INSTITUTE FOR AGRICULTURE AND TRADE POLICY
COMMENTARY

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The hype versus the reality of carbon markets and land-based offsets:

Lessons for the new Africa carbon exchange

MINNEAPOLIS, APRIL 7, 2011 — The Africa Carbon Exchange (ACX) was launched in Nairobi on March 24; yet only two days before, Bloomberg headlines announced "Global Carbon Credits Die as Smart Money Backs Indian RECs (Renewable Energy Certificates)."[1] While the ACX is positioning itself to be the hub of "climate change business and sustainable development in the African continent," existing and attempted carbon emissions exchanges in Europe and the United States have suffered one blow after another—fraud, carbon credit theft, poor legislative design, even profits for some major polluters—all at the expense of ordinary citizens and the environment. Moreover, these exchanges have not led to a decrease in global greenhouse gas (GHG) emissions. Rather, they threaten to directly increase emissions by diverting capital to the carbon-market casino that could have otherwise gone toward reducing pollution at its source.

The Bloomberg article contends:

> Today, carbon trading remains a backwater of the global commodities market, and it's not even included in the benchmark Dow Jones UBS Commodity Index. Without demand from institutional investors spurred by global limits on emissions, the price of carbon has languished compared with the fossil fuels that policy makers are aiming to marginalize.

There has been a 16-percent decline in the membership of the Geneva-based International Emissions Trading Associations (IETA) since the climate talks reached deadlock in Copenhagen in 2009 and carbon-trading platforms such as Intercontinental Exchange Inc. folded up when the Chicago Climate Exchange (CCX) itself collapsed at the end of 2010.

What happened and what lessons can be learned from these debacles?

Carbon offsets and the carbon exchange

Carbon "offsets"—the backbone of the Kenyan ACX—are supposed to work like this: a series of projects are implemented to take planet-warming carbon out of the atmosphere, which are then subjected to a complex set of mesurement, reporting and verifying (MRV) procedures. These projects would receive "carbon credits" that would be sold to polluters who could neutralize or "offset" their own pollution by buying these credits.

The creation of carbon-offset projects can include a large number of players. The project can be "owned" by an organization, company or individuals. Local communities will be impacted if the project depends on utilizing their time, resources or land. Several other entities will also be involved, such as project design consultants who ensure that the project follows an acceptable MRV methodology, project validators who ensure that the MRV is valid and meets a certain accepted standard, and project verifiers to ensure that the MRV methodology is being followed properly. The project then either receives "certified emissions reduction" credits (CERs) or "voluntary emissions reduction" credits (VERs), depending on whether the project is meant to meet mandatory "compliance" targets of the U.N. climate treaty or feed into the voluntary carbon market. The cost of setting up such projects therefore can be substantial.

A polluter in an industrialized country can buy these CER credits to offset emissions, and hence continue polluting. In reality, however, these credits can be bought and resold in poorly regulated carbon exchanges as much as a hundred times through complex financial instruments called "derivatives." A buyer without any obligations to reduce emissions can buy these offset credits, package them with credits from other projects and trade them as a carbon emissions derivative for purely speculative purposes. The credits are sold even before there is any proof that such projects have actually resulted in reducing greenhouse gases.

Such trade involves numerous middlemen in the form of traders and various forms of investment firms. Similar derivatives in still-unregulated over-the-counter markets (OTC) led to the infamous Wall Street collapse in 2008 and the ensuing global financial crisis, and regulators still have not developed adequate rules to govern these markets.

European and U.S. experience with carbon exchanges

In order to put the "promise" of the ACX as an agent for development and environmental good in perspective, let's examine first the largest climate exchange in the world: The European Emissions Trading Scheme (ETS). The ETS was intended to help Europe meet its binding commitments under the Kyoto Protocol to reduce GHGs. Launched in 2005, the ETS resulted in increased, rather than decreased, greenhouse gas emissions, while the price of carbon itself crashed to as low as 1 euro per tonne from a high of about 30 euros. Several complex reasons can be cited for this, but a very simple reason was the over-allocation of pollution permits that were given, at no cost, to major polluters, which were then traded and re-traded in financial markets. In other words, there was no demand for permits from polluters who faced no strict requirment to reduce emissions.

The ETS has shown through its six-year history how susceptible it is to fraud, malpractice and Internet hacking. Just this February, the ETS had to shut down its trading because cyber criminals had hacked into the system, stealing 40 million USD worth of pollution permits and resold them. The European Law Enforcement Agency (Europol) estimates that up to 5 billion euros of European tax revenue (approximately 7.1 billion USD) has been lost due to fraud in value-added tax evasion through carbon trading.[2]

The two major ventures related to carbon exchanges in the United States have also suffered major blows. Just the week before the ACX was launched, the San Francisco Superior Court ordered the state of California to suspend its proposed cap-and-trade system, which includes offsets, because it was in violation of environmental laws in California. The judge ruled that the California Air Resource Board had not sufficiently considered alternatives to the cap-and-trade system and needed to do so. Just months prior, the United States' only national climate exchange—the Chicago Climate Exchange (CCX)—shut down its operations at great cost to farmers who invested in it in anticipation of offset credits. The Chicago Climate Exchange shut down because large investors were not interested in a voluntary market and had counted on U.S. legislation to enact a mandatory market. When the climate bill in the U.S. Congress failed, there was little incentive for companies to continue to buy and sell credits in the market.

Emerging controversies in Australia are also relevant for the ACX. The Australian "Carbon Farming Initiative" is being proposed as a major offset scheme for Australian polluters and those abroad to meet Kyoto targets. Market analysts doubt whether there would be an adequate supply of credits for sufficient trading in the initial years. Concerns are also being raised regarding the environmental integrity of such an offset scheme that could lead to pressure on water and land, given that the CFI is supposed to derive reduction in GHGs through activities such as fertilizer management, reduced livestock emissions, soil carbon and reforestation.[3]

Lessons for the ACX: Wither development and reduced risks of climate change?

The ACX would sell pollution "credits" generated on African soil through individual projects, thereby enabling companies in the industrialized world to continue polluting and yet comply with their governments' commitments to meet international and national targets for emissions reductions. ACX registered projects would also aim to generate a sufficient supply of projects to be made available for carbon trading on voluntary markets.

It is now common knowledge that the Cancún climate pledges could lead to the warming of the planet by four degrees Celsius or more. The latest science shows that even a global average warming of two degrees will be devastating for life on Earth. For much of sub-Saharan Africa, a two-degree global average temperature rise would mean even higher temperatures on the ground. This spells disaster for food security in Africa—with devastated cropping cycles, water scarcity and widespread famine. Carbon offsets are a major exit strategy for polluters to continue polluting while shifting the burden of GHG reductions to African nations that have the lowest carbon footprint on the planet. In the end, the impacts of the failure of this UNFCCC approved "market mechanism" will be acutely felt by the African people who stand to suffer greatly from a warming planet.

In addition, the types of offset projects envisioned for Africa primarily entail "land-based carbon" projects, either through avoiding deforestation, reforesting or reducing emissions from agriculture. This means that projects are banking on receiving credit for changing land-use practices in forests and soils to store carbon relative to what would have happened in a business-as-usual (baseline) scenario. However, trading carbon from land-based offsets is met with major skepticism by real financial investors because of serious scientific challenges in measuring carbon in soils and forests and understanding previous and future land-use changes. Moreover, because the bulk of forest and agriculture land is used by local communities, significant risks are associated with land tenure issues and social conflicts, with research showing an increase in land grabs of large areas of customary land in Africa by agribusiness and government agencies.[4]

A recent study[5] by experts in derivatives trading platforms also shows that land-based offsets will meet significant barriers to investment. This is because the land-based asset itself is difficult to define and therefore trade because of the high degree of uncertainty in measuring reporting and verifying (MRV) land-based carbon. The costs and controversies associated with land-based offsets are also likely to make them a risky venture. It will therefore lead to control of the trade by very few companies given the monopolistic nature of commodity markets (carbon is a commodity) and because very few companies will be able to finance the risk associated with this trade. The experts therefore conclude that the market for land-based offsets will either fail because of the numerous difficulties inherent in land based carbon accounting or lead to "the creation of a substandard, risky and ultimately destructive forest carbon market."[6] The same applies to agricultural soil carbon where the underlying "tradable" asset is even more varied and uncertain.

Finally, given that energy markets have a high degree of price correlation with carbon, excessive speculation in carbon is likely to adversely affect food and commodity prices.[7] 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 part of commodity markets, particularly through index funds, thus has serious implications for food production and food security in Africa.

Show me the money!

The most often quoted World Bank figure for the global carbon market is 144 billion USD. However this figure largely includes derivatives trading. Out of this, only around 3,370 million USD goes to offset project developers as total revenue (not profit!) with a much more uncertain fraction of that going to local communities who may host the project.[8] The FAO estimates that close to 17 billion euros (approximately 24.3 billion USD) could be required in transaction costs alone to set up soil carbon sequestration projects from 2010–2030, diverting scarce resources away from critical adaptation needs. According to the World Bank's own estimates adaptation costs to developing countries will range between 2.5 and 2.6 billion USD per year from 2010–2050.[9] Experts monitoring Reduced Emissions from Deforestation and Degradation (REDD) schemes also find that important institutional and public resources are being diverted to create the technical capacity and infrastructure required to create offset credits to trade on potential forest carbon markets. Rather than diverting scarce resources, this money could be invested directly into institutions and communities to build resilience against climate change and directly address deforestation.

Calculating the costs

The Africa Carbon Exchange is being publicized as the next big ticket that will help solve the development gap in Africa with plans to replicate the exchange in other regional blocs such as the East African Community (EAC), Common Market for Eastern and Southern Africa (COMESA) and the Economic Community for West African States (ECOWAS).

However, before that happens, governments and their parliaments should examine:

- ongoing challenges and investment trends in climate exchanges in industrialized countries,
- investor aversion to land-based offsets,
- environmental and food security risks to Africans by allowing industrialized countries to continue polluting and
- resources needed for African countries to adapt to climate change.

There is a real danger that carbon offsets will become a major policy distraction and capital diversion from the real climate change challenges that Africa faces: the urgent task of climate change adaptation and ensuring resilience of communities.

Alternatives exist

A financial transaction tax[11] on financial trading, feed-in tariff policies through which clean solar and wind energies are incentivized, and the use of International Monetary Fund (IMF) special drawing rights[12] by developing countries are just some of many alternatives being proposed to both finance the reversal of climate change and to help developing countries adapt to it. Industrialized countries have a legal, historical and moral responsibility to curb their domestic emissions at home and help finance adaptation in Africa and elsewhere. Let's not let carbon trading and the promises of a speculative derivatives market distract us from these critical goals.

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