned in this essay means more than a mere additionality as defined by Meijer and Werksman: see Ernestine Meijer Jacob Werksman, " Keeping it clean - safeguarding the environmental integrity of the clean development mechanism" in David Freestone and Charlotte Streck , ed., Legal aspects of implementing the Kyoto Protocol mechanisms: making Kyoto work (Oxford University Press, 2005) 191. 3 Note 1 above; at 343. 4 B. K. Buchner, " CDM

--- A Policy to Foster Sustainable Development? " in Corrado Clini, Ignazio Musu and Maria Lodovica Gullino, ed, Sustainable development and environmental management : experiences and case studies (Dordrecht, The Netherlands : Springer, c2008.) 317 at 327. 5 Note 1 above; at 362. 3| P a g e 16th De ce mbe r 2011 IEL 2011 Research Essay regard to the environmental benefit, it could be direct or indirect as well as local or global. In some projects, such as biodiversity and water pollution, while there may not be any environmental benefit, there should at least be no environmental damage. As to how these criteria should apply, there are various approaches. One could simply weigh them and consider the merits for deciding whether the test of sustainable development has been satisfied. One could also weigh them based on a criteria hierarchy. This is similar to the priority areas set for CDM projects in China, namely energy efficiency improvement, development and utilization of new and renewable energy, and methane recovery and utilization⁶, where some are more important than the others. Or perhaps these criteria are really standards that have to be met as in the checklist approach adopted by Brazil, India, South Africa and China. Though it should be noted that as host countries are free to set up their own sustainable development test, they could include whatever criteria they wish. For example, China has chosen criteria that advance energy policy and focus more on national economic growth than that on local environmental benefit⁷. Are China's CDM Projects Environmentally Sustainable? Although China has come a long way improving its CDM projects' environmental sustainability, it is still arguably insufficient. As such I would first state why China's CDM projects have been improving, and then

followed by why they are still not environmentally sustainable. Why they have improved. There is no doubt that the CDM has incentivized investments in China for sustainable development which would otherwise have been impossible. This is especially the case for many of the renewable energy projects which would otherwise have been too expensive in the face of a sluggish demand in the renewable energy market⁸. 6 Measures for Operation and Management of Clean Development Mechanism Projects in China, Article 4 7 E. Boyd, “ Reforming the CDM for sustainable development: lessons learned and policy futures” Environmental Science & Policy 12 (2009) 820-831, at 827; online: <http://www.environment.arizona.edu/files/env/profiles/liverman/boyd-et-al-esp-20090.pdf> (accessed on 16 December 2011) 8 Note 4 above; at 322. 4| P a g e 16th December 2011 IEL 2011 Research Essay CDM has also encouraged sustainable development through the transfers of technologies that reduce GHGs emissions 9. For instance, landfill gas recovery and utilization technology has been transferred from a North American company for the use of Meizhou’s landfills¹⁰. As for the domestic test on sustainable development, although not sufficient to contribute to sustainable development, has at least incorporated a need to consider sustainable development in qualifying a CDM project. For example, one of the seven Permission Requirements for a CDM project in China requires such project’s activities to be consistent with China’s sustainable development strategies and policies 11. However, it is not clear as to what “ sustainable development strategies and policies” includes. In any case, sustainable development would only be considered so long as other national objectives are not compromised¹². China has also

been improving its ancillary support to the CDM projects, such that real benefits could be derived. For example, under the Renewable Energy Law 2006, the compulsory grid connection for renewable energy facilities to the State electricity grid¹³ (the ancillary support) has allowed greater access to sustainable energy services and has reduced energy intensity (real benefit). In another case, the Chinese government subsidises solar power projects of at least 500MW capacity by paying for 50% of their construction costs¹⁴ (the ancillary support). This could encourage greater use of renewable energy (real benefit)¹⁵. Finally, China has imposed a 65% tax on the CER revenue generated by HFC-23 projects. This tax is supposed to be used for sustainable development. However, the government has yet to disperse the \$2 billion accumulated till 2008¹⁶. 9 Ibid X. Yang & X. Wang, "CDM in China" in Koh Kheng-Lian, Lye Lin-Heng, Jolene Lin., ed., *Crucial issues in climate change and the Kyoto Protocol: Asia and the world* (London : World Scientific, 2010.) 127 at 143144 11 Measures for Operation and Management of Clean Development Mechanism Projects in China, Article 6 12 Paul G. Harris. "China and Climate Change: From Copenhagen to Cancun" 40 ELR 10858 9-2010 at 2. 13 Baker & McKenzie. 2009, Report on China's Renewable Energy Law at 12, online: http://www.bakermckenzie.com/files/Publication/c7a2abc7-7840-40c9-a1fe7772cbdcf9bf/Presentation/PublicationAttachment/e0aaf529-f136-4b1e-80a37aa3e312930a/ar_china_renewableenergylaw_may09.pdf (accessed on 16 December 2011). 14 Allen & Overy. 2010, China: Going increasingly solar, *Infrastructure Journal* at 2, online: <http://www.allenoverly.com/AOWeb/binaries/55891.PDF> (accessed on 16 December 2011). 15 For other potential benefit generated

from CDM projects, see Note 4 above; at 351. 16 Michael Wara. "Changing Climates: Adapting Law and Policy to a Transforming World --- Measuring the Clean Development Mechanism's Performance and Potential" 55 UCLALR 1759 at 1788. 10 5 | P a g e 16th December 2011 IEL 2011 Research Essay

Why they are still not environmentally sustainable. Additionality has been a problem for China and the rest of the world. A CDM project that satisfies the additionality test is not necessarily sufficient for ensuring sustainable development. For example, HFC-23 projects merely provide end-of-pipe technological fixes on HFC-23 destruction but do not provide the transfers of GHGs emission reduction technologies¹⁷ and do not contribute to a low-carbon intensity future¹⁸ (and therefore do not contribute to sustainable development). Continuing with HFC-23 projects, not only do they not provide any sustainable development technology to China, but they also create a perverse incentive to overproduce HCFC-22 for profit¹⁹. Furthermore, the low opportunity cost of CERs generated from HFC-23 projects mean that other projects that actually contributes to sustainable development are left unexploited ²⁰. However, it was argued that the HFC23 produced under existing production capacities would otherwise have been released into the atmosphere in the absence of these HFC-23 projects. Hence, these HFC-23 projects that destroy ordinarily produced HFC-23 actually bring about GHGs emission reductions and promote the transfer of HFC-23 destruction technology to China ²¹. This argument is flawed for two reasons. First, it has ignored the original objective of the CDM to transfer low-carbon intensity technologies, so as to retire high-carbon intensity technologies early²². The transfer of HFC-23 destruction technology would by no means fulfill this

objective. Secondly, this argument draws an elusive line between HFC-23 that are overly produced and HFC-23 that are ordinarily produced, which if drawn would create yet another elusive baseline for HFC-23 emissions. Much like the additionality problem mentioned, there is no international standard on sustainable development²³, be it procedural or substantial. This practically allows China to set a standard that contribute to its own energy policy, as at national level, climate change is predominantly an energy issue that focuses on energy security, and 17 C. Voigt, “ The deadlock of the Clean Development Mechanism: caught between sustainability, environmental integrity and economic efficiency” in Benjamin J. Richardson, Yves Le Bouthillier, Heather McLeod-Kilmurray, Stepan Wood, ed., *Climate law and developing countries : legal and policy challenges for the world economy* (Northampton, MA : Edward Elgar, c2009.) 235 at 245. 18 Note 1 above; at 349. 19 Note 16 above; at 1785. 20 Note 1 above; at 350. 21 Note 10 above; at 147-148. 22 J. Lin., “ An Overview of the Clean Development Mechanism in Southeast Asia” in Koh Kheng -Lian, Lye Lin- Heng , Jolene Lin., 1st ed., *Crucial issues in climate change and the Kyoto Protocol: Asia and the world* (London : World Scientific, 2010.) 99 at 116. 23 Because the Kyoto Protocol states that “ analysis of environmental impacts only if host country makes it mandatory for the project to be approved”, see Annex, Decision 17/CP. 7, para 37(c) and Appendix B, art. 2 (e) 6| P a g e 16th De ce mbe r 2011 IEL 2011 Research Essay the reduction of energy consumption and energy intensity²⁴. As for local levels, since many of the CDM projects are owned by the local government, it is very common for such projects to be designed to meet local government’s priorities instead of ensuring sustainable

development. In addition, China also holds a standard that favours national economic growth to sustainable development²⁵. An example would be all those HFC and NxO reduction projects that have given China a huge income but have provided no low-carbon technology. As a result of the lack of mandatory international standard, there is no proper incentive to drive sustainable development. This is especially the case in China for its overriding national economic policy. Besides, a sustainable development standard that is higher than other developing nations would discourage investment in China ²⁶. These illustrate how the economic interest for investment frequently outweighs the need for sustainable development under inadequate legal and institutional safeguards for check and balance²⁷. Such focus on buying CERs from CDM projects instead of on the projects' contribution to sustainable development is demonstrated by the fact that additional benefit derived from renewable energy projects is rarely rewarded ²⁸. There also two further reasons on why China's CDM projects are still not environmentally sustainable. First, CDM projects that contribute to sustainable development is not of priority despite the fact that Article 4 of Measures for Operation and Management of Clean Development Mechanism Projects in China sets the priority areas for CDM projects in China as energy efficiency improvement, development and utilization of new and renewable energy, and methane recovery and utilization. This is evidenced by the large proportion of CERs generated from HFCs and NxO projects which are by no means contributing to sustainable development. Secondly, Article 17 of Measures for Operation and Management of Clean Development Mechanism Projects in China effectively excluded any non-Chinese from majority

ownerships of any CDM project in China. This would in turn discourage technology transfers from investing nations, as they would no doubt want to exercise control over the CDM projects before risking investing and thereby transferring technology. 24 Dongsheng Zang, "From Environment to Energy: China's Re-conceptualization of Climate Change" 27 Wisconsin International Law Journal 543 (Fall 2009, No. 3), at 562, 564-567 25 Note 7 above. 26 Note 4 above; at 323-324. 27 Note 17 above; at 236. 28 Note 17 above; at 239. 7|

P a g e 16th De ce mbe r 2011 IEL 2011 Research Essay Cure to the Lack of Environmental Sustainability of China's CDM project For the HFC-23 projects, there are three possible, though not at all probable, cures. First, the National Development and Reform Commission (NDRC) should approve only those HFC-23 projects that involve previous HCFC-22 production like the CDM Executive Board has decided²⁹. This could be legitimately done so by, say, requiring a sustainability impact assessment that disqualifies HFC-23 projects on new HCFC-22 production as not contributing to sustainable development. However, it is highly unlikely that China would do so voluntarily, considering HFC-23 projects generate a large proportion of China's total CER revenue and China would unlikely be willing to give up this goose that lay golden eggs. The second possible, but also problematic, approach would be to give out CER bonus for passing a bonus sustainable development test. The problem, however, is that it creates concerns as to how much bonus CERs should be given out. The amount of bonus CERs must neither be too much that inflates the CERs market, nor be too little as not to compensate the developed country for meeting the sustainable development standard. It also creates an additional problem if in deciding the amount of

bonus CERs to be given another baseline is involved, leading to a double baseline situation. Thirdly, an alternative solution may well be for the developed country to include a “ sustainable development clause” within the Emission Reduction Purchase Agreement (“ ERPA”) where only CERs from CDM projects, which have passed such sustainable development test, would be bought. But even that is unlikely to happen, considering the investing nation would neither want a longer validation period caused by the need to validate a project’s contribution to sustainable development, nor want any more costly CERs due to the additional test. As for the lack of an international sustainable development standard, the following could prove to be the cure for both this issue and the HFC-23 projects issue. Considering the first domestic-cure, the second bonus-cure and the third contractual-cure are unlikely to succeed, it would be worth attempting this last cure: the host country could include in its domestic sustainability test an international 29 CDM Executive Board, UNFCCC, Revision to Approved Baseline Methodology AM0001: “ Incineration of HFC-23 Waste Streams” 1 (Version 03, 2005) at 3, online: http://cdm.unfccc.int/filestorage/A/M/0/AM0001_version3%20.pdf/AM0001_v.pdf?t=aVF8bHc5ZTVrfDA2eDgXO0u6_Yl4M_J02wKk (accessed on 16 December 2011). 8| P a g e 16th De ce mbe r 2011 IEL 2011 Research Essay requirement³⁰ that investing countries must transfer technology that must be more energy efficient or less energy intense as compared with that in the hosting country. The international requirement must be agreed by Parties to be mandatory, so as to prevent a race-to-the-bottom situation where hosting countries compete for investment by requiring no or less energy efficient technology. Such cure does not have the

usual problem of developing country's sovereignty being intervened. Even more, it would raise the value of CERs and CDM projects. Although developed country may find it too stringent, especially when there is the intellectual property law that prevents such technology transfer, despite all willingness to transfer, this could be overcome over time by changing the corresponding legislations. The developed country could also argue that there would be an increased marginal cost caused by such mandatory transfer of technology, making investment all the more unlikely. This is, however, based on an irresponsible desire to reap every economic surplus without paying tribute to the very core objective of the CDM, namely to transfer low-carbon intensity technologies for the early phase out of high-carbon intensity technologies³¹. In addition to the above suggestions, several other scholars have also suggested some other solutions that may prove helpful if implemented together with the cure mentioned in the preceding paragraph. For example, the additionality requirement should become an objective benchmark rather than a subjective criteria such as "the own management is unwilling to invest without the CDM" ³². Also, an appeal system should be established for reviewing the CDM Executive Board's decisions as to whether projects contribute to sustainable development, assuming a justiciable definition of sustainable development would have been established ³³. Conclusion This paper has sought to review the Clean Development Mechanism ("CDM") projects in China on whether they are contributing to sustainable development in its environmental aspect. In short, the environmental sustainability of a CDM project requires, at its very least, additionality and technology transfer. With the problematic

additionality requirement and the absence of an international sustainable development 30 Idea comes from Marie-Claire Cordonier Segger and Markus Gehring, “ Trade and Investment Implications of Carbon Trading for Sustainable Development” in David Freestone and Charlotte Streck, ed., Legal aspects of carbon trading: Kyoto, Copenhagen, and beyond (New York : Oxford University Press, 2009.) 77 at 104, where the authors suggest a CDM’s ERPA to include a technology transfer requirement. 31 Note 22 above. 32 Note 17 above; at 250. 33 Note 17 above; at 253-254. 9| P a g e 16th December 2011 IEL 2011 Research Essay standard, problems such as HFC-23 projects and the lack of technology transfer that contribute to sustainable development has occurred. In resolving this crisis, the cure lies in abolishing HFC-23 projects and setting a mandatory technology transfer requirement in the domestic test on sustainable development binding on all investing country and beneficial to