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**Upsetting the Offset
The Political Economy of Carbon Markets**

Part I: Images from North and South

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Let's start with two images of seemingly disconnected events that are currently taking place in two very different locations – one in the North and the other in the South.

The *first image* is set at London's St.Pancras International station², the new home of Eurostar³, the Anglo-French high-speed rail company connecting Britain with the European continent, which has recently announced its 'Tread Lightly' strategy of action points, aiming to reduce the company's carbon footprint. 'As part of this initiative', Eurostar says, 'we have made a commitment to reduce carbon dioxide emissions by a further 25% per traveller journey by 2012. Consequently, we will be making changes across all areas of our business, from the big things like energy efficiency, paperless ticketing and waste management, through supply chain selection to smaller cultural changes like recycling in our offices... *Any remaining emissions will be offset, at no cost to the traveller*, meaning that from November 14th 2007', the opening day of St.Pancras International, 'Eurostar is proud to offer carbon neutral journeys.'⁴ The 'Tread Lightly' initiative is supported by Friends of the Earth (FoE) UK, whose Big Ask Climate Change campaign is, in turn, endorsed by Eurostar. FoE's Executive Director, Tony Juniper, says: 'Eurostar is leading the way by making a real reduction' in carbon emissions.⁵ One is urged to think that big business can, after all, be green and sustainable.

The *second image* is set in a location thousands of miles away from London in the so-called Pampas region in South America. 'The Pampas (from Quechua, meaning "plain") are the fertile South American lowlands that include the Argentine provinces of Buenos Aires, La Pampa, Santa Fe, and Córdoba, most of Uruguay, and the southernmost end of Brazil, Rio Grande do Sul, covering more than 750,000 km².'⁶ In the Pampas region a lot of trees are currently being planted by local farmers as well as a handful of multinational pulp and paper companies that have recently discovered this area for its climatically advantageous conditions for growing huge eucalyptus tree plantations, which provide the raw material for the production of pulp and paper. There are already a number of existing pulp and paper mills in this area, but a considerable number of new mills are currently being constructed, turning the Pampas region into one of the most important growth areas for the global pulp and paper industry.

¹ This paper is the first in a series of texts entitled 'Upsetting the offset', critically evaluating the political economy of contemporary carbon management techniques and policies, such as carbon trading and offsetting. Many thanks to Larry Lohmann (Corner House), Kevin Smith (CarbonWatch, TNI) and Zoe Young (ifwatch.tv) for first alerting me to the 'greenwash' scandal of carbon trading and offsetting. Many thanks also to Maria Ceci Misoczky, Rafael Kruter Flores, Fabiane da Costa e Silva and the other students on the 'The Organisation of Hegemony' course I taught at the Universidade Federal do Rio Grande do Sul (UFRGS), Brazil. I first became confronted with the politics of tree plantations during the student trip that followed this course in September 2006.

² <http://www.stpancras.com>

³ <http://eurostar.com>

⁴ http://www.eurostar.com/UK/uk/leisure/about_eurostar/environment/tread_lightly.jsp, accessed 17 Nov. 07, italics added.

⁵ *ibid.*, accessed 17 Nov. 2007.

⁶ Wikipedia; <http://en.wikipedia.org/wiki/Pampas>, accessed 17 Nov. 07.

One of these new pulp and paper mills, constructed and operated by Botnia,⁷ the Finnish multinational pulp and paper company, is currently starting production in Fray Bentos, a small Uruguayan town on the banks of the River Uruguay. The International Finance Corporation (IFC),⁸ part of the World Bank Group, which helps to finance this project, says that this mill ‘will help the country [Uruguay] move up the value chain beyond the export of raw materials, while generating some 2,500 much needed local jobs’. Overall, ‘the plant will generate value added equivalent to 2 percent of Uruguay’s entire GDP (based on 2005 figures) and slightly more than 8 percent of the country’s exports for each year of full-capacity production’.⁹ Additionally, Botnia ‘is planning to generate environmentally friendly electricity from biomass in the power plant’ that is part of the pulp mill. ‘The project implements [the] so called Clean Development Mechanism (CDM) which is determined in the Kyoto Protocol to the United Nations Framework Convention on Climate Change. The purpose of CDM and thus this project is to reduce greenhouse gas emissions, and to promote [the] sustainable development of Uruguay.’¹⁰ The IFC claims that the electricity sold by the Botnia mill ‘to the national grid can be called *green power* because it is produced using biomass which is a renewable resource. Since carbon dioxide is captured through photosynthesis, the use of biomass to produce energy is considered *carbon neutral* (i.e., no net increase in carbon dioxide emissions to the atmosphere).’¹¹ Again, one is urged to believe that development and direct foreign investment by a multinational company in the so-called ‘developing world’ can be green and sustainable.

Beyond the discursive relations between the these cases, what connects both seemingly disconnected images from an organizational point of view is the so-called Clean Development Mechanism (CDM), which ‘is an arrangement under the Kyoto Protocol¹² allowing industrialised countries with a greenhouse gas reduction commitment...to invest in projects that reduce emissions in developing countries as an alternative to more expensive emission reductions in their own countries.’¹³ So, when Eurostar says that it will ‘offset’ all those carbon emissions that it cannot avoid itself, and when it claims that all Eurostar train journeys are now ‘carbon neutral’, it basically means that the company purchases so-called ‘carbon credits’ in the emerging carbon trading schemes, such as CDM. What the CDM scheme enables is that with Eurostar’s (and hence train travellers’) money carbon reduction projects, such as Botnia’s biomass electricity generation project, are financed in so-called developing countries, such as Uruguay, in the hope that this would reduce the planet’s overall carbon emissions. However, what effectively seems to be happening is that Eurostar can claim to be ‘carbon neutral’ because it takes part in a carbon trading/offsetting market that enables Northern multinational companies, such as Botnia, to run pulp and paper mills very profitably in the South.

Of course, the links between Eurostar and Botnia’s mill in Uruguay are *not* direct; almost by default they are not. Capitalist markets are always impersonal; the links between buyers and sellers are hidden, as the commodity, such as ‘carbon’ in our case, can be traded from one place to the other, concealing the labour that has produced it in the first place – as Marx has explained a long time ago.¹⁴ So, I’m not claiming here that Eurostar *directly* finances a pulp and paper mill in Uruguay! On one hand, this is the precise problem with the emerging carbon markets. Often one cannot trace what one’s carbon offsetting money is really doing to distant communities around the world; one cannot make direct links between carbon sellers and buyers, which means that one cannot scrutinise the carbon reduction claims made. On the other hand, however, we have the duty, in my view, to open the black box of these

⁷ <http://www.botnia.com>

⁸ <http://www.ifc.org>

⁹ IFC (2006) ‘IFC and MIGA Board Approves Orion Pulp Mill in Uruguay: 2,500 Jobs to Be Created, No Environmental Harm’, Press Release, 21 Nov, <http://www.ifc.org/ifcext/media.nsf/content/SelectedPressRelease?OpenDocument&UNID=F76F15A5FE7735918525722D0058F472>

¹⁰ Botnia (2006) ‘CDM Project’, <http://www.botnia.com/en/default.asp?path=204,1490,1494,1373>, accessed 17 Nov. 07

¹¹ IFC (2006) ‘Cumulative Impact Study, Uruguay Paper Mills’, September, p. 4.98, italics added, [http://www.ifc.org/ifcext/lac.nsf/AttachmentsByTitle/Uruguay_CIS_Oct2006/\\$FILE/Uruguay_CIS_Oct2006.pdf](http://www.ifc.org/ifcext/lac.nsf/AttachmentsByTitle/Uruguay_CIS_Oct2006/$FILE/Uruguay_CIS_Oct2006.pdf).

¹² http://en.wikipedia.org/wiki/Kyoto_Protocol

¹³ Wikipedia, http://en.wikipedia.org/wiki/Clean_Development_Mechanism, accessed 17 Nov. 07.

¹⁴ Karl Marx (1976) *Capital: A Critique of Political Economy*, Vol. 1, trans. Ben Fowkes. London: Penguin.

carbon markets that enable Northern companies, such as Eurostar, to claim to be ‘green’ and ‘carbon neutral’ by investing in carbon offsetting schemes, while that very ‘green’ money props up the pulp and paper industry in the distant South – an industry that ‘is considered to be one of the three most polluting industries of the planet’.¹⁵ That is, Eurostar and other Northern companies claiming to be green by participating in carbon offsetting schemes actually enable the emergence and legitimation of a rapidly growing global carbon trading industry that is, at best, dubious, and, at worst, actually increasing global greenhouse gas emissions and sedimenting very problematic, that is, neo-colonial, relations between North and South, where the latter is used as the dumping ground for the polluting practices of the former.

But we are travelling too fast. Let us unpack these two images more carefully, so that we can make visible the invisible connections at work between ‘green’ high-speed train travel in the North and ‘green’ biomass electricity generated in a pulp and paper mill in the South. Let us travel back to the summer, or rather the winter, of 2006 when I was first confronted with these two images in Porto Alegre, the capital of the most southern Brazilian state of Rio Grande do Sul, where I was teaching at the Universidade Federal do Rio Grande do Sul (UFRGS) a course on contemporary theories and practices of the organisation of social movements that resist hegemonic forms of corporate and social management.¹⁶ There was a group of students who were very interested in the issue of pulp and paper mills that are currently being installed in the south of Brazil, as it affects them directly, in their own back yard, as it were. Porto Alegre is situated on a big lake, and just opposite to the city there is a town called Guaíba with a big pulp mills run by the biggest Brazilian pulp and paper company, Aracruz Celulose.¹⁷ When the mill was opened in the early 1970s, it caused a lot of environmental problems and the people of Porto Alegre mobilised against it, forcing the local authorities to close the mill temporarily. The mill then reopened with more modern technology; but still today there are smells and instances of water contamination that the people of the region have to live with. Recently, the company has applied to double the capacity of the mill, and the people of Porto Alegre are starting to mobilise again against this ‘development’. Furthermore, there are two more pulp and paper mills planned in Rio Grande do Sul by the Swedish-Finnish Stora Enso¹⁸ and the Brazilian company Votorantim Celulose e Papel (VCP).¹⁹

After the course a group of about 15 academics and students went on a research trip from Porto Alegre via Montevideo, the capital of Uruguay, to Buenos Aires, the capital of Argentina, in order to find out more about the regional dimensions of this struggle and learn from the experiences of the people in Uruguay and Argentina to resist this type of development. While the people of Fray Bentos and Uruguay have generally been welcoming the investment into the Botnia pulp mill, which constitutes the country’s largest foreign direct investment in its history, as it promises jobs and economic development, the people of Gualeguaychú, an Argentinean town across the River Uruguay, a few miles away from the new Botnia mill, have protested against this project ever since it started in 2003/4, as they are extremely worried about the potential water and air contamination of the Botnia plant in Fray Bentos (which was originally supposed to be complemented by another big mill by ENCE, the Spanish multinational²⁰). Besides the potential environmental destruction of the mill, the people of Gualeguaychú fear that the economic and environmental basis of their existence is threatened.

¹⁵ Carlos Martín Cerri (2006) *El Corte de Gualeguaychú*. Buenos Aires: Dunken, p. 13.

¹⁶ <http://sgboehm.googlepages.com/hegemony>

¹⁷ <http://www.aracruz.com.br>; see also Steffen Böhm and Vinícius Brei (2008, forthcoming) ‘Pulp Fiction: Marketing the Hegemony of Development’, *Marketing Theory*, which is a critical engagement with Aracruz’s advertising images and its marketing of the ‘development’ of the pulp and paper industry in Southern Brazil.

¹⁸ <http://www.storaenso.com>

¹⁹ <http://www.votorantim.com.br>

²⁰ <http://www.ence.es/english/main.html>

Although thousands of pages of reports,²¹ commissioned by the IFC and other governmental and extra-governmental bodies, have resulted in the ‘official’ verdict that no adverse social and environmental impacts are produced by the new Botnia mill and that the economic benefits are immense, the people of Gualaguaychú as well as some environmental groups from within Uruguay have consistently argued the exact opposite, relying on the exemplary, independent research carried out by the World Rainforest Movement (WRM)²² – headquartered in Uruguay itself – and other activists²³ and pressure groups, exposing the immensely negative environmental, economic and social impacts of the pulp and paper industry around the world. Let me just list and therefore highlight some of the most striking results of this research, collected in the book *Pulp Mills: From Monocultures to Industrial Pollution*.²⁴

- *Size and scale*: ‘Today’s pulp mills are mega-factories and their very size makes them a risk. In an industrial process using so many toxic chemicals, any small detail that is altered, any small release is magnified because of the scale of the factory. Furthermore, toxic chemical releases may be small as compared to the volumes processed, but not with the magnitude nature can support. The effluents from a large 600.000 metric ton plant are approximately 1000 litres per second.’²⁵
- *Smell and other emissions*: ‘Emissions into the air by pulp mills...contain cancerigenic chemicals..., oxidized sulphur compounds causing damage to vegetation, compounds causing hormone imbalance...and reduced sulphur compounds causing the classical penetrating “rotten egg” smell that becomes a problem for the surrounding inhabitants’.²⁶
- *Bleaching agents*: ‘To produce white pulp and paper, bleaching agents are needed. ‘Many chemical bleaches are reactive and dangerous to transport and for this reason must be made in situ or near by. This is the case of 21 chlorine dioxide (ClO₂), an extremely reactive greenish yellow gas that explodes easily, representing a major threat to the workers and the neighbouring inhabitants in the event of an accident. Another agent used, elemental chlorine (Cl₂), is very toxic. It is a greenish gas that is corrosive in the presence of dampness.’²⁷
- *Effluents and water pollution*: ‘The enormous demand for water in pulp mills may reduce the level of water and the effluents may increase the temperature, a critical issue for the river ecosystem. Generally, mills are installed near a watercourse with a good flow where they can get their supply (at a lower cost) and also discharge their effluents. The pulp industry is the second largest consumer of chlorine and the greatest source of direct discharge of toxic organochlorines into watercourses.’²⁸
- *Dioxin dangers*: ‘Some effluents produced in pulp production ‘may contain organic compounds present in the pulp and chlorine compounds that when combined can form a series of toxic products such as dioxins, furans and other organochlorines..., each having different degrees of toxicity.’ Their ‘capacity for biodegradation is very limited, meaning that they remain in the biosphere for many years..., building up over time in the tissues of living organisms (bioaccumulation)’, such as human beings. Dioxins can ‘result in alterations of the human immune system... Among the major sources of dioxin emissions is elemental chlorine pulp bleaching.’²⁹
- *Organochlorines*: ‘In the case of the effluents of chlorine dioxide bleached pulp, these contain chloroform, chlorinated acids and sulfones. Chlorine dioxide bleaching produces large amounts of chlorate, which acts as a herbicide. It has been proven that although effluents are more biodegradable than with the elemental chlorine technique and that the presence of organochlorines has been reduced, they continue to be produced and to affect the environment.’³⁰

²¹ http://www.ifc.org/ifcext/lac.nsf/content/Uruguay_Pulp_Mills

²² <http://www.wrm.org.uy>

²³ One of the best researchers and activists on this topic is Chris Lang, <http://chrislang.org>

²⁴ World Rainforest Movement (2005) *Pulp Mills: From Monocultures to Industrial Pollution*. Montevideo: WRM, http://www.wrm.org.uy/plantations/Celulose_text.pdf.

²⁵ *ibid.*, p.20.

²⁶ *ibid.*, p.20.

²⁷ *ibid.*, p.20-21.

²⁸ *ibid.*, p.21.

²⁹ *ibid.*, p.21.

³⁰ *ibid.*, p.21-22.

- *Impact on fish*: ‘Dissolved wood substances, chemical residues and compounds produced by reactions between chemical substances and wood substances produce pollutants that may reduce the oxygen levels in the watercourses where they are released and prove lethal to fish... Effluents from the bleaching process generally contain between 40 and 50 kilos of organic substances (mainly lignin) per ton of pulp. Studies...revealed reproductive alterations, increased metabolism and changes in the structure of fish stocks. Other studies revealed genetic damage, hormone changes, liver alterations, cell function problems, changes in blood composition, skin and brachia lesions and reactions by the fishes’ immunological system.’³¹

Given the mounting evidence of the negative environmental impacts of pulp and paper mills, it is surprising, to say the least, that the IFC reports have not taken these risk factors into account.³² When Botnia’s Fray Bentos mill is in full production mode, it will have an annual output of 1 million tonnes of bleached eucalyptus pulp. It will be one of the biggest mills of that type in the world. The above listed environmental impacts of pulp production can only get worse with the large scale of plants being built today.

It is for these reasons that the people of Gualeguaychú have been up in arms protesting against this type of ‘development’ for the past 3-4 years. The town is an important tourist destination, famous in the whole of Argentina as well as the wider region for its annual carnival, which draws thousands of visitors to the city every year. Tourists also come to Gualeguaychú to enjoy its tranquil river shores, fishing, water sport. In short, Gualeguaychú – besides being an important regional agricultural centre – is a tourist city; tourism is one of the main incomes for its people. If one’s livelihood depends largely on tourism as well as agriculture, who would want to have a giant pulp mill constructed in one’s back yard by an industry that is considered to be one of the world’s most polluting?

And, as the research of the World Rainforest Movement shows, contaminations and other ‘accidents’ have frequently happened in the past and they continue to happen in many locations around the world today. In Valdivia, Chile, for example: In 2004, five years behind schedule, due to the resistance of citizens’ organizations, environmental activists, indigenous peoples, and peasant women, CELCO (Celulosa Arauco y Constitución, forestry subsidiary of the Angelini group) opened its new pulp mill to produce 550,000 tons of bleached pulp annually. ‘Less than a month later, the nearby communities began complaining about the unbearable smell from the mill.’ But bad smells were not the only problem. ‘What started with claims about nauseating odours ended in a number of irregularities. Faced with repeated complaints, environmental and health authorities began to set up inquiries...They found categorical evidences establishing that the company had no system for emissions abatement, control and monitoring; besides, it began to operate...without completing the required municipal procedures, payments and sanitary certificates, obviously in breach of the project’s environmental licence.’ In addition, serious water contamination was registered in the nearby Nature Sanctuary Carlos Anwandter at the Rio Cruces. ‘It is home to a wide diversity of species of flora and fauna, particularly black-necked swans..., an endangered migratory bird.’ A few months after the opening of the pulp mill ‘public alarm was alerted with the appearance of dozens of dead or undernourished and blind black-necked swans, with evident neurological alterations that made it impossible for them to fly. The reason for this was identified as being the fact that they feed on a type of algae...which is apparently being affected by contaminants. This disaster is also affecting the taguas (a local bird), coypu (a vegetarian rodent), and various types of fish that have also been found dead. Although there has not been a conclusive answer to the causes of this disaster, the sole relevant event that has taken place on the Cruces River’ during that year is the start of operation of the nearby CELCO pulp mill.³³

³¹ *ibid.*, p.22.

³² See impact measurement documentation of the IFC, http://www.ifc.org/ifcext/lac.nsf/Content/Uruguay_PulpMills_Background_Docs

³³ *Pulp Mills.*, *op. cit.*, p.137-142.

It would be wrong, however, to only concentrate on the environmental impacts of the pulp mills themselves, because the actual mill plant is only half the story of pulp and paper production. The other side of the coin, which is sometimes forgotten, is the thousands of hectares of tree plantations that are needed to provide a constant stream of wood to a mill. Botnia, for example, through its subsidiary Forestal Oriental S.A. (FOSA), currently has 89.000 hectares of eucalyptus planted, and a further 103,500 acres available for future use. The aim is to provide the Fray Bentos mill with 3.5 million cubic meters of wood annually, 70% of which will come from its own plantations and the remaining 30% from farmers Botnia works with.³⁴ Now, the company as well as the IFC's impact studies claim that: these tree plantations are fully sustainable, no adverse environmental effects result from them, and, to make matters even better, they create employment for rural people in Uruguay. Additionally, Botnia boasts that 'all of Forestal Oriental's plantations have received FSC certification'.³⁵ All good then!? I'm afraid not. Even if the tree plantations – I would never call them 'forests'; I've seen too many of them! – are fully certified, not to mention all the 'green' and 'ethical' talk of sustainability pulp and paper companies frequently use today – their raw material (trees) is, after all, very 'green' – these control mechanisms don't seem to be providing us with the full picture of what is actually happening on the ground. Here is a (non-exhaustive) list of the negative impacts of the tree plantations that provide the raw material for pulp and paper production in the South:

- *Eucalyptus*: The eucalyptus tree³⁶ is not native in the Pampas or South America. It originates from Australia where it normally grows in dry climates, developing very deep roots to access water. Throughout the 19th and 20th centuries eucalyptus was introduced to many regions around the world, including the Pampas and other parts of South America, as the tree proved to be very 'efficient' for the production of pulp and paper. The tree grows much faster in the Pampas region than comparable pulp wood trees in Northern Europe, as the climatic conditions are very favourable; eucalyptus matures in the Pampas in about six to seven years.³⁷ Yet, many people don't seem to like them: 'In Brazil plantations are referred to as "green deserts," due to their reputation for destroying biological diversity. In South Africa they are known as "green cancer" because of the tendency of the eucalyptus in the plantations to spread wildly into other areas. In Chile plantations are called "green soldiers" because they are destructive, stand in straight lines, and steadily advance forward.'³⁸
- *Water shortages*: One of the main problems seems to be that 'the eucalyptus sucks up all the nutrients of the earth. The eucalyptus is a destructor on a grand scale. A tree consumes one hundred litres of water per day, each eucalyptus. It dries up the water tables, which are the water reserves we have underneath the earth, to be accessed for human consumption. All this is sucked up by eucalyptus trees. That is, the massive eucalyptus plantations are a desertification instrument, and in addition it kills all the biodiversity that there is. Underneath a woodland of eucalyptuses there is no beast, there is not left anything, everything disappears.'³⁹ This account is confirmed by a WRM study on the impact of monocultures in the backyard of the new Botnia plant in Uruguay.⁴⁰ Rural people living near the eucalyptus plantations reported to WRM researchers that "because of the eucalyptus trees the Arroyo Negro stream dried up, it used to be the town beach"...A farmer in Guichón whose land is now surrounded by plantations owned by FOSA, complained that as a result of the plantations the Boyado stream, which runs through his farm, has completely dried up. WRM's

³⁴ http://www.botniauruguay.com.uy/index.php?option=com_content&task=view&id=72&Itemid=96, accessed 19 Nov. 07

³⁵ Quoted by Chris Lang, <http://chrislang.org/2007/05/24/subsidies-and-the-botnia-pulp-mill>; FSC stands for Forest Stewardship Council (<http://www.fsc.org>). The organization sets and controls 'international standards for responsible forest management'. It is, however, not without its critics; see <http://www.fsc-watch.org>.

³⁶ Wikipedia, <http://en.wikipedia.org/wiki/Eucalyptus>, accessed 19 Nov. 07.

³⁷ ...as we were told by a Stora Enso manager in Porto Alegre in August 2006. This is not a secret; multinationals invest in the South partly because the yield per hectare of wood production is much higher than in the Northern hemisphere.

³⁸ Anne Petermann & Orin Langelle (2006) 'Plantations, Indigenous Rights, & GE Trees', *Z Magazine*, 19(3), <http://zmagazine.zmag.org/Mar2006/langelle0306.html>.

³⁹ Héctor Rubio, quoted in *El Corte de Gualaguaychú*, *op. cit.*, p. 44, my translation.

⁴⁰ Ricardo Carrere (2006) *Greenwash: Critical analysis of FSC certification of industrial tree monocultures in Uruguay*. Montevideo: World Rainforest Movement, <http://www.wrm.org.uy/countries/Uruguay/text.pdf>.

researchers visited an area called Paraje Pence in the department of Soriano to investigate the impact of the plantations on water supply. “All the people here have been left with no water,” one of the local men told them. “I have a little bit but the well is dirty. Close to here where my father lives there’s no water at all.” Another villager told WRM, “I’ve lived here my whole life, and we never had any problems with water until they established all these plantations around eight years ago. Now we depend on the local government to bring us water.”⁴¹

- *Extensive pesticides usage*: In regions with large-scale eucalyptus plantations ‘the rivers have been degraded by pollution caused by wide-spread use of pesticides and a process of desiccation..., compromising fishing and the quality and quantity of drinking water.’⁴² ‘Plantation managers use herbicides and pesticides to ensure that their tree plantations remain monocultures.’⁴³ ‘From the perspective of the pulp industry an ideal tree plantation would have row upon row of identical fast growing trees, with straight trunks and few branches. The trees would be resistant to pests and diseases, tolerant of repeated herbicide spraying and would be easy to pulp’... ‘If the lack of water were not already a serious enough situation, the little water that remains has been contaminated by pesticides and herbicides, which are sprayed onto the eucalyptus and then washed off by rain and carried by runoff to rivers and streams. This has led to the extermination of water fauna (another source of food for the population). People who consume from the river have also been contaminated. There have been cases of blindness caused by contaminated waters reported in some communities.’⁴⁴
- *Monoculture vs biodiversity*: Eucalyptus forests are also called ‘green deserts’ because they allow nothing else to grow within them. In fact, calling them ‘forests’ is misleading; they should be regarded as agricultural plantations, as one forestry expert confirmed to us. ‘From a biological perspective, eucalyptus forests are inferior to other types of reforestation, due to their homogeneity and low biodiversity. In this sense, the use of the term “forest” for these plantations is misleading, but it continues to be manipulated as an ideological tool by the cellulose-producing companies.’ In a rainforest there are hundreds of species of trees, birds, mammals, reptiles, amphibians and insects. None of these can be supported by eucalyptus monoculture ‘forests’.⁴⁵
- *Genetically modified (GM) trees*: ‘Making clean white paper from trees is a dirty business. To make bleached kraft pulp, trees are chipped, cooked under pressure, washed and then bleached. Toxic chemicals are used in the cooking process to remove lignin, a glue-like substance that holds wood cells together and makes trees strong. As lignin causes yellowing of paper, any lignin remaining has to be bleached. Forestry scientists believe they have found a way of making paper from trees less polluting. Through genetic engineering they can produce trees with reduced levels of lignin or with lignin that can be more easily extracted.... The risks associated with reduced-lignin GM trees include trees which are weakened structurally and which are more vulnerable to storms. Reduced-lignin trees are more susceptible to viral infections. Reducing lignin can reduce trees’ defences to pest attack, which would lead to increased pesticide use. Low-lignin trees will rot more readily, with serious impacts on soil structure and forest ecology. If reduced-lignin GM trees were to cross with forest trees these impacts would not be limited to plantations. Trees that cannot resist storms and which are at risk from attack by pests and viral infections would bring the survival of natural forests into question.’⁴⁶

Besides these ‘side effects’, there is one set of negative impacts that are often forgotten when Western companies and consumers wanting to offset their ‘carbon-guilt’ by valorising ‘reforestation’ (bearing in

⁴¹ Quoted by Chris Lang, <http://chrislang.org/2007/05/24/subsidies-and-the-botnia-pulp-mill>.

⁴² World Rainforest Movement (2003) Bulletin N° 72, <http://www.wrm.org.uy/bulletin/72/Brazil.html>.

⁴³ Chris Lang (2004) ‘Social and environmental impacts of industrial tree plantations’, Presentation at WRM/WALHI Southeast Asia Regional Meeting on Oil Palm and Pulpwood Plantations, 29 November, <http://chrislang.org/2004/12/02/social-and-environmental-impacts-of-industrial-tree-plantations/>

⁴⁴ FASE/Green Desert Alert Network (2002) ‘Economic, Social, Cultural and Environmental Rights Violations in Eucalyptus Monoculture: Aracruz Cellulose and the State of Espírito Santo’, p.27, http://www2.fase.org.br/downloads/2004/09/553_relat_desc_es_ing.pdf.

⁴⁵ *ibid.*, p.25.

⁴⁶ *Pulp Mills, op. cit.*, p.37-38.

mind that the Pampas are a natural grassland), as if planting a tree is something good in itself. On the contrary, planting trees is big agro-business these days, involving large *latifundias*,⁴⁷ huge farms covering vast amounts of fertile lands, which, on some stage have been violently taken away from indigenous people. As Eduardo Galeano has described so vividly in this book *The Open Veins of Latin America*,⁴⁸ ever since the so-called discovery of Latin America the continent and its vast lands were a colonial tool to produce monocultures that were in high demand in Europe. First it was sugar. Then it was coffee, cacao, cotton. Today it is soya, mais, and of course eucalyptus. These monocultures are often made possible because the national oligarchy as well as foreign proprietors own vast areas of land, which is intensively used to produce monocultures that are shipped to Europe and other parts of the rich world, while local peasants often have no land at all, driving them into the vast cities, such as Sao Paulo, Rio de Janeiro and Buenos Aires. In other words, eucalyptus plantations sediment colonial-style unequal land rights, which many social movements in Latin America and around the world have been resisting ever since colonisation began.

The MST, the Landless Workers' Movement in Brazil,⁴⁹ for example, 'has achieved great notoriety for their successful campaigns to take back land from large landowners and redistribute it to landless peasants. They...had recently taken over a portion of a plantation owned by Aracruz Cellulose and removed the trees and built their camp, complete with a well, a community space, and a very elaborate system of non-hierarchical decision-making'.⁵⁰ The MST has also been engaged in the fight against Aracruz in the Brazilian state of Espirito Santo, where indigenous communities have been struggling to reclaim thousands of hectares of land stolen from them under the Brazilian dictatorship in the 1970s. In August 2007 the Tupinikims and Guarani indigenous people finally declared victory when the Brazilian government decided that Aracruz needs to return 14,227 hectares of land, as they have been illegally occupied by the company.⁵¹ This story, however, is just the tip of a big iceberg that has its origins in the violent colonialism practiced in South America over the past five centuries. Tree plantations are a new form of colonialism, although today, of course, this is largely sold to local people as 'development'.

'Development' is a word often used in the South, often in conjunction with 'economic benefits', 'trade' and 'job creation'. Take, for example, the discourse put forward by the IFC, the World Bank institution financing the Botnia pulp mill: 'As a development institution, IFC finances projects that benefit emerging economies and local communities. The [Botnia] project will have a significant, positive impact on the economy of Uruguay. It is expected to generate revenues equivalent to 2 percent of the country's GDP (based on 2005 figures) and more than 8 percent of the country's exports annually for an estimated 30 years of full production. The employment impacts will also be significant. The project is expected to create 2,500 jobs, of which 300 in the mill and 2,200 in related forestry and local transport. This project represents the largest foreign investment in Uruguay's history and will establish the country as one of the world's major pulp exporters. Moreover, this project fits in with the World Bank Group's long-term strategy for the development of Uruguay, which recommended investments in forestry and in the diversification of the country's export base to increase its competitiveness globally'.⁵² Botnia even claims that '8000 jobs will be created in Uruguay, of which 5000 [are] direct and

⁴⁷ Wikipedia, <http://en.wikipedia.org/wiki/Latifundia>, accessed 3 Dec. 07.

⁴⁸ Eduardo Galeano (1998) *Open Veins of Latin America: Five Centuries of the Pillage of a Continent*. London: Latin America Bureau.

⁴⁹ MST stands for Movimento dos Trabalhadores Rurais Sem Terra, <http://www.mstbrazil.org>.

⁵⁰ 'Plantations, Indigenous Rights, & GE Trees', *op. cit.*

⁵¹ MST (2007) 'Brazilian Government: The Lands Occupied by Aracruz Should be Returned to the Indigenous', <http://www.mstbrazil.org/?q=aracruzdefeatedbrazil2007>.

⁵² IFC (n.d.) 'FAQs: Uruguayan Pulp Mills', http://www.ifc.org/ifcext/lac.nsf/Content/Uruguay_PulpMills_FAQ.

3000 indirect’,⁵³ which seems rather inflated, given that in these figures jobs are included that have pre-existed the investment in the pulp mill.⁵⁴

But let us dissect these ‘development’ claims further. The first thing to realise is that the plant is being built in a so-called ‘Zona Franca’, a Free Trade Zone: “A Free Trade Zone is a zone that a country grants to certain corporations where they don’t pay anything. There no taxes are paid; it is as if one goes from one country to another. And there they also have their own private port from where they export.”⁵⁵ There have been many Free Trade Zones installed in so-called ‘developing countries’ over the past decades. The idea is that a designated area is used to provide easy investment opportunities for multinational companies without ‘burdening’ them with national taxes and other unwanted costs. So, in Fray Bentos, the ‘land area was rented [to Botnia] for \$20,000 for 30 years, which is practically nothing. The special legislation of the Zona Franca free trade area will guarantee that Botnia does not have to pay any customs duty on machinery and equipment imports; which equals nearly one hundred million euros tax relief in a billion euro project. The majority of the equipment is manufactured in Finland. Furthermore, the company will not pay income tax under the free trade area contract. It will pay source tax on dividends, services and assembling work. The profits will mainly be given in the form of dividends to foreign shareholders and thus exported out of the country;’ that is, back to Finland. So, it’s actually a development of the Finnish economy. It’s not surprising that the Finnish government is a very active supporter of the Botnia investment in Uruguay.⁵⁶ Furthermore, the government has ‘provided forestry companies with generous subsidies, soft credits, and tax exemptions. Over 12 years, the Uruguayan government’s support for this sector exceeded \$500 million in tax exemptions and direct disbursements, an amount representing almost 4 percent of the country’s annual GDP. To facilitate the transportation and export of the wood, the governments of the day made further investments in new ports, bridges, roads, and railway lines.’⁵⁷ While this could all be seen as long-term investment in the economic growth of the country, the ‘problem is that future investors will certainly demand equal treatment from the state, and the companies will continue to avoid paying taxes. A factory of this size is a powerful economic agent in a country like Uruguay; granting tax exemptions to encourage foreign investment means that this power is transferred to foreign companies.’⁵⁸

What we can therefore observe is the recreation of those unequal power relationships between North and South that have been in place ever since the colonisation of South America 500 years ago. This is a relationship of ‘dependency’, as many Latin American authors have suggested, sedimenting the region’s ‘underdevelopment’.⁵⁹ This dependency can also be made explicit by the fact that virtually all of the production of the Botnia mill will go into export, serving the Northerners wasteful consumption of ever more pulp and paper – people in the North/ West consume up to 430 kg per head per year, as in Finland, compared to only about 40-50 kg in the Pampas region.⁶⁰ This means that the jobs that are being created in the South are dependent on the wasteful over-consumption in the North, where a lot of paper is needed in the so-called ‘knowledge economy’ for producing reports, print-outs of emails, advertising, government policy documents, etc, that in turn dictate how the South is to be ‘developed’.

⁵³ Botnia (n.d.) ‘Project overview’, <http://www.botnia.com/en/default.asp?path=204,1490,1494>, accessed 3 Dec. 07.

⁵⁴ See also the ‘Open letter to the International Finance Corporation on Pulp Mill in Uruguay’ by Uruguayan and Argentinean organisations and individuals, http://www.wrm.org.uy/actors/WB/Letter_Uruguay.html.

⁵⁵ Julia Cocaro in *El Corte de Gualeguaychú*, *op. cit.*, p. 38.

⁵⁶ Jorma Penttinen (2006) ‘Pulp reality, tax fiction’, *Tax Justice Focus*, 2(1):1-2, http://www.taxjustice.net/cms/upload/pdf/Tax_Justice_Focus_Q1_2006_vol_2_no_1.pdf.

⁵⁷ Raúl Pierri (2006) ‘Pulp Factions: Uruguay’s Environmentalists v. Big Paper’, *Corporate Watch*, <http://www.corpwatch.org/article.php?id=13111>.

⁵⁸ Chris Lang reports that ‘a large part of the financing for Botnia’s pulp mill comes from public institutions, including: the International Finance Corporation (US\$ 170 million in loans); the Multilateral Investment Guarantee Agency (US\$ 350 million guarantee); Finland’s export credit agency, Finnvera (US\$ 330 million in reinsurance and buyer credit guarantee); the Nordic Investment Bank (US\$ 70 million). In addition, Finnfund, a Finnish state-owned “development finance company”, has given three loans to Botnia’s plantation subsidiary Forestal Oriental to help establish eucalyptus monocultures to feed the mill’, <http://chrislang.org/2007/06/30/banks-pulp-people-part-1>, accessed 3 Dec. 07.

⁵⁹ See, for example, Celso Furtado (1967) *Development and Underdevelopment*. Berkley, CA: University of California Press.

⁶⁰ World Rainforest Movement (2004) Bulletin, 83, <http://www.wrm.org.uy/bulletin/83/scenario.html>.

What is not taken into account by the IFC and other ‘development’ institutions is the amount of jobs that are actually being destroyed by international divisions of labour and international trade of this type. MST, for example, says that ‘a corporation such as Aracruz creates only one job for each 185 hectares planted, while a small farm property creates one job per hectare;’⁶¹ a Via Campesina poster even claims 5 jobs for every hectare.⁶² Whatever the number, the message that these social movements try to bring across is that they represent ‘real’ development; not development dependent on foreign wasteful consumption, not development that exports all the taxes and products to the North. Instead, it is a development by the locals for the locals; a development where ‘100% of production [is] destined for the tables of Brazilian workers’.⁶³ This is the complete antithesis to the development claims made by Aracruz, Botnia, local and foreign governments as well as the international ‘development’ institutions, which operate within an ideology that only allows us to think of development in terms of global trade, comparative advantages between countries and foreign direct investment. It is the argument of ‘dependency theorists’ that it is precisely this development ideology that has locked continents like South America into an eternal age of ‘underdevelopment’. In this way the Botnia mill can be seen, not as a development, but as an ‘underdevelopment’ project.

While all this evidence against this type of ‘development’ is mounting, many more Northern multinationals are discovering that there is money to be made in the South with tree plantations: “‘Stora Enso is already buying up land for forestry,’” the WRM warns. “‘It wants to acquire a total of 100,000 hectares to plant trees that it will convert to pulp for paper production. This will further reinforce the monoculture-pulp mills model, which drives out productive activities, causes serious environmental problems, and forces rural populations off their lands.’”⁶⁴ But with every new pulp mill, every new eucalyptus plantation, the resistance against this type of ‘development’ is rising.

On 8 March 2006, on International Women’s Day, about 2000 women from Via Campesina occupied an Aracruz plantation in Rio Grande do Sul.⁶⁵ ‘They were denouncing the social and environmental impacts of the growing green desert created by eucalyptus monocultures.’⁶⁶ On 17 April 2006, the International Day of Peasant Struggle, a manifesto was published by the MST in solidarity with the Via Campesina women, which is worth including here in full for its sheer power, passion and beauty:

THE SEEDLINGS BROKE THE SILENCE

<p>There was a sepulchral silence over the eighteen thousand hectares stolen from the tupi-guarani peoples over ten thousand quilombola families evicted from their territories over millions of litters of herbicides poured in the plantations</p> <p>There was a promiscuous silence over the chlorine used for whitening paper producing carcinogenic toxins which affect plants, animals and people.</p>	<p>II Suddenly, thousands of women got together and destroyed seedlings the oppression and lie The seedlings shouted all of a sudden and no less than suddenly the smile of bourgeoisies became amazement became a grimace, disorientation</p> <p>III</p>
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⁶¹ MST (2006) ‘Women of La Via Campesina Take Action Against the Green Desert on International Women’s Day’, <http://www.mstbrazil.org/?q=viacampesinaactionmarch8>, accessed 3 Dec. 07.

⁶² Via Campesina advert http://viacampesina.org/main_en/images/stories/pdf/panfleto_dverde_ing.pdf.

⁶³ *ibid.*

⁶⁴ ‘Pulp Factions: Uruguay’s Environmentalists v. Big Paper’, *op. cit.*

⁶⁵ ‘Women of La Via Campesina Take Action...’, *op. cit.*

⁶⁶ Via Campesina (1006) ‘Solidarity action with the Women of La Via Campesina in Rio Grande do Sur (Brazil)’, http://www.viacampesina.org/main_en/index.php?option=com_content&task=view&id=129&Itemid=37, accessed 3 Dec. 07.

over the disappearance
 of more than four hundred bird species
 and forty mammals
 in the north of Espírito Santo
 There was an insurmountable silence
 about the nature of a plant
 that consumes thirty liters of water/day
 and does not give flowers or seeds
 about a plantation that produced billions
 and more billions of dollars
 for just a half a dozen gentlemen
 There was a thick silence
 over thousands of hectares accumulated
 in Espírito Santo, Minas, Bahia
 and Rio Grande do Sul
 There was an accomplice silence
 over the destruction of the Atlantic Forest and
 the pampas due to the homogenous cultivation
 of a single tree:
 eucalyptus
 There was a bought silence
 over the voluptuousness for profit
 Yes, there was a global silence
 over Swedish capital
 over Norwegian companies
 over large national stalls
 Finally,
 there was an immense green desert
 in concert with silence

The order raised incredulous
 crying out progress and science
 imprecating in vulgar terms
 obscenity and bad language
 Newspapers, radios, magazines,
 the Internet and TV,
 and advertisers
 well spoken businessmen
 crawling advisers
 clever technicians
 reluctant governments
 the yelling right
 and all the centre extremists
 in chorus, echo,
 assemblies and declarations
 to defend capital:
 "They cannot break the silence!"
 And cried for beheading!

IV
 Suddenly
 no less than suddenly
 thousands of women
 destroyed the silence
 On that day
 the so called Aracruz' land
 the women from Via Campesina
 were our gesture
 were our voice.⁶⁷

The passion in these poetic words cannot but amaze. The women of Via Campesina, the international peasant movement, are celebrated as heroes for their resistance against multinational, tree planting agro-businesses and pulp companies because the MST and other social movements know that these companies, which are in receipt of large amounts of 'development' money from local and foreign governments as well as international finance institutions, threaten the livelihood of many communities and people. They shout: 'We are against green deserts, the enormous plantations of eucalyptus, acácia and pines for cellulose, that cover thousands of hectares in Brazil and Latin America. When the green desert advances, biodiversity is destroyed, soils deteriorate, rivers dry up. Moreover cellulose plants pollute air and water and threaten human health'.⁶⁸ But their voices are rarely being heard by the IFC and national and local governments in the Pampas region.

But the resistance against pulp mills and eucalyptus plantations is growing in the wider region, much of which has been inspired by the long struggle of the The Citizens' Environmental Assembly of Gualeguaychú against the construction of the Botnia plant in Uruguay. As outlined above, Gualeguaychú is a small Argentinean town on the banks of the Rio Uruguay, just opposite Botnia's new pulp producing monster. The people of Gualeguaychú, which is famous in the region for its annual carnival and natural river beauties, have been self-organising in a public Assembly, housed in an old theatre, to protest and plan actions against the 'development' project across the river in Uruguay. They have been so successful that this case became national Argentinean news for much of three years. Although they didn't manage to stop the construction of the Botnia plant, they were successful in delaying the construction of another pulp mill by ENCE, the Spanish multinational, which was supposed to be built just next to the Botnia giant. The Spanish project is now on hold, but company planners are looking to build the plant further down the river away from the mighty citizens of Gualeguaychú.

⁶⁷ *Ibid.*

⁶⁸ Via Campesina (2006) 'La Via Campesina women occupy a farm in South Brazil', 8 March, http://www.viacampesina.org/main_en/index.php?option=com_content&task=view&id=114&Itemid=37

What is so fascinating about the Assembly in Gualaguaychú is that it is a representation of a popular cross-section of the population of the town of about 80,000 inhabitants. ‘In the Citizen’s Assembly of Gualaguaychú they are university teachers, business people, professionals, public and private employees, students, pensioners, farmers, artists, which is to say, people of all social sectors.’⁶⁹ But it wasn’t always like this. At the beginning there were only a few environmentalists in Gualaguaychú who got contacted by the people of MOVTTDES who were active across the river in Fray Bentos, the Uruguayan town where the Botnia plant has been built. Also involved were environmental organisations from Montevideo in Uruguay who have been concerned about the new Forestry Law that was passed in Uruguay at the end of the 1990s, paving the way for the introduction of large eucalyptus plantations and cellulose plants. But as these environmentalists started to raise awareness in the wider region about the dangers of eucalyptus plantations and pulp mills, they managed to inspire a whole host of people from different backgrounds and walks of life to take action in their own hands, as local political parties and governments didn’t, at first, take an interest in this.

The resistance that resulted from this self-organisation has been one of the most sustained attacks against the pulp and paper industry. The Assembly has organised road blockades, ‘web-marches’, legal challenges against Uruguay, and a whole host of other more clandestine actions, such as the imitation of the corporate website of Botnia.⁷⁰ Although the Botnia mill has recently entered into its test production phase, the struggle continues, as the Assembly’s website, www.noalapelera.com.ar, shows. ‘No a la papeleras, Si a la vida!’ [No to the cellulose plants, Yes to life!] – this is the slogan the Assembly has used for its resistance campaign. It can be seen everywhere in the city: on cars, in almost all shops, in restaurants, hotels, on billboards.

What this case shows is that there is plenty of resistance in the South against eucalyptus plantations and pulp mills. The problem is that this resistance often doesn’t have a voice in the North, where well-meaning consumers are lured into the belief that the paper they consume or the tree-planting offset programmes they enter adhere to sound sustainability claims that often accompany them. Part of what I’m trying to do here is help making visible the invisible links between Northern consumption, on the one hand, and Southern realities on the ground marked by resistance movements, on the other.

One of the main invisible links between North and South that has a direct impact on the financing of the Botnia mill and hence the people in Fray Bentos, Gualaguaychú and the wider region is the Clean Development Mechanism (CDM) ‘offsetting’ project that Botnia plans to undertake, which takes us back to the two images with which we started this paper. The company says that ‘the proposed CDM project consists of about 32 MW biomass-based surplus electricity generations. Electricity will be generated in the power plant that is part of a pulp mill and will be situated in the mill site... The amount of surplus electricity...according to preliminary design values about 270 GWh annually. This would be enough to supply all the electricity consumed by 150,000 Uruguayan homes... The project is designed to use black liquor from the pulping process for steam and electricity generation in the recovery boiler. Black liquor is renewable biomass material derived from eucalyptus. Burning of black liquor does not produce greenhouse gas emissions because greenhouse gases from biomass burning are bonded in the regrowth of biomass’.⁷¹ Botnia then claims that this eucalyptus-based generation of electricity reduces the amount of greenhouse gases produced by traditional oil and gas-based electricity generation in Uruguay, as it will sell the surplus electricity to the national grid company, offsetting 68,000 tons of carbon dioxide a year.⁷²

⁶⁹ *El Corte de Gualaguaychú*, *op. cit.*, p. 10, my translation.

⁷⁰ See <http://www.botnia.com.ar>.

⁷¹ ‘CDM Project’, *op. cit.*

⁷² IFC (2006) ‘IFC and MIGA Board Approves Orion Pulp Mill in Uruguay’, Press Release, <http://www.ifc.org/ifcext/media.nsf/content/SelectedPressRelease?OpenDocument&UNID=F76F15A5FE7735918525722D0058F472>.

At first, this sounds like a very good thing indeed, doesn't it? Real carbon reductions can be achieved through this CDM-electricity generation project, as it seems. While Botnia is, of course, keen to sell this project to the wider public as one that implements the UN's Kyoto Protocol, the company hopes to get approval for this CDM project primarily because of economic reasons: 'If this project is accepted by the CDM, Botnia will obtain additional profits from the sale of "carbon credits" on the "carbon market" where many polluting states and companies are eager to "compensate" their polluting activities with these bonds that enable them to continue business as usual. For Botnia it is a thoroughly good business: it sells its excess electricity while at the same time selling carbon credits.'⁷³ And all of this just from a by-product of the main production: pulp from eucalyptus. So, effectively, the company squeezes profits out of its problematic eucalyptus plantations three times: first, by selling pulp to the paper hungry North; second, by selling electricity to the Uruguayan grid; third, by selling carbon credits to polluting countries and companies in the North.

Why is this a problem? Does this case not prove the point that green and sustainable development is indeed possible, and that companies which do 'good' can still make a healthy profit; that is, economic growth and profit making are achievable within a green development framework? What I'm arguing in this paper is that the sustainability claims made by Botnia and its financiers are fictitious and even misleading, for the following reasons:

- *First*, the main raw material that is the source of Botnia's three-legged profit machine is eucalyptus, which, as I've outlined in detail above, is mass-produced in very problematic ways, leading to an array of negative impacts on local communities. To simply say that eucalyptus trees are a renewable resource, which qualifies them for the 'green' and 'sustainability' labels so much in demand right now, is misleading, to say the least. Eucalyptus plantations are as problematic as many of the biofuels grown all over the developing world at the moment, leading to shortages in many core food categories,⁷⁴ not to mention the sedimentation of neo-colonial land rights that build the fundament of large agro-business operation throughout the so called 'developing world'.
- *Second*, Botnia's 'green' CDM electricity project is fundamentally linked to the production of pulp, which, as I outlined earlier, can be considered as one of the most polluting industrial processes around. Again, the so called 'green' and 'renewable' electricity generated by Botnia's mill is only made possible because of some very polluting production processes of pulp. In this way, even within the CDM rationale, this project shouldn't be allowed to sell carbon credits to the North, because one important factor for CDM projects to be approved by the UNFCCC⁷⁵ is that they need to be 'additional'.⁷⁶ That is, 'to avoid carbon credits being granted to projects that would have been carried out anyway, the UN's Convention on Climate Change establishes rules to ensure project "additionality"',⁷⁷ which is arguably not given in Botnia's case. In other words, Botnia would have built the biomass electricity plant anyway, because it is needed for generating electricity for its pulp production, and it can make a profit on the surplus electricity generated by selling it to the Uruguayan grid. Following this logic, the profit made out of the CDM carbon credits is a welcomed 'additional profit' for Botnia, but not an 'additional project' that takes carbon out of the atmosphere, as intended by the Kyoto protocol and the UNFCCC.
- *Third*, for Botnia to receive carbon credits for reducing greenhouse gases would make a mockery of at least the spirit of the CDM and the Kyoto protocol, whose main aim is, of course, to reduce the overall concentration of greenhouse gases in the earth's atmosphere. The construction and running of Botnia's pulp mill as well as the overall production of pulp and paper is a very energy intensive process that has already emitted a great amount of carbon and other greenhouse gases, not to

⁷³ WRM (2006) Bulletin, 109, <http://www.wrm.org.uy/bulletin/109/viewpoint.html#Uruguay>.

⁷⁴ For more information, see <http://www.biofuelwatch.org.uk>.

⁷⁵ United Nations Framework Convention on Climate Change (UNFCCC), <http://unfccc.int>

⁷⁶ UNFCCC (n.d.) 'Tool for the demonstration and assessment of additionality (ver 3)', http://cdm.unfccc.int/methodologies/PAMethodologies/AdditionalityTools/Additionality_tool.pdf.

⁷⁷ WRM (2006) Bulletin, 109, *op. cit.*

mention the manifold chemicals involved in pulp production. That is, the ‘total releases of greenhouse effect gases by Botnia will be higher than those that would have occurred in the country without its presence’.⁷⁸ So, when Botnia claims that the electricity is effectively ‘carbon neutral’ – because it is generated out of trees who have absorbed carbon from the atmosphere in the first place – it conveniently “forgets” to mention the releases generated by the project as a whole. On the one hand, it omits to mention the considerable emissions arising from the construction of the factory. On the other hand, it also forgets to mention releases resulting from project operation as a whole. That is to say, the emissions from the factories producing chemicals associated to pulp production; the consumption of fuel by forestry machinery; timber transportation by trucks to the factory – a major operation (calculations involve one truck every 2.5 minutes, 24 hours per day every day of the year); port movements; and fuel consumption by ships taking pulp to paper factories in Finland and China, etc.’⁷⁹ So, ‘what is needed, in [the] first place, is to establish the greenhouse...gas releases base line before starting the mill’s construction. This would allow a serious examination of the net balance of greenhouse effect gas releases resulting from the installation and operation of the Botnia factory. If this were to be done, the result would surely be – on the level of Uruguay – that the release of such gases has substantially increased, which is precisely what the Convention on Climate Change is trying to avoid.’⁸⁰

These are some of the reasons why Botnia’s CDM or ‘offsetting’ project seriously upsets a lot of people who care about the environment and our planet at large. The above points are surely substantive enough to be able to claim that what we’ve got here is a serious case of ‘greenwashing’. That is, Botnia and its ‘development’ financiers want to make us believe that eucalyptus plantations and pulp mills are ‘green’ and ‘sustainable’, where they are clearly not, given that we are talking about an industry with a long track record of pollution, land rights violations and other negative impacts. But, stepping back from the Botnia case, we realise that the ‘greenwashing’ is something much more structural, and indeed something that is endemically built into the whole way ‘carbon offsetting’ is supposed to function. That is, there is something very upsetting and disturbing going on right at the heart of the logic of offsetting itself. To understand this, we need to go back to Eurostar and its new flagship St.Pancras base for its high-speed trains from London to Brussels and Paris.

Eurostar claims that its high-speed train journeys are now ‘carbon neutral’, as it has made significant progress in reducing carbon emissions across its business, and that the remaining emissions ‘will be offset, at no cost to the traveller’.⁸¹ The first thing to note about this claim is that it is very difficult, even sheer impossible, to scrutinise and validate, precisely because the offsetting market is completely unregulated, as virtually anybody can set up an offsetting company and claim to reduce greenhouse gas emissions by investing in carbon reduction programmes. Carbon has become a new commodity. A new ‘wild west’ market has emerged over the past few years that has attracted all sorts of ‘cowboys’.⁸² A simple search on Google reveals the existence of literally hundreds of companies that claim to offset carbon emissions by planting trees or investing into biomass energy, wind turbines and other carbon reduction projects most of which are located in the ‘developing world’.

Climate Care,⁸³ for example, collects money from individuals who worry about their personal carbon emissions when flying to, say, the United Nations Climate Change Conference, which is currently taking place in Bali, Indonesia, as I write these words. On their website I can type into a web-form that I’m flying return from London to Bali, and the computer calculates within seconds that ‘the total mileage flown is 15,549 Miles’; ‘the resulting emissions are: 3.83 Tonnes of CO₂’, and that ‘the cost to

⁷⁸ *ibid.*

⁷⁹ *ibid.*

⁸⁰ *ibid.*

⁸¹ http://www.eurostar.com/UK/uk/leisure/about_eurostar/environment/tread_lightly.jsp, accessed 17 Nov. 07.

⁸² Financial Times (2007) ‘Beware the carbon offsetting cowboys’, 26 April, <http://www.ft.com/cms/s/0/ff960476-f391-11db-9845-000b5df10621.html>.

⁸³ <http://www.climatecare.org>

offset this CO2 will be £28.71.⁸⁴ ‘That’s good value’, I think to myself. Or, if I want to go on a ‘family winter break... to Lapland’ to see how the icecaps are melting because of global warming; not a problem; just add £25 to the Christmas bonanza and you’ve offset ‘3.3 tonnes CO2.’⁸⁵ I can then pay for my offset by credit card virtually within seconds, and off I go with a good conscience that I’ve done something for the environment today. It’s quick, it’s easy. Climate Care then invests this money into projects such as energy efficient stoves in Honduras and Mexico, human-powered water pumps in India or ‘rainforest restoration’ in Uganda.

Businesses, too, are encouraged to offset their carbon emissions. The CarbonNeutral Company,⁸⁶ for examples, helps its clients, which include big car companies, such as Honda and Volvo, as well as airlines, such as Silverjet, to offset their considerable emissions by investing into renewable energy, energy efficiency, methane capture, and, of course, forestry projects around the world. The newly created European Emission Trading Scheme (EU ETS),⁸⁷ which has created a market for the trading of carbon emissions within Europe, even requires countries and big companies now to take part in emissions trading, in order to achieve Europe’s commitment to the Kyoto protocol and the reductions of greenhouse gas emissions it had agreed on.⁸⁸ While the overall aim of the system is to reduce greenhouse gas emissions, the way the market works allows companies, such as BP or Shell, for example, to hardly change the way they conduct their business, because they can offset their emissions by paying into carbon offsetting schemes such as Botnia’s biomass electricity plant discussed above. The precise workings of the EU ETS and the carbon offsetting market are very complex and beyond the scope of this paper to explain in all detail. The overall logic, though, is that these markets are designed to allow big Northern polluters to trade their carbon emissions with those companies and projects that do not pollute as much they do. Effectively, the markets allow the Northern polluters to continue to pollute, but at the cost of offsetting the carbon emissions they produce.

There is now overwhelming evidence that these markets do not work, in terms of the main objective they were created for: reducing greenhouse gas emissions. At best one should say that they have failed to introduce significant carbon reductions; at worst, one needs to accuse them of actually legitimising the further increase in greenhouse gas emissions and prolonging the introduction of the necessary measures that force those Northern countries that have caused climate change to significantly reduce their emissions. I refer the reader to the list of recommended readings, compiled at the end of this paper, to sample the work carried out by activist NGOs and research institutions such as Carbon Trade Watch, Sinks Watch and The Corner House, which clearly shows how these markets fail their main objective of reducing emissions. And more: these ‘greenwashing’ markets sediment unequal power relations between South and North, which condemn ‘developing countries’ to continue to be ‘dependant on an unjust world order where inequality is rising, natural goods are exploited unlimitedly and where poverty and social exclusion are of less importance than market needs’. In this way, ‘even climate change itself, one of the planet’s most serious environmental problems, ends up...giving rise to yet another business – carbon trade – from which’ global corporations, such as Botnia, BP, Shell and many others, can now profit and continue their exploitation of nature’s gifts.⁸⁹

I do not want to belittle or underestimate the efforts some companies, such as Eurostar, undertake in order to reduce their carbon emissions. There are many well-meaning people working for companies who

⁸⁴ Calculations made at <http://www.climatecare.org> on 6 Dec. 07.

⁸⁵ Climate Care, <http://www.climatecare.org/calculators/christmasgift>, accessed 6 Dec. 07.

⁸⁶ <http://www.carbonneutral.com>

⁸⁷ <http://ec.europa.eu/environment/climat/emission.htm>

⁸⁸ ‘The aim of the EU ETS is to help EU Member States achieve compliance with their commitments under the Kyoto Protocol. Emissions trading does not imply new environmental targets, but allows for cheaper compliance with existing targets under the Kyoto Protocol. Letting participating companies buy or sell emission allowances means that the targets can be achieved at least cost. If the Emissions Trading Scheme had not been adopted, other – more costly – measures would have had to be implemented’ (<http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/05/84&format=HTML&aged=1&language=EN&guiLanguage=en>; accessed 7 Dec. 07).

⁸⁹ WRM (2006) Bulletin, 109, *op. cit.*

are probably as much worried about their carbon footprint as environmental activists and NGOs are. However, there is something structural going on here that cannot be superseded by volunteer measures of individuals and companies. As Marx and many others have shown, 'capitalism is in effect on a treadmill, driven by the logic of the system to expand production constantly'.⁹⁰ That is, companies such as Eurostar are condemned to constantly increase the production and consumption of their goods and services in order to increase profits for their shareholders. This is the basic logic, championed in the 'rich' Northern countries, which has caused the climate change the whole world is now fighting against. History has shown that this logic has had a devastating effect on our world, as capitalist production and consumption has used up and devastated our natural world to such an extent that many people say that we've gone beyond the so called 'tipping point'.⁹¹ In order to tackle climate change, should we really put our faith into a logic that has got us into the mess in the first place?

We started this paper with two images: one was set at Eurostar's new St.Pancras International base for its new 'carbon neutral' high-speed train journeys into continental Europe; the other catapulted us thousands of miles away into South America's Pampas region, which currently sees the intensification of the pulp and paper industry, which relies on eucalyptus plantations as the main raw material for its production. What connects these seemingly disconnected images from North and South is the so called Clean Development Mechanism (CDM), which is a system coming out of the Kyoto protocol and run and controlled by the UN in order to tackle global climate change and the reduction of greenhouse gas emissions. I have argued that, although there are no direct links between Eurostar's European train operations and Botnia's pulp mill in Uruguay, there are indirect links that are enabled by an emerging global market of carbon trading and offsetting. I have shown that it is this market that effectively enables Eurostar to claim that its train journeys are now 'carbon neutral', while Botnia, a big pulp multinational based in Finland, is able to increase its profits by taking advantage of a carbon credit system that fails to reduce carbon emissions overall. I have outlined the manifold problems with this type of development, which claims to be 'green' and 'sustainable' – both in the North and South.

Let me be clear here that the 'images' I've chosen are by no means isolated or 'one offs'. Carbon trading and offsetting is an industry that grows at an alarming rate without any serious checks and balances in place that monitor the real progress in reducing carbon emissions worldwide. In September 2006, for example, Celulose Irani was the first Brazilian pulp and paper company to sell carbon credits under the CDM. It sold 'US\$1.2 million worth of carbon credits to Shell which will use the credits to continue exploring, drilling, flaring, spilling and polluting'.⁹² Meanwhile companies like Shell, BP and other big polluters of the North, claim to be becoming much more 'green' and even going 'beyond petroleum', which many believe is not more than a marketing 'gag', as their main business model is based on massive pollutions and carbon emissions around the world.⁹³ This also goes for airlines, which have recently jumped onto the bandwagon of carbon offsetting. When you take your next flight with EasyJet⁹⁴ or Virgin Blue,⁹⁵ for example when going onto a one-day shopping trip to Paris or Berlin, make sure you pay a little bit extra to offset your carbon emissions. The message this sends is that we don't have to alter our behaviour at all; we just have to pay a little extra, and everything will be fine. That is, we can continue to consume, we can continue to grow our economies; all this is possible if we only pay a little bit extra offsetting our carbon emissions. That our offsetting money might contribute to the pollution of rivers and the sedimentation of unequal land rights in South America, we are not told. That our money is used to increase the profits of a pulp and paper company that exports

⁹⁰ Penny Cole & Philip Wade (2007) *Running a Temperature: An action plan for the eco-crisis*. London: Lupus Books, p. 33, <http://www.aworldtwin.net/about/RunningATemperature.html>.

⁹¹ *Ibid.*

⁹² Chris Lang (2006) 'Paper production + oil = clean development', <http://pulpinc.wordpress.com/2006/09/12/paper-production-oil-clean-development>, accessed 7 Dec. 07.

⁹³ See my video montage 'Im-material Siberia', http://www.archive.org/details/im-material_siberia_steffen_boehm_2006.

⁹⁴ <http://www.easyjet.com/EN/Environment/index.html>, accessed, 7 Dec. 07.

⁹⁵ <http://www.virginblue.com.au/carbonoffset/>, accessed 7 Dec. 07.

its polluting production to the paper-hungry North⁹⁶ so that we can continue to print out our millions of emails – all this is not part of the picture that is seen when we buy our carbon credits. What seems to be really going on here is that the rich North has found a way to offset not its carbon emissions but its guilt.

Further Reading

- Anonymous (2004) 'Climate Justice Now! The Durban Declaration on Carbon Trading', <http://www.carbontradewatch.org/durban/durbandec.html>.
- Bond, P. and Dada, R. (eds.) (2005) *Trouble in the Air: Global warming and the privatised atmosphere*. Centre for Civil Society (South Africa) and Transnational Institute (The Netherlands), http://www.carbontradewatch.org/pubs/CCS_ENERGYSERIES_1005_COMPLETE.pdf.
- Channel 4 (2007) 'Great Green Smokescreen', broadcast: 16 July 2007 8pm, <http://www.channel4.com/news/articles/dispatches/the%2Bgreat%2Bgreen%2Bsmokescreen/589267>.
- Cundy, C. (2007) 'Trading Our Way into Trouble?', *Environmental Finance*, May: S24-S26, <http://www.thecornerhouse.org.uk/pdf/document/TradingTrouble.pdf>
- Forsyth, T. and Young, Z. (2007) 'Climate Change CO2lonialism', *Mute: Culture & Politics after the Net*, 2(5), <http://www.metamute.org/en/Climate-Change-CO2lonialism>
- Goodall, C. (2007) *How to Live a Low-carbon Life: The Individual's Guide to Stopping Climate Change*. London: Earthscan.
- Labatt, S. and White, R.R. (2007) *Carbon Finance: The Financial Implications of Climate Change*. Chichester: Wiley.
- Lang, C. (2007) *Banks, Pulp and People: A Primer on Upcoming International Pulp Projects*. Urgewald, http://www.pulpmillwatch.org/media/pdf/BPP_A_FIN_2.pdf.
- Lang, C. and Byakola, T. (2006) "A funny place to store carbon": UWA-FACE Foundation's tree planting project in Mount Elgon National Park, Uganda. World Rainforest Movement, <http://www.wrm.org.uy/countries/Uganda/book.html>.
- Lohmann, L. (1999) 'The Dyson Effect: Carbon 'Offset' Forestry and The Privatization of the Atmosphere', *Corner House Briefing*, 15, <http://www.thecornerhouse.org.uk/item.shtml?x=51971>.
- Lohmann, L. (2005) 'Making and Marketing Carbon Dumps: Commodification, Calculation and Counterfactuals in Climate Change Mitigation', *Science as Culture*, 14(3): 203–235, <http://www.thecornerhouse.org.uk/pdf/document/carbdump.pdf>.
- Lohmann, L. (2006) 'Carry on polluting', *New Scientist*, 2 December, 18, <http://www.thecornerhouse.org.uk/pdf/document/NewSciCarryOnPolluting.pdf>.
- Lohmann, L. (ed.) (2006) 'Carbon Trading: A critical conversation on climate change, privatisation and power', *Development Dialogue*, no. 48, http://www.dhf.uu.se/pdffiler/DD2006_48_carbon_trading/carbon_trading_web.pdf.
- Monbiot, G. (2006) *Heat. How to stop the planet burning*. London: Penguin.
- Smith, K. (2007) 'The Limits of Free Market Logic', *China Dialogue*, 19th September, <http://www.thecornerhouse.org.uk/pdf/document/LimitsFML.pdf>.
- Smith, K. (2007) *The Carbon Neutral Myth Offset Indulgences for your Climate Sins*. Amsterdam: Transnational Institute.
- TNI-FASE (2003) 'Where the 'Trees stories from the ground are a Desert', FASE-ES, Alert Against the Green Desert Movement & Carbon Trade Watch, <http://www.carbontradewatch.org/durban/trees.pdf>
- Yamin, F. (ed.) (2005) *Climate Change and Carbon Markets: A Handbook of Emissions Reduction Mechanisms*. London: Earthscan.

⁹⁶ 'British office workers print out a paper mountain more than eight miles high every year, according to a survey. This added up to 120 billion pieces of paper with the average worker printing out 22 sheets every working day' (Daily Telegraph, 2007, 'UK offices "print paper mountains"', 15 October, <http://www.telegraph.co.uk/earth/main.jhtml?xml=/earth/2007/10/15/capaper115.xml>).

Young, Z. (2002) *A New Green Order? The World Bank and the Politics of the Global Environment Facility*.
London: London, <http://www.newgreenorder.info>.

Websites:

<http://www.sinkswatch.org>

<http://www.carbontradewatch.org>

<http://www.thecornerhouse.org.uk>

<http://www.pulpmillwatch.org>

<http://www.wrm.org.uy>

No Carbon Trade mailing list:

<http://mailman-new.greennet.org.uk/mailman/listinfo/nocarbontrade-l>