

## 4.3.5

# Sectoral crediting

## Getting governance right from the beginning

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Several pathways lead into a low-carbon, high-efficiency future. Many go through something commonly called ‘sectoral crediting’, by which developing economies would both adopt emission reduction goals for entire economic sectors and allow reductions to be sold, via permits, into industrialized countries’ compliance carbon markets. These twin elements of sectoral crediting contrast with project-by-project crediting, as is currently seen under the Clean Development Mechanism (CDM), and sector-level emission standards not linked to any market mechanism.

Properly designed and operated, sectoral crediting could unleash substantial investment in efficient emissions reductions across entire sectors. A quick look at the numbers makes the appeal of and need for sectoral crediting clear. The world now emits roughly 45,000 million CO<sub>2</sub>-equivalent

tonnes of greenhouse gases annually.<sup>2</sup> In order to avoid the most dangerous consequences of climate change, that number needs to decrease swiftly, and by at least one-half to two-thirds by mid-century.<sup>3</sup> Neither the market-based project-by-project approach of the CDM nor sectoral non-market standards on their own are likely to achieve this goal.

According to the World Bank’s State and Trends of the Carbon Market 2010 report, the CDM accounted for 200 million tonnes of reductions below business-as-usual (BaU) levels in 2009, down from 400 the previous year.<sup>4</sup> Total CDM reductions are estimated to reach 1 billion tonnes by 2012 – far short of the amount needed.<sup>5</sup> Moreover, the benefits of these reductions are offset by their transfer to cover industrialized nations’ emissions increases, and even if one project in any given sector in a

particular country reduces emissions, that gain could be offset by increases elsewhere in the same sector or elsewhere in the economy.

Mandated sectoral standards can be useful, but they have clear limits. Emissions reductions occur only up to the standard and often no further. Most importantly, standards usually take the form of limiting rates of emissions, or prescribing specific technologies. Rates may go down, but total emissions can still go up as output increases. Without a market component, there is little incentive for investors to seek reductions in total emissions.

Market-based sectoral crediting is gaining ground in some policy circles because it has the potential to move beyond the confines and risks of the CDM and standards, catalysing a faster, more effective transition to clean development. The Chinese steel sector provides an instructive example. McKinsey & Company estimates that by 2030 its emissions reduction potential could be as much as 350 million tonnes below BaU projections.<sup>6</sup> If other industrial sectors, such as chemicals and cement, are also included, the numbers quickly rise above 1 billion tonnes for China alone – equal to all CDM reductions by 2012.

Introducing some portion of these reductions as credits in carbon markets presents not just enormous opportunities but also some serious risks. With entire sectors capped, the consequences of

unreliable or manipulated emissions reports, tainted verification processes, poor crediting methodology, or inadequate domestic legal and regulatory systems more broadly, grow exponentially. These risks make it crucial to get governance right in at least four areas.

First and foremost is the environmental integrity of the system. CDM projects that fail to reduce emissions exacerbate climate change. Non-performing sectoral crediting could have the same effect on a much larger scale. Credible measurement and reporting and conflict-of-interest-free, independent verification and enforcement are crucial for environmental integrity and a robust carbon market. Although industries may raise concerns about disclosing commercially sensitive information, experience in industrialized and emerging economies shows that emissions data – including greenhouse gas (GHG) emissions – can be disclosed in ways that promote transparency and protect trade secrets.<sup>7</sup>

Second are risks associated with the CDM model of issuing credits for reductions below BaU. If sectoral approaches are premised on this model, they will not lead us toward sufficient global emissions reductions to avert dangerous climate change. At a minimum, industrialized countries have to adopt more stringent targets to absorb the growing number of credits. Discounting should also be introduced, by which a certain portion of sectoral

credits would be automatically retired from the market, guaranteeing a net reduction of emissions credits, rather than ‘emissions shifting’, thus ensuring environmental benefits. Moreover, BaU is a projection and, thus, inherently unverifiable. Awarding credits for reductions below BaU creates incentives to inflate BaU projections – maximizing crediting at the expense of the environment. This is especially true for fast-growing sectors and countries, whose emissions will increase rapidly with large uncertainties around BaU projections. Consequently, the governance of sectoral crediting must shift away from BaU, to a fundamentally different model: the negotiation of sector-wide, country-specific baselines, based on historical emissions data and always keeping the environmental implications in mind, with credits awarded for reductions below those baselines. Lastly, there is a clear need for countries to develop the capacity to ensure accuracy in measuring, reporting and verifying the absolute tonnes of their emissions reductions.

Risks are also associated with crediting reductions in ‘intensity’ rather than in absolute emissions. Crediting intensity reductions – i.e. emissions per unit of economic output or per unit of energy output – risks minting ‘credits’ that are actually emissions increases if intensity declines occur amid high growth in output and energy use. Reducing total emissions is what matters

to the atmosphere. Sectoral credits ought to be made, measured and reported in absolute tonnes of reductions from an absolute baseline. Absolute measurements are also useful in highly heterogeneous sectors, in which firms use a host of different technologies to produce similar products.

Finally, risks come with carbon markets themselves. Any market requires proper infrastructure, regulatory guidance and oversight. Especially in their early stages, markets can experience volatility and the occasional start-up woes. We learnt important structural lessons from the European Union’s Emissions Trading Scheme (EU ETS).<sup>8</sup> In April 2006 EU ETS prices dropped by a half within five days as the first official figures were published, revealing that overall emissions were lower than had previously been assumed, and that credits had therefore been over-allocated. In April 2010 the EU published official data for 2009, showing that emissions had fallen by over 10 per cent. The market hardly budged. Prices already reflected expectations of lower emissions, based partly on the economic crisis and partly on the effectiveness of the ETS. The lesson: timely data, a liquid market, policy certainty and the ability to save reductions over time – the ‘banking’ of credits – also matter.

Proper market governance is similarly crucial. In both industrialized and developing countries, transparent and accountable agencies must be responsible

for maintaining mutually recognizable registries to track transactions and fund flows. Firms that monitor emissions and calculate baselines should be prohibited from marketing credits to avoid conflicts of interest. Such structural transparency offers important co-benefits – public participation in policy processes and better institutions for development – that reinforce the durability of the reductions achieved and the sustainability of the market itself.

Private investors may face additional risks under sectoral approaches compared to CDM. The role for policy here is not to eliminate risk, but to create the appropriate incentives to ensure that private capital and insurance markets can manage and mitigate it.

Sectoral crediting is not a goal in itself. The goal is to enable a rapid transition to enforceable, absolute emissions limits for all major emitting sectors, powered by a broad carbon market made up of global or linked national or regional emissions trading systems.

The first sectoral credit has yet to be issued. That allows us to get governance right and keep the goal in sight from the beginning. It is a tall yet not insurmountable order, and a step we ought to take to ensure that, if sectoral crediting moves ahead, a system is created that ultimately stabilizes the climate and helps transform the over US\$5,000 billion-a-year fossil-fuel-based energy sector into a cleaner, greener future.<sup>9</sup>

## Notes

1. The authors are, respectively, an economist, the chief economist, and an international counsel at Environmental Defense Fund.
2. See the World Resource Institute's (WRI's) Climate Analysis Indicators Tool (CAIT) database, [cait.wri.org](http://cait.wri.org), for the most comprehensive emissions data.
3. Environmental Defense Fund (EDF), *Turn toward Climate Safety* (New York: EDF, 2009).
4. Alexandre Kossoy and Philippe Ambrosi, *State and Trends of the Carbon Market 2010* (Washington, DC: World Bank, 2010).
5. EDF analysis of UNEP Risø's CDM pipeline spreadsheet, at <http://cdmpipeline.org/publications/CDMPipeline.xlsx>; Kossoy and Ambrosi, 2010.
6. McKinsey & Company, *China's Green Revolution: Prioritizing Technologies to Achieve Energy and Environmental Stability* (New York: McKinsey & Company, 2009), p. 91, exhibit 37.
7. See, for example, US Environmental Protection Agency 40 Code of Federal Regulations (CFR) part 2, 'Proposed Confidentiality Determinations for Data Required Under the Mandatory Greenhouse Gas Reporting Rule and Proposed Amendment to Special Rules Governing Certain Information Obtained Under the Clean Air Act; Proposed Rule' (28 June 2010); Mexican Environmental Agency, *Informe Nacional de Emisiones y Transferencias de Contaminantes*, at <http://app1.semarnat.gob.mx/retc/index.html>.
8. For the most comprehensive review of EU ETS to date, see Denny Ellerman et al., *Pricing Carbon: The European Union Emissions Trading Scheme* (Cambridge: Cambridge University Press, 2010).
9. Fred Krupp and Miriam Horn, *Earth: The Sequel* (New York: W. W. Norton, 2008), p. 12.