



INSTITUTE FOR AGRICULTURE AND TRADE POLICY

Submission by the Institute for Agriculture and Trade Policy on the cost-effectiveness of “market-based mechanisms” and their promotion of mitigation actions (FCCC-AWGLCA-2010/L.7, paras 80-82)

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The Institute for Agriculture and Trade Policy (IATP) is a nonprofit, 501(c)(3) nongovernmental organization, headquartered in Minneapolis, Minnesota with offices in Washington, D.C. and Geneva, Switzerland. Our mission states, “The Institute for Agriculture and Trade Policy works locally and globally at the intersection of policy and practice to ensure fair and sustainable food, farm and trade systems.” To carry out this mission with regards to climate change mitigation and adaptation, IATP has participated in UNFCCC meetings since the Poznan Meeting of Parties in 2008. IATP has analyzed carbon emissions markets from the perspective of their purported capacity to induce investment to lower greenhouse gas emissions¹ and whether, as the major proposed source of financing mitigation and adaptation projects, such markets are consistent with the terms of the UNFCCC agreements.² Our publications and other documents on these issues are posted at <http://www.iatp.org/climate>.

General comment

IATP, an accredited UNFCCC observer organization, is pleased to submit comments that may contribute to the design of the UNFCCC secretariat-organized workshops “to clarify the assumptions and conditions of achieving these [mitigation] targets, including the use of carbon credits from market-based mechanisms” (paragraph 38). IATP believes that the workshops should examine “assumptions and conditions” about how the commodity derivatives market has changed since market mechanisms were first referenced in the Kyoto Protocol. IATP would be pleased to participate, with other observer organizations, in such workshops. We also hope that the secretariat technical paper requested by the AWG-LCA on “assumptions and conditions” (paragraph 39) for achieving greenhouse gas reduction targets will seek input from observer submissions, particularly those without a financial conflict of interest.

We are especially concerned that carbon markets established with low performance targets and unenforced commodity market rules will enable GHG increases, rather than “promote mitigation,” as required by the AWG-LCA decision. There is also a real risk that carbon markets will threaten food security and could create the conditions for increased social conflict over land, rather than creating the conditions for a transition to sustainable agriculture in many countries. In many ways, the current focus on market mechanisms is a dangerous distraction from the real challenge of generating significant and reliable funding to reduce emissions to limit global warming.

1. The “cost effectiveness” of market-based mechanisms

The AWG-LCA decision on market-based mechanisms aims “to enhance the cost-effectiveness of, and to promote, mitigation actions.” This decision, like all AWG-LCA decisions, is predicated on the assumption that decision objectives are consistent with the provisions of the convention. Because both the convention and the AWG-LCA decisions recognize that developed countries bear the preponderance of historical responsibility for anthropogenic GHG emissions, it is crucial that the parties, the secretariat-organized workshops, and the secretariat’s technical paper on mitigation pose and answer the question “cost-effectiveness for whom and cost-effectiveness for what?” At present, carbon emissions trading has been cost-effective only for those firms that have received billions of dollars of carbon credits for free from governments that can afford to subsidize their industries.³ It is certainly not cost-effective for the millions of citizens whose health is impaired because they live near industrial facilities that choose to buy

offset credits rather than invest to clean up what they emit.⁴ (U.S. courts are beginning to investigate the public health effects of carbon markets.⁵) Nor is it cost-effective for the indigenous peoples dispossessed of their land to make way for carbon offset investors' projects.⁶

Rather than assume that market mechanisms are cost-effective for all because they are cost-effective in the short-term for major emitters, the workshops should evaluate both existing market mechanisms and the proposed "new market mechanisms" according to the broader criteria of the convention's preamble and articles, such as vulnerability, avoidance of harm to food production and sustainable development, and on the basis of equity and common but differentiated responsibilities.

2. *"New market mechanisms" would foster excessive speculation*

Proponents of "new market mechanisms" argue that they will "complement" Kyoto Protocol mechanisms and that the voluntary greenhouse gas reduction targets of the Copenhagen Accord cannot be reached without the climate change finance revenues that the "new market mechanisms" are predicted to raise. However, the International Emissions Trading Association's "green sectoral bonds," for example, would create a new debt burden for developing countries while enriching the financial firms who trade in those bonds.⁷ Under this proposal, "green sectoral bond" investors would receive developing country carbon credits to repackage and trade as derivatives. Developing countries would incur debt in contracts for which they, and not private contractors of mitigation technologies, would bear liability for failure to meet bond stipulated GHG reductions. Given the methodological disagreements about measurement, recording and verification (MRV) practices, the likelihood that an International (but not necessarily UNFCCC) Green Bond Board would find developing-country party bond performance to have failed is not small. Because parties, not private firms, are liable for bond performance failure, an ensuing chain of climate debt could prevent developing-country parties from accessing capital markets for other public purposes. Because none of the "new market mechanism" requirements will apply to developed countries, "new market mechanisms," if agreed at the 17th Conference of Parties and implemented, would also shift historic responsibility for mitigation significantly to developing countries.⁸

Such "new market mechanisms" will also be vulnerable to the common crime, deceptive market practices and tax fraud that have plagued trading under the European Union's Emissions Trading Scheme (ETS).⁹ Legislative design failures in carbon markets to allow financial speculators to bank, borrow and carry over carbon credits from year to year are among the well-documented mechanisms to game the market.¹⁰ Better policing will not suffice to correct these basic market design failures.

Furthermore, the derivatives component of the "green sectoral bonds" would be vulnerable to the excessive speculation that has plagued commodity markets since at least 2007 and driven price volatility beyond what can be explained by market fundamentals. Deregulation of commodity derivatives markets exempted over-the-counter (non-exchange) broker dealers from the daily trade data reporting required of exchanges. There is a large body of non-standardized data that demonstrates excessive speculation in commodity markets, above all in the energy markets that have a high degree of price correlation with carbon.¹¹

Carbon market prices are far too low to induce investments to reduce GHGs to anywhere near what is required by climate science. The U.S. Congressional Budget Office estimates that under recent U.S. legislation, a mandatory U.S. carbon market would start prices at \$16 per Co₂ tonne in 2012, rising to \$26 per tonne by 2019.¹² The Organization for Economic Cooperation and Development (OECD) estimates that for the U.S., Canada, New Zealand and Australia, "carbon prices of at least USD 50 per tonne of Co₂ eq[univalent] would be required if emissions are to return to 1990 levels by 2020."¹³ The legislated underpricing of carbon emissions, relative to what is required for effective environmental performance, would be less worrisome if carbon price signals were less volatile. However, as the European Commission's Director General of Environment testified to the U.S. Congress, the free allocation of carbon emissions

permits to covered industries, together with the banking and borrowing provisions for those allowances, were among the factors that have resulted in low and volatile carbon prices under the ETS.¹⁴ For example, covered industries, which had received billions of euros in windfall profits through the free allocations, were not motivated to defend the price of their allowances against short sellers.¹⁵

Given low and volatile carbon prices, and the legislative design of carbon markets that leaves prices vulnerable to gaming, IATP believes that there is far too much reliance on carbon prices as a reliable factor in estimating mitigation potential. Carbon prices are a computable factor in the econometric estimates of the International Panel on Climate Change's global agricultural economic GHG mitigation potential.¹⁶ But the prices employed in the modeling exercises do not reflect either real carbon price trends or volatility. Rather than continue to evaluate different mitigation measures as a function of hypothetical carbon price levels, IATP believes that the UNFCCC should measure mitigation potential in terms of the best scientific evidence available about mitigation measures and the best technologies and practices to implement those measures. The costs of achieving the mitigation potential of different measures by a given date should be estimated and contrasted with the costs of damage under business as usual scenarios. For example, for the United States, just the costs of climate change-related hurricane damage, real estate losses and loss to the tourism industry under the current "business-as-usual scenario" have been conservatively estimated at \$271 billion (in constant 2006 dollars) annually, beginning in 2025.¹⁷ The cost estimates of different mitigation measures, together with the opportunity costs of business as usual, could help prioritize directive investments in mitigation measures.

The proposed UNFCCC workshops should invite scientific experts from the IPCC and from the global atmospheric, oceanic and terrestrial climate data collection and analysis observation systems to discuss the practical and scientific difficulties of estimating both baselines and additional and permanent GHG reductions that could result from different mitigation measures. They could explain, for example, some of the empirical and methodological impediments to an agreement on international standards for remote sensing protocols or for *in situ* testing of essential climate variables, including land cover and biomass.¹⁸ Additionally, the workshops could invite non-scientists, such as small-holder farmers and pastoralists to explain the on-the-ground technical and financing needs of soil building, grazing land management and other mitigation measures.

The \$2 trillion plus notional (face contract) value of the U.S. carbon derivatives market in 2017, as projected according to the policy scenarios of U.S. legislation passed by the House of Representatives in 2009,¹⁹ is not money that will trickle down to developing-country mitigation projects. The hedge funds and commodity index funds that will add carbon to diversify their portfolios will not likely also invest directly in GHG reduction technologies. There is an opportunity cost to "new market mechanisms," i.e., the hoarding or diversion of capital from productive uses to financial speculation.

In addition to the concerns about their market integrity, the environmental integrity of these markets has long been in question because of uncertainties about the scientific underpinnings of verification methodologies. Commodity derivatives market rules are oriented only to ensuring market integrity, e.g., preventing market manipulation and excessive speculation. There is no legislative requirement to ensure environmental integrity, much less environmental performance, in line with what the best available science is demanding to avoid devastating effects of more than a 1 to 1.5 degree Celsius increase in global average temperature. In addition, if access to other forms of climate finance depends on participation in "new market mechanisms¹," that participation will not meet the "voluntary" criterion of paragraph 80.

3. "New market mechanisms" would exacerbate food price volatility

Carbon is considered a commodity like oil and food commodities such as rice, maize and wheat. Given that energy markets have a high degree of correlation with carbon, excessive speculation in carbon is likely to adversely affect food and commodity prices. Bundling carbon derivatives into index funds with other commodities would also tend to destabilize prices, as would trading carbon derivatives without position

limits (limits on the number of contracts held). Highly volatile oil and food commodity prices not only have a significant impact on the economic stability of net oil and food-importing countries but also on the agriculture sector as a whole, given the high dependence on fossil fuels for synthetic fertilizers, transport, distribution and storage. Expanding carbon markets that are structurally highly susceptible to fraud and speculation and tied to commodity markets, particularly through index funds, thus has serious implications for food production and food security.

Supply shocks related to increased climate variability and severe weather events, increased demand related to agrofuels, as well as hoarding by financial speculators, are among the factors that contributed to the 2008 food price crisis. We are now witnessing high food price inflation in many countries and predictions for another food crisis are being made.

When wheat and other cereal prices surged in September 2010, the FAO's Committee on Commodity Problems held an Extraordinary Joint Intersessional Meeting of the Intergovernmental Group on Grains and the Intergovernmental Group on Rice. The groups found that speculation had been one of the key factors in the prevailing volatile and escalating prices in the cereal market. High and volatile food prices continue to be a major threat to global food security. The groups recognized that the lack of market transparency and the "financialization" of futures markets are playing key roles in food supply disruptions. They agreed that further work must be done on "new mechanisms to enhance transparency and manage the risks associated with new sources of market volatility."²⁰

The UNFCCC's work on "market-based mechanisms" to mitigate climate change must carefully examine the impact these markets will have on price volatility in commodity markets and on food security and the role such markets could play in creating future food crises.

4. Measurement difficulties and transaction costs would greatly diminish effective resources for mitigation and adaptation

The expansion of "new market mechanisms" to fund offset projects in the agricultural sector would create significant challenges of measurement and environmental integrity, as well as generate potentially serious consequences for food security. Like the forestry sector, leakage (carbon sequestered in one project area leaked through land-use changes outside of project boundaries), permanence (carbon is highly variable in agricultural soils and may not be stored permanently) and additionality (the idea that the carbon stored is additional to what would have been stored in a business-as-usual scenario) remain significant lacunae in the environmental integrity of soil carbon offsets as a solution to mitigation.

In addition to these three major issues, there is significant lack of data and measurement difficulties of *in situ* soil types, climate variability, past and future land use, and land use-management practices. Soil carbon content can be highly variable within one field over a period of time, let alone across a large number of fields. It depends on such factors as crops and their cropping cycles, human activity, land tenure and the climate itself. For a more accurate reading of the actual mitigation potential of any given project area, a costly combination of quantitative and qualitative data from field data over a significant time period and with sophisticated models would be required.

Officials associated with the World Bank BioCarbon Fund's pilot soil carbon sequestration project in Western Kenya acknowledge that it is too costly and impractical to actually measure soil carbon in the soil. Instead, through an approved Voluntary Carbon Standard (VCS) methodology, the Bank will use a series of proxies to measure for soil carbon sequestration. Even without the use of more costly (and potentially more accurate) measurement techniques, the transaction costs associated with this project are more than USD \$1 million.²¹

The FAO, which had previously advocated for soil carbon-led mitigation offsets within the UNFCCC, has begun to advance a more nuanced approach, acknowledging the high transaction costs involved in these projects and the potential impacts on small-scale farmers and food security.²² It estimates that close to 17 billion euros could be required between 2010 and 2030 in order to establish appropriate mitigation measures, monitoring, reporting and verifying methodologies and convert them into carbon credit equivalents.²³ Mitigation measures alone are estimated at 13 billion euros for that time period. This is nearly a third of some of the estimates made by the U.N. of the funding needed for climate change adaptation.

Existing market-based mechanisms like REDD are already creating expensive and unnecessarily burdensome requirements for developing countries to measure forest carbon stores and fluxes instead of using limited funds to finance the policies and programs that will actually result in reduced deforestation, such as institutional reforms, law enforcement and developing alternative livelihoods. The measurement, reporting and verification (MRV) of carbon is proving to be a distraction from work to address the underlying causes of deforestation. The carbon market “readiness” projects that include agriculture will also divert institutional, human and monetary resources away from critical support needed for adaptation of small-scale farmers to climate change.

5. *Carbon markets would undermine the necessary transition to sustainable agriculture that respects human rights and responds to climate change*

The pressure to lower transaction costs for offset projects could create additional challenges for land rights and food security. In order to be profitable, agriculture soil carbon projects will require that a large number of farmers’ activities are aggregated into a large project area as a “carbon pool” with adequate incentives to apply whichever “mitigation technology” is being promoted. Such schemes would require a large number of hectares to hedge against the myriad uncertainties described above, as well as to gather a large enough quantity of carbon so as to be profitable for project developers, investors and traders. “Aggregating” small farmers for the sake of carbon credits will create possibilities for increased social conflict around land tenure, incentives for land grabbing, and the possible displacement of food production in favor of tree plantations and other more easily calculated carbon sinks.²⁴ There is an immense potential for human rights violations in areas where tenure rights to land and land based resources is not secure. At the same time, there is no guarantee that verifiable emissions reductions will actually be achieved.

In addition, such projects could foster a range of untested, costly and controversial technologies that farmers are asked to adopt as “quick fixes” and for ease of measurability. Technologies such as biochar or genetically modified mono-cropping could be promoted at the expense of a transition towards locally appropriate, affordable and ecological approaches that can help small producers adapt to climate change while strengthening soil structure and sequestering carbon. Local seed banks reviving orphaned varieties and adapting them, composting, agroforestry and other organic methods are only few of many practices that are much less costly and accessible that can both help to adapt and provide mitigation benefits.

The need for a different approach

There is a real risk that the market-based approaches under consideration at the UNFCCC will fail—both financially and environmentally. They will fail to generate sufficient and reliable funds to finance mitigation efforts. The expansion of carbon markets to agriculture could further destabilize prices, while undermining food production and increasing social conflict over land. And, given the problems of environmental integrity of carbon market assets, there is no assurance that a market-based approach will serve the UNFCCC’s overarching goal of a significant and lasting reduction in emissions.

In many ways, the focus on market mechanisms is a dangerous distraction from the real work of finding agricultural practices that reduce emissions while ensuring food security, environmental integrity and rural livelihoods. The reduction of nitrous oxides from synthetic fertilizers used in food and feed, fossil fuel use in manufacturing and transporting synthetic fertilizer and the industrial livestock industry should be starting points for mitigation actions related to agriculture.²⁵ Instead, the focus on agriculture mitigation potential is being placed on short-term and unproven claims about soil carbon, calculated as a function of hypothetical carbon emissions prices.

The UNFCCC should consider alternative mechanisms to generate the necessary resources to achieve real and lasting mitigation and adaptation. Climate finance must not be made to depend on the highly volatile and destructive financial and carbon derivatives markets that are not, and arguably cannot, be regulated effectively, at least in their present structure. Alternative proposals for climate finance cannot begin too soon.

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