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The paper was commissioned by the **OWINFS Trade and Climate Change Working Group**. It was written by **Ronnie Hall** (ronnihall@googlemail.com)

Supporting members of the OWINFS Trade and Climate Working Group include:

Campaign for the Reform of the World Bank, Italy
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Focus on the Global South
Friends of the Earth Europe
Global Forest Coalition
International Forum on Globalization, US
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Change Trade, Not our Climate!

One way or another **change** is on the way: if we don't **change** the rules of the global economy we won't be able to limit climate **change**

Why? Because current global trade rules and priorities:

- *contribute* to climate change
- *stop* governments taking action on climate change at home
- *prevent* effective intergovernmental collaboration and
- *limit* countries' and communities' ability to adapt to a changing climate

Trade rules also contributed to the current financial crisis.

Members of Our World Is Not For Sale believe the answer is clear: we must **change** the rules of the global economy if we are to avoid the worst impacts of climate change.

A new approach, that puts the long-term health of the planet and the well-being of all its people before short-term considerations, would be better for our climate, better for people *and* better for our economies.

Climate Justice! - the kind of **change** we need right now!

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Executive Summary

One way or another change is on the way: if we don't change the rules of the global economy we won't be able to limit climate change.

The current neoliberal economic model stands in the way of a swift and effective response to climate change. International trade and investment agreements are a driving factor behind the growth of energy-intensive industrial sectors, the continued extraction and processing of fossil fuels, and the expansion of intensive agriculture. These carbon-hungry activities also contribute to the relentless destruction of climate-regulating forests; and international transport is responsible for a significant chunk of annual greenhouse gas emissions.

At the same time, various trade and investment rules place severe constraints on what governments can actually do to promote low-carbon alternatives or help people adapt to climate change. Rules on intellectual property rights, in particular, push up the cost of climate-friendly technologies, making it impossible for developing countries to switch to sustainable low-carbon and climate-resilient development. Rules on subsidies could also prevent financial support being made available for the development of climate-friendly fuels or technologies.

Rules on the patenting of life forms could also prevent farmers adapting food production in response to climate change, with severe impacts on food security. In addition, the world's largest seed and agrochemical corporations are already stockpiling hundreds of monopoly patents on genes in plants to be marketed as climate-resilient crops able to withstand drought, heat, cold, floods, saline soils, and more, reducing people's control over adaptation to climate change.

A number of countries are also using the WTO to pursue the liberalization of energy services, which could place further constraints on governments' ability to implement national policies intended to reduce reliance on energy imports or shift to sustainable energy sources. A number of countries have also used the WTO's Non-Agricultural Market Access (NAMA) negotiations to object to climate-related 'non-tariff barriers', which include national energy efficiency measures already in place.

WTO rules also frustrate attempts to protect and promote sustainable small-scale forms of agriculture, even though producing food in this way has minimal climate impacts compared with industrial agriculture, enhances food security and reduces deforestation. Sustainable agriculture also helps people to diversify food production in response to changing weather patterns. Adapting food production is absolutely critical: the vast majority of the world's 1.5 billion poor and food-insecure depend on agriculture, forestry and fisheries for their livelihoods, and these are all likely to be severely impacted by climate change.

Trade and investment rules also allow corporations to fight the imposition of laws and regulations intended to protect against climate change. Bilateral investment treaties, for example, make it much easier for large corporations to shift their centre of operations (and their tax payments) to other locations. Industrial lobbyists are not slow to make this point to governments if they are thought to be considering policies that are difficult or costly for industry to implement.

Governments' fixation on maintaining economies' and industries' competitiveness in the face of increased international competition also presents a major hurdle to implementing climate change mitigation policies. As countries have progressively

engaged in international trade, they have also become more dependent upon it. As a result, governments are ever more reluctant to introduce costly climate-friendly policies, such as carbon taxes: these could place their domestic industries at a disadvantage, by increasing their operating costs compared to those of their foreign competitors.

Some propose addressing concerns about competitiveness by applying equalizing 'border tax adjustments' (BTAs) to imports, so that those imports are made correspondingly more expensive. But this approach is highly controversial as it contravenes the principle of common but differentiated responsibility for climate change, and does not address issues such as carbon budgets, climate debt and historical responsibility.

Developing countries negotiating in the UNFCCC have consistently and correctly pointed out that they are not responsible for climate change: as a result they do not have emissions reductions targets under the Kyoto Protocol, and developed countries also have a formal obligation within the UNFCCC (Article 4.3) to help developed countries address the challenges of climate change.

Industrialized countries bear a historical responsibility for climate change, and this responsibility surely includes bearing the cost in terms of lost competitiveness. It also includes a responsibility to address the current 'climate debt' that industrialized countries owe developing countries, because they continue to crowd out the atmospheric or 'carbon space' which all countries have a right to share. This is a very real debt, since the impacts of climate change are already being felt heavily in developing countries, which have done little to cause climate change, but must how develop under its adverse impacts (TWN, 2009).

However, there still remains a difficulty relating to 'carbon leakage' - industrial migration to countries without emissions reductions targets. If such carbon leakage occurs, the imposition of tough emissions reduction standards in industrialized countries could still result in low or no carbon emissions reductions overall. It would simply drive industries from one set of countries to another (a move that is itself facilitated by trade and investment liberalization agreements). 'Carbon leakage' could therefore bring efforts to mitigate climate change to a grinding halt: in the long-term, it would be a lose-lose solution for everyone. Dealing with climate change effectively means accounting for and addressing the emissions related to the overconsumption of products, primarily in developed countries: this is a key driver of climate change.

Ultimately, there have to be sufficient incentives built in to climate, development and other intergovernmental negotiations for developing countries to believe that their concerns are being taken seriously by rich industrialized countries, and acted upon. This is not currently the case. The EU for example, is in the midst of Economic Partnership Agreement negotiations with some of the poorest countries in the world, in Africa, the Caribbean and the Pacific, in which it is ruthlessly seeking to open up their markets to European exports and offering very little in return (FoE, 2008). Thus people risk becoming poorer as a direct result of trade agreements, and consequently less able to cope with the impacts of climate change. It is hardly surprising that developing countries do not trust their industrialized counterparts.

Companies that feel the terms of bilateral investment agreements between countries have been transgressed are also able to challenge nation states directly, through the International Centre for Settlement of Investment Disputes (ICSID), the UN Commission on International Trade Law (UNCITRAL) and other arbitration bodies. At the time of writing, for example, there were at least 49 pending energy-related

disputes before ICSID, almost all of which concern developing countries being taken to court by energy multinationals.

This tension between the worlds of trade and climate change thus creates a 'chilling effect' on the development of new climate change policy measures, both nationally and internationally: governments become reluctant to introduce any measures that might be challenged through the trade system. This can apply to national measures individual governments might otherwise implement; national measures that governments might use to fulfill their commitments under multilateral environmental agreements (MEAs); and even to the language agreed in MEA texts themselves.

This dilemma is compounded by the fact that many MEAs leave the precise way in which objectives are to be achieved up to individual governments. Additionally, more recent agreements go a step further and include provisions explicitly advising *against* trade discrimination or 'disguised restrictions' on international trade. The UN Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol on climate change both contain wording along these lines.

This all flies in the face of the climate change imperative: to prevent runaway climate change we need to keep fossil fuels locked up underground, as well as preventing the release of 'over-ground' carbon (such as that stored in forests) into the atmosphere. But governments seem to have become fixated on the trade system, prioritizing business-friendly solutions to climate change. This means we are already banking heavily on the success of a number of 'false solutions', with several more in the pipeline.

The links between some of these 'false solutions' and WTO rules are reasonably clear (certification systems, for example, are clearly constrained by the WTO's rules on 'Technical Barriers to Trade'); others less so (carbon trading, for example). But *all* have been selected on the basis that they do not conflict with trade and investment rules, and because they minimize inconvenience to, or even benefit, industry.

Voluntary certification and labelling systems, such as the Forest Stewardship Council's certification process, are typical of the type of sub-optimal measures that many governments prefer, because they are unlikely to be challenged within the WTO. Certification and labelling are generally developed on a sector-by-sector basis and are particularly susceptible to corporate lobbying. In some cases corporations are even involved in developing and approving the standards themselves. Labels and certificates are popular precisely because they have minimal impacts on trade and are not designed to address excessive consumption.

Similarly, whilst many governments have introduced mandatory (as opposed to voluntary) energy efficiency standards and labels which *have* helped to improve energy efficiency, such labels are still likely to have little or no impact on the actual purchase and use of a wide range of non-essential energy-consuming appliances. This means that such standards are still an insufficient response to climate change on their own.

Labels and certificates can also be used to 'greenwash' products. The use of 'sustainable biofuels' certificates, for example, can mask the severe negative social and environmental impacts that agrofuels can have, including *increased* emissions of greenhouse gases and significant indirect impacts on both people and the environment. Agrofuels certification schemes, such as the Better Sugarcane Initiative and the Roundtable on Sustainable Palm Oil, are again dominated by transnational corporations, and this clearly influences their approach.

Yet the impact of agrofuels on hunger, climate and biodiversity could be just the tip of the iceberg, if plans to roll out another business-friendly biomass-based technology – ‘biochar’ - proceed. Biochar’s proponents claim that biomass waste from urban, agricultural and forestry sources can be converted into and locked up as charcoal, a stable and long-lasting form of carbon, releasing usable bioenergy in the process.

But the production of biochar is dependent upon a supply of cheap biomass and therein lies the main problem. Without regulation, where the ‘waste’ comes from will depend on the comparative cost of different waste – or non-waste – streams, not their suitability from a social or environmental perspective. Thus the large-scale production of charcoal envisaged by some could require many hundreds of millions of hectares of land being converted for biomass production (primarily in the form of tree plantations), which would in turn have incalculable effects on global food production and biodiversity.

Many more ‘false solutions’ are being proposed and implemented, as industry moves to cash-in on climate change. The main risk is that the urgency of the situation, combined with the dominant ‘market-friendly’ approach, will lead to a hasty acceptance of untried and untested technologies, including outlandish geo-engineering experiments, a revival of the once-rejected genetic modification and nuclear industries, and reliance on as yet undeveloped ‘carbon capture and sequestration technologies’ (which is being used to justify the continued use of fossil fuels such as ‘clean coal’).

Governments have also opted to use international trading mechanisms to drive and finance all these climate change measures and technologies. Carbon trading in particular has been and remains central to current climate change efforts, in spite of the fact that it permits the rich, industrialized North to buy its way out of its commitments if necessary, and even though the outcomes of carbon markets to-date have been dubious, to say the least. In particular, the Kyoto Protocol’s Clean Development Mechanism (CDM) has failed. It is rejected by many, because it effectively privatizes the atmosphere, allocating pollution rights to those that can afford to buy them. But even its supporters now recognize that it is also complex, slow and cumbersome, and seems to be riddled with fraud, with *“the vast majority of energy efficiency and renewable energy projects remaining stuck somewhere in the pipeline.”* (World Bank, 2008:4)

A number of regions and countries have also decided to use carbon trading internally to distribute the burden of compliance ‘efficiently’ and at least cost. The biggest and most well known of these is the EU’s Emissions Trading Scheme, which clearly demonstrates some of the disadvantages of using carbon trading schemes, including a distinct susceptibility to corporate lobbying.

Carbon markets, like any other market, are also volatile. Yet instability and unpredictability are hardly desirable characteristics in a determined and structured effort to mitigate climate change. Any factor that causes the price of carbon to drop will make it cheaper for companies to pollute, and thus less likely that they will implement energy efficiency measures or develop new technologies. Uncertainty will also reduce upfront investment in desirable technologies.

The global credit crunch is one such factor: many companies now have emissions allowances they do not need because their output has fallen, so they are selling their surplus emissions allowances to generate funds. This, in turn, is contributing to a fall in the price of carbon that again can make it cheaper to pollute.

Yet many governments seem willing to continue as if nothing were amiss. Ignoring lessons that might be learned from the global financial crisis, they seem determined to press ahead with carbon markets, regardless of the consequences. There are even proposals to use carbon markets to finance a new mechanism, Reducing Emissions from Deforestation in Developing countries (REDD), which is currently being discussed in the UN's climate change negotiations (although an increasing number of governments are beginning to oppose this form of financing, including Bolivia, Brazil, China, El Salvador, Paraguay, and Tuvalu).

Stopping deforestation could certainly make a significant dent in the quantity of greenhouse gases being emitted each year. But a closer analysis shows that some government favor a form of REDD that is not intended to stop deforestation, only to reduce it in a way that is comfortable and convenient for industry. REDD could also be used to reward those engaged in logging and industrial agriculture, whilst ignoring those countries and communities that already have low deforestation rates.

Critically, REDD could also hamper much-needed efforts to mitigate climate change if it is based on a definition of forests that includes plantations. Large-scale monoculture tree plantations cause serious environmental, social and economic problems. Furthermore, they only store 20% or less of the carbon that intact old growth forests do. It thus seems inconceivable that climate change negotiators would sanction any process that allows natural forests to be replaced with plantations. Yet this is exactly what is being proposed by some governments in the climate change talks at the moment.

REDD also refocuses attention on a key moral and legal dilemma – to whom, if anyone, do forests belong? And who has the rights to sell forest carbon credits? It is certainly clear that in the absence of secure land rights, Indigenous Peoples and other forest-dependent communities have no guarantees that they will receive any form of REDD 'incentive' or reward for their extensive forest conservation efforts.

Without resolving these dilemmas, REDD could join the growing list of false and futile solutions to climate change which are currently supported by governments keen to comply with international trade and investment priorities.

The WTO, keen to position itself as part of the 'solution' to climate change, has also proposed the liberalization of 'environmental goods and services' (EGS) as part of the answer. But this is yet another false solution. Unsurprisingly, WTO negotiations have taken a trade-oriented approach to the issue, with countries proposing to liberalize trade in precisely those EGS in which they have a competitive advantage. This is particularly the case in relation to technologies the US and EU hope to export, including traditional 'end-of-pipe' technologies such as waste disposal and wastewater treatment technologies.

But it is not clear that tariff reductions will make much difference to the diffusion of climate friendly technologies, especially compared with the benefits that could be generated by an increase in straightforward and genuine technology transfer for domestic technology development. Tariff reductions could also lead to a loss of tariff revenue, which is a key source of income in many developing countries. Even more importantly, this EGS debate also distracts attention away from the impact that the WTO's Trade-related Intellectual Property Rights (TRIPS) agreement has on the cost of acquiring new technologies, making them prohibitively expensive for developing countries.

Many social movements and civil society organizations, who are members of the Our World Is Not For Sale network, believe the answer is clear: we urgently need to change the rules of the neoliberal, corporate-based global economy, if we are to avoid the worst impacts of climate change. A new approach that puts the long-term health of the planet and the well-being of all its people before short-term considerations, would be better for our climate, better for people *and* better for our economies. To achieve this transformation, governments need to:

- Refocus trade and investment to promote the use of sustainable energy, by stopping trade and investment negotiations and agreements that promote energy-intensive industries; and by redirecting their efforts - and the very substantial public subsidies currently allocated to fossil fuel and agrofuel sectors - into developing and implementing sustain clean, renewable, locally-controlled and low-impact energy resources and technologies, based on the principle of energy sovereignty.
- Remove IPR rules that stop the transfer of low-carbon technologies to developing countries, and threaten food security and farmers' ability to adapt food production to our changing climate; and ensure the transfer of technology and finance that will allow developing countries to make use of existing technologies and develop new ones. (The WTO's turgid trade-oriented 'environmental goods and services' negotiation has little part to play in the development of a swift response to climate change, and is little more than a distraction from the urgent need to address these concerns about IPRs and technology transfer.)
- Transform the way we produce food by protecting and developing sustainable low-impact food production, that promotes food sovereignty, protects family farms, and uses seasonal food to provide first and foremost for local needs, together with changing dietary habits. This would lead to a significant reduction in greenhouse gas emissions, as well as helping to combat hunger. The solutions to the current food and climate crises - both in the short and long term - require a deep and radical shift away from exported-oriented, industrial agriculture. Ultimately, WTO rules should not apply to food and agriculture.
- Stop deforestation by stopping related trade liberalization negotiations, especially those aimed at bans on exports of timber, nailing down demand-side drivers in importing countries and resolving governance, poverty and land tenure issues in forested countries. Funding for efforts to stop deforestation should not come from carbon markets; and any agreements aimed at stopping deforestation must focus on stopping rather than reducing rates of deforestation. In order to be both effective and equitable those efforts must also exclude plantations; and recognize and fully implement the rights of Indigenous Peoples as set out in the UN Declaration on the Rights of Indigenous Peoples (UNDRIPs). Without resolving these dilemmas, proposals such as those concerning Reducing Emissions from Deforestation and Degradation (REDD) could join the growing list of false and futile solutions to climate change.
- Stop corporations influencing policies to combat climate change, including by rescinding bilateral investment treaties, and the investor-to-state dispute resolution mechanisms (including that of the International Centre for Settlement of Investment Disputes), that underpin corporate threats to relocate their operations.

- Abandon false market-based solutions – including problematic labelling and certification schemes, the liberalization of environmental goods and services, agrofuels, ‘biochar’, genetic engineering, geo-engineering, as yet undeveloped ‘carbon capture and sequestration’ (CCS) technologies, and the use of carbon markets to finance and drive these various processes.
- Instead, create a coherent rights-based framework that prioritizes long-term climate change concerns over short-term trade interests; and is based on the fact that effective and enduring solutions to the climate crisis will not come from industrialized countries and big business, but from Indigenous Peoples, peasant communities, fisherfolk, and especially women in these communities, who have been living harmoniously and sustainably with the Earth for millennia.
- Prioritize climate justice and climate debt, not trade and investment. The world’s greatest per capita polluters must make deep cuts in emissions by changing their polluting way of life and transforming their climate-intensive economies. It is time to reverse the export market-oriented development paradigm, and create an alternative vision of sustainable societies based on sovereignty, solidarity and sufficiency. In short, industrialized countries must repay their climate debt. This will undoubtedly impact on energy-intensive industries, and their ability to compete on global markets. But the governments responsible for climate change need to shoulder this burden; they should be rapidly restructuring their economies anyway, as they move to low-carbon economies. However, this transformation could be eased by removing the many trade restrictions and priorities that work to stop governments introducing strict energy efficiency regulations; protecting infant industries; subsidizing the development of climate-friendly technologies; and creating new, green jobs for displaced workers, who should not bear the brunt of climate change.
- Transforming our approach to trade and investment in general could also inject significant positive momentum into global efforts to mitigate and adapt to climate change. Replacing trade and investment liberalizing agreements and negotiations with genuine collaborative intergovernmental efforts to assist developing countries to improve their economies is a prerequisite.

The current neoliberal economic system has to be replaced, if we are to combat climate change. There is no other workable option.

Fuel, food and forests

industry, fuel, food and forests

Manufacturing, industrial agriculture, and transport all contribute to climate change, by emitting damaging greenhouse gases, such as carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O) and hydrofluorocarbons (HFCs). Extensive deforestation – especially to make way for crops that will be exported rather than consumed locally – is also a key culprit.

In 2004, the Intergovernmental Panel on Climate Change (IPCC) estimated that energy supply is responsible for 26% of all human-induced or ‘anthropogenic’ greenhouse gas emissions. Industry follows close behind at 19%, forestry at 17%, agriculture at 14% and transport at 13% (other listed sources are buildings, waste and waste water) (IPCC, 2007). Although the production of energy to fuel our carbon-intensive life styles occupies the top slot, the climate impact of these other sectors cannot be ignored.

The extraction and processing of fossil fuels, and other minerals and metals is particularly intensive. Cement production is notorious: the industry emits nearly 900kg of CO₂ for every 1000kg of cement produced and is responsible for 5% of annual greenhouse gas emissions (Mahasen *et al*, 2007). Other energy intensive industries include the primary production of alumina and aluminium, the iron and steel industry, and the smelting and refining of other non-ferrous metals (NRC, 2009). Decisions about whether or not to develop and maintain industries such as these are unlikely to prioritize concerns about climate change. Economic development, international trade and energy security are the order of the day.

The Canadian province of Alberta, for example, remains determined to develop its relatively new tar sands industry, which extracts oil from sands and clays mixed with bitumen, even though it is clear that this is currently one of the most climate-damaging ways of producing energy (and has a whole host of other environmental impacts) (EDC, 2008). The oil sands industry accounts for 0.1% of global greenhouse gas emissions (CAPP, 2008) and carbon emissions from Alberta’s tar sands are estimated to be higher than the national totals of 145 countries (EDC, 2008).

Overconsumption, and the associated manufacture, distribution and use of products – as well as management of the resulting waste – also results in greenhouse gas emissions.

trade agreements lock in business-as-usual approach

The pervasive business-as-usual approach to maintaining fossil fuel intensive industries is locked in place by international trade and investment liberalization agreements, in which governments have agreed to progressively remove controls over trade and investment flows. Industry often attempts to use these agreements to protect and expand key energy-intensive industries (with varying degrees of success).

This dynamic is evident in the World Trade Organization (WTO). The United Arab Emirates, for example, proposed the complete liberalization of all raw materials, including fossil fuels and non-ferrous metals, within the WTO’s Non-Agricultural Market Access (NAMA) negotiations. UAE’s main concern was to liberalize markets for its aluminum exports: it argued that such liberalization will increase consumption in a sector that has “*considerable potential for growth*” (WTO, 2004). This is a far cry

from the approach required to move from energy-intensive to zero-carbon economies.

using trade agreements to secure fossil fuel supplies

In spite of the obvious need to keep fossil fuels locked underground, the liberalization of energy services (reducing barriers to trade in energy services) has also been vigorously pursued by a group of countries including Canada, Saudi Arabia, the US, Australia and the EU, within the World Trade Organization's (WTO) current 'Doha' negotiations.

In 2006, these countries tabled a request to a group of countries including Brazil, China, Colombia, Ecuador, Egypt, India, Kuwait, Nigeria, Qatar, and the United Arab Emirates, requesting them to liberalize their energy services, including oil and gas production, processing and distribution. This could place serious constraints on governments' ability to implement national policies intended to reduce reliance on energy imports or shift to sustainable energy sources.

It could also increase the influence that foreign energy companies have over national energy policies. If proposals that have been put forward in the WTO were to be approved, there is a risk that energy companies could unilaterally decide which energy resources, energy workers and energy technologies to use. It is also possible that energy companies could also switch to whatever type of energy was most profitable at the time, with little or no governmental control. This would clearly conflict with the current need to increase governmental and democratic control over energy policies in order to mitigate climate change (IFG, 2006).

Similar concerns about energy are evident in bilateral negotiations. Japan, for example, is seeking to include 'energy security' clauses in any bilateral agreement with Australia, in order to maintain access to Australia's coal resources.

However, many of these trade talks – especially in the WTO - are stalled at the moment. This means that the real eventual impact that new trade agreements might have on climate change remains to be seen. Yet the tension between the 'worlds' of trade and climate change remains a constant concern, and can have a 'chilling effect' on the development of new climate change policy measures, with governments avoiding regulatory measures in favor of market based solutions.

Gerald Doucet, the Secretary General of the World Energy Congress, which represents companies operating in the energy sector, has already warned of a "*trade war between those who are concerned over carbon emissions and those who are not*" (AFP, 2007). He believes that the WTO should "*open a new chapter*" of energy negotiations bringing clean energy, and the nationalization of electricity and oil sectors by certain countries, under the WTO. Such a development, however, would undoubtedly work to increase the stranglehold that trade rules currently have over climate change policy.

Doucet echoes similar calls made by previous EU Trade Commissioner Peter Mandelson in 2006. Mandelson also called for a new round of WTO negotiations that would address the energy sector and seek to treat oil and gas like all other traded goods. This would mean that energy producers are required to liberalize trade: for the EU this could help to secure access to Russia's natural gas resources (ICTSD, 2006).

In fact the European Union is so concerned about energy security that it has inserted it squarely into its new and aggressive Global Europe trade policy. This policy is

driven by the EU's anxiety to use trade channels to secure and maintain cheap natural resources and energy supplies, in order to maintain its competitiveness in comparison to emerging economies such as China and India.

The EU currently imports 50% of all its energy, and predicts that this could increase to 70% in the next 20-30 years. Oil imports are expected to exceed 90% of the EU's total oil requirements by 2030; and gas imports could increase to 80% of the EU's needs (EC, 2006:8). Although the European Commission says that climate change means "*we will need to use all available tools to encourage energy efficiency, the use of renewable energies including biofuels, low emission technology and the rational use of energy in Europe and globally*" (EC, 2006:24), the overall thrust of Global Europe is unashamedly focused on using trade fora to promote "*sharing of the world's resources, as well as its markets*" (Mandelson, 2006). Climate change remains a secondary concern.

trade drives industrial agriculture and deforestation

Climate change also seems to get de-prioritized when it comes to industrial agriculture and forestry-related activities, even though the critical links between food production, forests and climate change are increasingly well understood (FoEI, 2008).

What food we grow - and when, where and how we grow it - ultimately depends upon the weather experienced during the growing season; and that weather is changing as our climate warms. Crop (and tree) production can be impacted by changing temperatures, decreased water availability, new or different patterns of damage by pests, changing levels of ground ozone (Science News, 2005) and increasingly frequent severe weather events (ODI, 2007) - all with unpredictable consequences.

Overall, however, climatic changes are expected to be extremely damaging (Stern, 2006), and will hit hardest in some of the poorest regions of the world. Although the precise impacts that our changing climate will have on food production are uncertain, and likely to vary significantly from region to region, there is now growing alarm about the consequences for food security and hunger.

Scientists recently predicted, for example, that unless pre-emptive 'adaptation' measures are taken, climate change could result in southern Africa losing more than 30% of its main crop, maize, by 2030; and South Asia could see a 10% decrease in regional staples such as rice, millet and maize. The predicted scale and speed of these effects took researchers by surprise (Lobell et al, 2008). The world's poorest people are likely to be the most severely impacted: the vast majority of the world's 1.5 billion poor and food insecure depend on agriculture, forestry, fisheries and livestock for their livelihoods (FAO, 2009).

The 200 million people dependent on fisheries worldwide will also be affected. Rising temperatures will affect fish reproduction and migratory routes, and the El Niño Southern Oscillation (ENSO) events are likely to occur more frequently, with significant consequences for global fish supplies. Sensitive coastal ecosystems such as coral reefs and mangroves will also be impacted, and changes in the frequency and intensity of coastal storms and hurricanes will make fishing a much more hazardous activity (DFID, 2004).

But industrialized export-oriented agricultural production is also a *cause* of climate change: together with deforestation it is responsible for 31% of the annual greenhouse gas emissions people are responsible for (IPCC, 2007). Without

changing the way we produce food, we cannot hope to avoid the worst impacts of climate change.

Key concerns are emissions of CO₂ from deforestation, emissions of methane (CH₄) from rice cultivation and intensive livestock farming, and emissions of nitrous oxide (N₂O) from fertilizer application (methane and nitrous oxide are extremely potent greenhouse gases). Intensive agriculture is also based on high-energy fossil fuel inputs, which are used to manufacture, transport and apply pesticides, herbicides and fertilizers; to fuel machines involved in tilling the land, harvesting and transporting crops to market; and to process and distribute the final food products.

Yet again, trade and investment liberalisation rules – especially on agriculture and intellectual property - lock in the export-oriented industrial model of agriculture. In particular, WTO rules frustrate attempts to protect and promote sustainable small-scale and local forms of food production, even though this approach has minimal climate impacts, helps people to diversify and adapt to changing weather patterns more easily, and enhances food security, helping to eradicate hunger. The WTO's Agreement on Agriculture (AoA) completely fails to recognize that agriculture plays a much more fundamental role in developing countries – where the majority rely on subsistence agriculture for their daily needs - than it does in the rich North (Action Aid, 2003).

Industrialized agriculture is also having a particularly devastating impact on the world's remaining tropical forests, and this in turn will impact climate change, because forests are a key part of the earth's carbon and hydrological cycles, storing carbon and regulating rainfall in many regions. But forests are also being impacted by climate change directly, and may already be losing their ability to regulate the planet's climate. Further increases in temperature threaten to increase heat stress and drought, causing forests (particularly tropical forests) to become net sources of carbon, rather than stores.

Yet primary tropical forest is still being cut, for example, to make way for vast plantations of oil palm, especially in South East Asia. Palm oil is exported for use in a huge number of processed food and other products like soap. The production of soybeans, which are also used in many foods and as animal feed, is having a similarly devastating impact on the forests of Latin America. To make matters worse, the increasing trade in crops such as these for use in transport fuels is triggering a further damaging wave of agricultural expansion (see 'false solutions' won't stop climate change').

'Food miles' is a concept that has been used to illustrate the bizarre, wasteful and climate-damaging nature of our current industrial food production system, which involves the transport of most foods many thousands of miles before they are eaten. It has been calculated, for example, that food consumed in the US travels over 6,500km on average, from farm to plate, if the raw ingredients are taken into account (Weber & Matthews, 2008).

The type of transport used to convey food is also highly relevant: research in the UK, for example, indicates that air freight only accounts for 0.1% of total food miles but is responsible for 11% of related greenhouse gas emissions (DEFRA, 2005). Even maritime transport – considered by many to be a more benign form of international transport - is responsible for the release of one billion tonnes of CO₂ every year, nearly 4% of all anthropogenic CO₂ (FoE US, 2009a).

Critically, researchers studying the impacts of climate change on agriculture believe impending changes will *increase* international trade in agricultural products – and thus food miles – as food security decreases. In particular, they forecast that tropical developing countries, especially in Africa, will eventually have to buy more cereal imports from developed countries and temperate areas, as their own production decreases because of climate change (ODI, 2007).

However, although the ‘food miles’ concept illustrates some of the absurdities of current food production systems, it is overly simplistic. Most importantly, it fails to consider the impact that a sudden switch to buying only local-produced food could have on poor farmers locked into monoculture food production in exporting countries. For example, over 100,000 rural people are involved in producing fresh fruit and vegetables for export in sub-Saharan Africa, and there are estimated to be between 1 and 1.5 million people in Africa involved in producing food for consumption in the UK.

Again, the issue of responsibility for climate change emerges: why should these poor farmers lose their livelihoods, when produce flown in from Africa is responsible for only 0.1% of UK emissions? (IIED, 2007) An alternative approach, based on ‘fair miles’, is thus preferred by many: this would incorporate concerns about development and ways of managing the transition to a more sustainable future in a much more equitable way.

The ‘food miles’ concept has also been found wanting as an indicator of the environmental impacts of food production (IIED, 2007). *What we eat and the way in which it is produced and distributed can have even more impact on climate change than the distance from farm to fork.* Certain aspects of food production and the food supply chain are particularly carbon intensive, including food production and processing methods, and consumer shopping patterns (IIED, 2007). Research in the US, for example, has shown that food production (rather than distribution) contributed 83% of the average US household’s food consumption-related carbon emissions (Weber and Matthews, 2008).

The same ‘life cycle analysis’ approach also revealed that beef and dairy products are much more greenhouse gas-intensive sources of protein than chicken or fish. Similarly, a meat-based diet is much more harmful to the climate than a vegetarian one (Weber & Matthews, 2008). The researchers in question observe that a *“dietary shift can be a more effective means of lowering an average household’s food-related climate footprint than “buying local.” Shifting less than one day per week’s worth of calories from red meat and dairy products to chicken, fish, eggs, or a vegetable-based diet achieves more GHG reduction than buying all locally sourced food.”* (Weber and Matthews, 2008)

Clearly, sustainable low-impact food production, that promotes food sovereignty and protects family farms, together with changing dietary habits and a focus on eating food that is in season, offers a way forward.

Overall, trade liberalization is being used to drive an industrialized system of manufacturing and agriculture that is inimical to both the wellbeing of the majority of the world’s people and its climate. Protecting our climate will involve a radical transformation to the way in which our economies are structured.

What matters most – trade or our climate?

If a government is forced to choose between the health of its country's economy and the wellbeing of the planet, it will almost certainly put the economy first: its political support is likely to evaporate if it does not. Climate change may be the ultimate threat, but it remains a secondary concern for many politicians. As a result, even when governments feel under pressure to do something about climate change, they almost always opt for the economy-friendly 'solution' (even if that solution is not the most effective or even counter-productive).

The most difficult hurdle of all is one that globalization has itself exacerbated: maintaining competitiveness in the face of increased international competition (which has increased precisely because trade barriers have been removed, pitching companies in different countries against each other).

the ability to compete matters more to governments than climate change

As countries have become increasingly engaged in international trade, they have also become more dependent upon it. Thus governments are ever more reluctant to introduce potentially costly climate-friendly policies, such as carbon taxes, that could place their domestic industries at a disadvantage by increasing their operating costs. Clearly these concerns weigh even more heavily on poorer countries struggling to develop their economies. Ultimately, concerns about competitiveness may also discourage governments from agreeing to strong greenhouse gas emissions reduction targets.

corporations lobbying to maintain energy-intensive status quo

The pressure on governments to maintain the economic *status quo* is intense and increasing. New bilateral trade and investment treaties mean that many corporations can shift their centre of operations (and their tax payments) to other locations with increasing ease. Industrial lobbyists are not slow to make this point to governments if they think those governments are considering policies that might be inimical to their industry's interests.

The EU, for example, has been the scene of an intense battle of wills over issuing credits to industries participating in its Emissions Trading Scheme (ETS), which began in 2005. Cap-and-trade carbon markets are supposed to work by capping and allocating tradable credits to industry, in a bid to achieve an overall level of emissions that is lower than that anticipated under a business-as-usual scenario. These cap-and-trade schemes are themselves a response to the perceived need to conform to trade rules and requirements.

However, carbon markets are particularly susceptible to corporate lobbying (see 'prioritizing trade concerns results in 'false solutions' to climate change'). European industry, for example, worked hard to convince the EU that a costly cap-and-trade scheme would mean its competitiveness in international markets was at stake (Euractiv.com, 2008). As a result, the power sector generated windfall profits from the scheme. The aviation industry, led by the International Air Transport Association and the Association of European Airlines even managed to ensure the entire industry was exempted from the scheme in Phase I; and in Phase II, the EU has accepted that the aviation industry's emissions will grow dramatically rather than level off or decrease (CEO, 2008).

In response to industrial lobbying, the EU set its emissions cap too high in Phase I of the ETS, giving out too many free carbon credits (known as European Union

Allowances or EUAs) to business. Even the European Commission now recognizes that the free allocation of allowances to companies has resulted in “unwanted distributional effects such as 'windfall' profits for companies.” (Dimas, undated)

As a result, the price of carbon plummeted, reducing the incentive to promote energy efficiency. There is little sign that Phases II or III (which begins in 2012) will be much better: competitiveness concerns persist, meaning that even auctioning - forcing industry to pay for the right to pollute by buying the carbon credits - remains limited.

“Several of the newer features of the EU ETS in Phase II reveal a tension between the European Commission’s intention to have all major sectors face a true cost of carbon and its desire to preserve the competitiveness of and between the Member States....the EU ETS places most of the responsibility of reductions on the power sector, where mitigation opportunities are believed to come at lower costs compared to other sectors and where the sector is less exposed to competition outside the EU. This sector is also the only one not to receive all allowances for free in Phase II.”

(World Bank, 2008)

Concerns about competitiveness are not only confined to business leaders, of course. Labor unions are also worried about the potential loss of jobs overseas as a result of strict energy efficiency requirements: overseas outsourcing as a result of increased international trade in services is already a source of social tension in many industrialized countries. But some trade unions are already addressing the issue in a proactive way. In the United States for example, an alliance between environmentalists and trade unions representing some 6 million people, including the United Steelworkers, is calling for an increase in the number of quality jobs in the green economy and for strong climate change legislation (Blue Green Alliance, 2009).

Some propose addressing concerns about competitiveness by applying equalizing ‘border tax adjustments’ (BTAs) to imports, so that imports are made correspondingly more expensive. But this approach is controversial because it contravenes the principle of common but differentiated responsibility for climate change, and does not address issues such as carbon budgets, climate debt and historical responsibility (see ‘Who is responsible for combating climate change?’ below). The use of unilaterally imposed BTAs is also frowned upon within the international trade community (although strictly speaking it remains a gray area within the WTO) (Eckersley, 2003). Border taxes rates are also notoriously difficult to calculate.

competitiveness, climate debt and the carbon budget

The whole issue of competitiveness raises two extremely difficult questions, which need to be answered before the trade and climate change dilemma can be resolved.

The first is: *who is responsible for combating climate change?*

Developing countries negotiating in the UNFCCC have consistently and correctly pointed out that they are not responsible for climate change: as a result they do not have emissions reductions targets under the Kyoto Protocol, and developed countries also have a formal obligation within the UNFCCC (Article 4.3) to help them address the challenges of climate change.

This gets right to the heart one of the thorniest issues in the climate change negotiations, however: the US – with the highest *per capita* fossil fuel consumption

rates and therefore the sharpest cuts to make – contends that certain large and rapidly growing developing countries, such as India and China, must also shoulder some of the burden, if the US is to participate in negotiations. The question is: why should those countries do so if they are not responsible for the greenhouse gas emissions that caused climate change in the first place? Furthermore, in economic terms, there is little incentive for them to concede: if industries currently located in the US migrate abroad to countries without emissions reductions targets, those countries should benefit financially. And they have every right to develop their economies, as has already been agreed within the United Nations. From this point of view, industrialized countries bear a historical responsibility for climate change, and this responsibility surely includes bearing the cost in terms of lost competitiveness.

It also includes a responsibility to address the current 'climate debt' that industrialized countries owe developing countries because they continue to crowd out the atmospheric or 'carbon space', which all countries have a right to share. This is a very real debt, since the impacts of climate change are already being felt heavily in developing countries, which have not caused climate change, but must now develop under its adverse impacts. In Bolivia, for example, people have to deal with the retreat of glaciers, flooding, drought and risks to the wellbeing of the Uru Chipaya Indigenous Peoples, a 2,500-year old culture. Climate change is exacerbating the El Niño/La Niña climate phenomenon, leading to losses of 4-17% of the Bolivian GDP depending on the year (TWN, 2009).

The climate debt is also a debt that can be quantified. Science currently predicts that greenhouse gas emissions must be limited to 450ppm or even 350ppm by 2050, meaning that global emissions need to be cut by 50% to 85% or even more. It has been estimated that if developing countries are to maintain their current per capita emission level, this would mean a 213% reduction by developed countries (which could be achieved through a combination of actual cuts, the creation of carbon sinks, and financing cuts in other countries) (TWN, 2009). Another approach involves estimating fair shares of the available global 'carbon budget', which takes into account the overuse of that budget by industrialized countries in the past (for more information, see TWN, 2009).

However, there still remains a difficulty relating to 'carbon leakage' - industrial migration to countries without emissions reductions targets. If such carbon leakage occurs, the imposition of tough emissions reduction standards in industrialized countries could still result in low or no carbon emissions reductions overall. It would simply drive industries from one set of countries to another (a move that is itself facilitated by trade and investment liberalization agreements). 'Carbon leakage' could therefore bring efforts to mitigate climate change to a grinding halt: in the long-term, it would be a lose-lose solution for everyone. Dealing with climate change effectively means accounting for and addressing the emissions related to the overconsumption of products, primarily in developed countries: this is a key driver of climate change.

Ultimately, there have to be sufficient incentives built in to climate, development and other intergovernmental negotiations for developing countries to believe that their concerns are being taken seriously by rich industrialized countries, and acted upon. This is not currently the case. The EU for example, is in the midst of Economic Partnership Agreement negotiations with some of the poorest countries in the world, in Africa, the Caribbean and the Pacific, in which it is ruthlessly seeking to open up their markets to European exports and offering very little in return (FoE, 2008). Thus people risk becoming poorer because of trade agreements, and consequently less able to cope with the impacts of climate change. It is hardly surprising that developing countries do not trust their industrialized counterparts.

"I acknowledge some of the concerns of certain US manufacturers, particularly in those sectors that are energy and trade intensive, that increased costs associated with carbon reductions could lead to competitive disadvantages vis a vis producers in countries that do not take action to reduce their carbon emissions. This phenomenon is directly relevant to concerns with "carbon leakage" because any shifting of production to other countries could lead to the unintended effect of only limited or zero net decreases in global carbon emissions associated with that production... We look forward to working with these countries [major emitters] to negotiate a meaningful global climate agreement and actively avoiding circumstances in which we are simply exporting carbon emissions abroad... The Administration, however, does not support any specific measures, including border measures, at this time."

United States Trade Representative Ron Kirk, letter to US House of Representatives, 14 April 2009, in relation to a discussion on border tax adjustments triggered by the release of the American Clean Energy and Security Act 2009.

Letter:

www.ustr.gov/assets/Document_Library/Letters_to_Congress/2009/asset_upload_file224_15579.pdf

Debate:

http://energycommerce.house.gov/index.php?option=com_content&task=view&id=1560&Itemid=1

The second tricky question is: *who is responsible for the 'embodied carbon' generated in the production and processing of internationally traded products?*

Is it the country exporting the product, or the country importing it? Until now, those involved in international climate change negotiations and those compiling inventories of greenhouse gas emissions have assumed the former, focusing on emissions from within a nation state's geographical boundaries. But with China's net greenhouse gas emissions from exports reaching around 23% of its total in 2004, and with China possibly replacing the US as the world's largest emitter of CO₂, China's responsibility for these emissions is being reconsidered (Wang & Watson, 2007). Perhaps these emissions are in fact the responsibility of the importing country?

It seems unlikely that there will be a simple answer to this dilemma, given that the importing country may indeed consume the product, but the exporting country still gets to decide what types of technology and fuel to use (especially since current WTO rules prevent the importing country from dictating particular methods of production and processing).

So far, apart from achieving the obviously desirable goal of a strong multilateral climate change agreement that all countries are happy with, the main approach to resolving concerns about competitiveness has been Japan's proposal to develop a sector by sector approach to reducing emissions (Mathaba, 2008). However, this nascent negotiation is not so simple either: developing countries are extremely concerned that it could be used by industrialized countries to side-step their existing national emissions reductions commitments. In addition, it would probably be even more susceptible to corporate lobbying than the national approach.

The real world complexity of these concerns are neatly illustrated by a 2007 disagreement within the EU about whether to end anti-dumping duties of 66% on Chinese energy-efficient light bulbs, proposed by then Trade Commissioner Peter Mandelson, but opposed by Industry Commissioner Günter Verheugen. Industry support for Mandelson included that of Dutch electronics group Philips – because they outsourced the manufacture of their energy efficient light bulbs to China.

Verheugen's opposition coincided with the interests of Osram, a German light bulb manufacturing company, which benefited from the existing tariffs (because they made Philips' bulbs being more expensive) (Euractiv.com, 2007). In the end, a temporary extension to the tariffs was agreed.

Critically, even when governments *are* certain they want to implement real and effective measures to mitigate or adapt to climate change, they may be prevented from doing so by trade and investment liberalization agreements they have signed up to previously, without appreciating the full implications.

Trade rules prevent national action on climate change

climate policy choices are constrained by trade rules

In addition to current challenges, trade liberalization rules currently being negotiated in the WTO and elsewhere could present a further challenge to governments' ability to implement domestic measures to mitigate climate change.

The WTO's current 'Non-Agricultural Market Access' (NAMA) negotiations cover international trade in all product sectors except agriculture. These talks, along with the rest of the Doha negotiations, are currently mired in disagreement and may never conclude. However, it is important to note that a number of countries have objected to 'non-tariff barriers' within the NAMA negotiations, and these include challenges to national energy efficiency measures already in place.

In relation to automobiles, for example, the United States has used the WTO to object to vehicle taxation policies based on engine size, which were put in place to promote fuel efficiency. Similarly, Korea has complained about the US's own Corporate Average Fuel Economy standards. China has challenged a range of measures concerning energy efficiency in household appliances, air conditioning units and heating, explicitly targeting several EU directives. Mandatory labeling in relation to energy efficiency in home appliances, and requirements for prior testing for energy efficiency, have also been challenged by Korea. Japan has challenged restrictions on foreign investment in the petroleum oils sector (FoEI, 2005). Finally, the EU is also trying to use NAMA to pursue its long-held ambition to ban export restrictions in general: this would have a significant impact on trade in energy products, where export restrictions are considered to be the most significant trade barrier (ICTSD, 2006b). If WTO negotiations are restarted (and perhaps even if they are not) countries could return to and pursue all these objections.

There is also a question about whether subsidies for the development of climate-friendly fuels or technologies - renewable energy technologies, for example - could be challenged under WTO rules, especially since they would probably break a cardinal rule of the WTO's subsidies agreement, by being sector-specific (ICTSD, 2006b).

trade rules stop the transfer of climate-friendly technology

Another key way that trade rules prevent action on climate change at the national level is by restricting access to climate-friendly technologies, especially because of the prohibitive cost of imported patented technologies, but also because trade rules on patenting life forms could prevent farmers adapting food production processes in response to climate change. There are already examples of developing countries and their firms being hampered from adopting climate-friendly technologies or products, because of unreasonable demands being made by patent holders in response to requests for voluntary licenses, which would enable domestic use and production (TWN, 2008).

Climate-specific technologies include those that allow countries to reduce their greenhouse gas emissions, such as renewable fuel technologies and energy efficient transport and appliances. But they could also include new technologies to monitor and adapt to climate change impacts (including water capture and reuse technologies, for example) (ICTSD, 2008).

Countries are already committed to promoting and cooperating in the development and diffusion of technologies that can reduce greenhouse gas emissions, under both

the UNFCCC and its Kyoto Protocol. They also agreed to both speed up and scale up development and transfer of technologies when they met for the Bali climate change negotiations in December 2007. Developing countries made it very clear that they wanted actions by developed countries to provide technology and finance that is “measurable, reportable and verifiable”. But whether this actually happens is another matter.

But even this may be insufficient. The WTO’s Trade-Related aspects of Intellectual Property Rights (TRIPS) agreement also has serious implications for developing countries’ and least developed countries’ access to new technologies that could help them adapt to or mitigate climate change. Intellectual property rights (IPRs) rules confer monopoly rights, which generate higher prices, as well creating barriers to the introduction or upgrading of technology by private or public sector agencies in developing countries.

WTO and bilateral trade agreements are also being used to push developing countries into introducing intellectual property rights regimes that make it mandatory to patent micro-organisms, and non-biological and microbiological processes for the production of plants and animals. Bilateral trade agreements are also being used to push countries into establishing new plant breeders’ rights (which are almost as strong as patents) through the International Union for the Protection of New Plant Varieties (UPOV 91) or through the patenting of genes or cells, as biotechnology corporations seek to establish private ownership rights over plants and their components.

Prior to this, many developing countries deliberately excluded life forms, food and pharmaceuticals from patenting, for the benefit of their money-poor populations. Plants and plant varieties form the backbone of crop production, plant breeding and ultimately food security (TWN, undated). They also provide a secure base for adapting food production to climate change.

Further research has also found that the world’s largest seed and agrochemical corporations are already stockpiling hundreds of monopoly patents on genes in plants that the companies plan to market as climate-resilient crops able to withstand drought, heat, cold, floods, saline soils, and more (ETC Group, 2008).

trade and investment dispute mechanisms support trade interests

The rules of the WTO and similar agreements are specifically designed to open up markets and increase international trade. By their very nature they reduce government oversight of trade, pushing governments to remove or reduce import tariffs, eliminate import bans and quotas, ensure that national regulations and standards don’t interfere unduly with international trade, and dismantle domestic production subsidies. Although some exemptions are permitted for environmental and other reasons, the trade regime overwhelmingly prioritizes trade concerns, is binding and has a strong enforcement mechanism. As a result, trade rules can trump other policy measures.

Numerous trade and environment conflicts have already been hammered out in the WTO’s dispute settlement mechanism. Thus, for example, the EU remains locked in a multi-year dispute with the US over a European ban on US imports of hormone-treated beef, because of concerns about their potential impacts on consumers’ health. Because it refused to comply with the WTO’s ruling on the matter, the EU has had to bear punitive import tariffs on its own exports to the US, authorized by the WTO. Import tariffs on Roquefort cheese imports from France, for example, were increased from 100% to a crippling 300% (AFP, 2009).

Similarly, the European Commission continues to try – so far with no success though – to force a number of European member states to remove their national bans on growing genetically modified crops, to comply with a World Trade Organization ruling on a case brought by the US, Argentina and Canada (FoEE, 2009).

However, such disputes are lengthy and expensive. A much more common occurrence is ‘chilling’, in which governments simply refrain from implementing legislation because they fear being challenged in the WTO. This can apply to measures individual governments are considering, but it can also apply to the way in which governments choose to implement multilateral environmental agreements (MEAs) at the national level, and even to MEA negotiations themselves (Eckersley, 2003).

This latter point is critical: one of the most successful MEAs, the Montreal Protocol on Substances that Deplete the Ozone Layer, was successful precisely because it contained stringent trade restrictions, including ones that applied to non-participants, and outright bans on trade in products containing ozone-depleting substances. Governments are much less willing to agree to such measures these days, precisely because of the dominance of neoliberal economics and WTO rules. Subsequent MEAs, including the Cartagena Biosafety Protocol and the Stockholm Convention on Persistent Organic Pollutants, have been disrupted by concerns about WTO compatibility (Eckersley, 2003).

This dilemma is compounded by the fact that many MEAs leave the precise way in which objectives are to be achieved up to individual governments, who may find it that much more difficult to unilaterally decide to use a trade-restrictive measure that could then be challenged in the WTO (Eckersley, 2003), even if such a measure would be the most efficient way to meet the MEA’s objective.

Furthermore, recent MEAs tend to include specific provisions explicitly advising against trade discrimination or ‘disguised restrictions’ on international trade’. The UNFCCC and the Kyoto Protocol on climate change both contain wording along these lines (in Articles 3 and 2 respectively).

However, although governments are wary of the WTO’s dispute settlement powers, some bilateral trade and investment treaties, including the North American Free Trade Agreement (NAFTA) and the Central American Free Trade Agreement (DR-CAFTA), have even more far reaching dispute provisions, including measures that allow companies to challenge governments directly in international courts.

There are, for example, currently no less than 49 pending energy-related disputes – mainly concerning hydrocarbons exploration, extraction and refining, and energy production and distribution services – listed as being filed with the International Centre for the Settlement of Investment Disputes (ICSID) (ICSID, 2009). This undemocratic and unaccountable institution, linked to the World Bank, has been the target of strong objections from civil society, and the Bolivian government decided to withdraw from it in May 2007 (Food & Water Watch, 2009; FoEE, 2008).

These disputes are almost all energy companies challenging the policies of countries including Argentina, Canada, Azerbaijan, Bangladesh, Central African Republic, Ecuador, Georgia, Hungary, Kazakhstan, Nigeria, Panama, Peru, Romania, Slovenia, Tanzania, Togo, Turkey and Venezuela. These energy-related cases – almost all challenging developing countries - constitute almost 40% of all ICSID’s pending cases, and are a clear indication that companies such as Chevron,

ConocoPhillips, Mobil, Shell and Total are both willing to and have a legal route by which they could challenge climate change mitigation or adaptation measures introduced by governments (ICSID, 2009).

A crystal clear example showing the extent to which these international treaties can undermine local democratic processes emerged recently in Germany. Local politicians in Hamburg attempted to place restrictions on a new coal-fired plant in Hamburg. But Swedish power company, Vattenfall, is seeking arbitration at ICSID. Vattenfall claims that the German government reneged on its commitments under a little-known multilateral energy-specific agreement, the Energy Charter Treaty, which is intended to provide greater investment protection for energy companies. Vattenfall could seek more than €1bn in compensation from Germany (Financial Times, 2009).

Clearly, the entire trade and investment liberalization regime threatens the implementation of national climate change measures. Governments are severely constrained in what they can do to mitigate climate change under the current set of trade and investment rules, whilst corporations are increasingly able to fight the imposition of inconvenient regulations and standards.

Yet governments seem unable to grasp the fact that they do not have to continue to accept the WTO-regime: instead of realizing that the time has come to reject trade liberalization, in order to protect the climate, they are developing a range of market-friendly 'false solutions'.

Prioritizing trade results in ‘false solutions’ to climate change

Governments’ current fixation with finding business-friendly solutions to climate change means we are already banking heavily on the success of a number of ‘false solutions’, many of which are based on market-mechanisms. Other false solutions are also in the pipeline.

Rather than finding the best and quickest solutions to climate change, these solutions have clearly been designed with the needs of corporations and the rules of the global trade and investment regime in mind. The links between some solutions and WTO rules are reasonably clear (certification systems, for example, are constrained by the WTO’s rules on ‘Technical Barriers to Trade’); others less so (carbon trading, for example). But all have been selected on the basis that they do not conflict with trade and investment rules, and because they minimize inconvenience to, or even benefit industry.

Bringing private finance into the picture also means not having to rely so heavily on the public purse (which is likely to be an increasingly significant factor as the full implications of the global economic crisis become clear).

However, the ease with which these market-friendly measures can be pushed through also means that governments and others seem to have developed a worrying tendency to ignore any criticism, however trenchant. Many refuse to accept that these are not the best options available. Even more worryingly, some seem extremely reluctant to accept that some of these ‘solutions’ can even make climate change worse.

certification and labelling favored as trade-friendly solutions

Voluntary certification and labelling systems (which businesses can choose to ignore if they wish) are typical of the type of sub-optimal measures that many governments prefer: they are unlikely to be challenged within the WTO (although they still need to meet WTO requirements on ‘Technical Barriers to Trade’).

Certification and labelling are generally developed on a sector-by-sector basis and are particularly susceptible to corporate lobbying. In some cases corporations are even involved in developing and approving the standards themselves. As with other market-based mechanisms, certification and labelling procedures also tend to be complex and expensive, making it difficult for local communities to participate in and benefit from them. Labels and certificates are also popular with industry, and therefore governments, precisely because they have minimal impacts on trade and are not designed to address excessive consumption.

Forest Stewardship Council

The Forest Stewardship Council (FSC) certification system shows just how these processes can fall well short of expectations. As far as consumers are concerned, the FSC label is supposed to indicate that a product has been made using timber that comes from sustainably managed forests. But what does that mean in practice?

Consumers might be surprised to find that FSC timber products may still be sourced from rapidly disappearing old growth or high conservation value forests (Greenpeace, 2009). They might also be shocked if they found out that FSC timber products can come from clear-felled forests – considered to be ‘temporarily unstocked’ (FAO, 2002) – or from vast, environmentally and socially destructive monoculture plantations in developing countries such as Uruguay, Brazil and South

Africa (WRM, 2009). They might well put the product straight back on the shelf if they discovered that the Norwegian government has even rejected the FSC as a means of determining whether or not timber has even been legally felled and traded (Rainforest Foundation Norway, 2007).

In spite of all this, the FSC certificate is still considered, even by its detractors, to be better than any other forest certification system: unfortunately, this does not say much for the rest. FSC exemplifies the way in which – in certain countries at least – corporations can influence or ignore certification processes; and it shows how local communities, and especially women, can struggle to participate in market-based mechanisms (GFC, 2008). It is also directly relevant to climate change: FSC effectively condones the replacement of old growth forests with plantations, even though plantations lock away less than 20% of the carbon that old growth forests do (Palm *et al*, 1999).

energy efficient products

Similarly, whilst many governments have introduced mandatory energy efficiency standards and labels which *have* helped to improve energy efficiency, such labels are likely to have little or no impact on the actual purchase and use of a wide range of non-essential energy-consuming appliances, meaning that these standards are still an insufficient response to climate change on their own. Again, these labels are complex and have been the subject of intense corporate lobbying (Monbiot, 2009; UK House of Lords, 2005:9.4)

agrofuels: an example of what not to do

The proposed use of 'sustainability certificates' for agrofuels is likely to suffer the same drawbacks, by masking the severe negative social and environmental impacts that agrofuels can have,.

Agrofuels (often referred to as 'biofuels' in an attempt to make them sound more environmentally-friendly) are fuels made from crops such as soy, palm oil and sugar cane, which are grown in large-scale, intensively-farmed monocultures. These 'feedstocks' are then processed into ethanol or agro-diesel, which is blended with or used to replace fossil fuels in vehicles. Government in countries such as the US and those in the EU are partly driven by concerns about energy security, rather than climate change, which may explain why they are so willing to subsidize the domestic production of agrofuels crops. Some countries, including the US and those in the EU, have also set official targets for mixing agrofuels into conventional transport fuels, to increase their use.

In practice, increasing demand also means more imports. The EU, for example, imports soy oil to make biodiesel, from the United States, Brazil, Argentina, Paraguay and Uruguay; and palm oil, from Indonesia and Malaysia (Profundo, 2008). But agrofuel production frequently leads to the removal of much needed land from domestic food production, and the increased displacement and even expulsion of local peasant and Indigenous communities in the South. Even crops such as jatropha, prized for its ability to grow on poor land, is still likely to grown on the best land available if it increases the profits that can be generated.

Thus agrofuels contribute to escalating hunger around the world and reduce peoples' food sovereignty. Even the former UN's Special Rapporteur on the Right to Food, Jean Ziegler, expressed his grave concerns about the potential impacts of agrofuels production on hunger (UNGA, 2007), calling for a five-year moratorium on the production of agrofuels using current methods (SwissInfo, 2007). His successor, Oliver de Schutter, has been similarly outspoken about agrofuels and their impact on food security (de Schutter, 2008).

Critically – since they are viewed by many as part of the solution to climate change - agrofuels can even lead to *increased* emissions of greenhouse gases, partly because of the need to use fossil fuels in production and processing (and in particular, the use of nitrogen fertilizers, which leads to the release of nitrous oxide (N₂O), a greenhouse gas 300 times more potent than CO₂), but also because of associated deforestation and land use changes. Loss of peat swamps is a major cause for concern: draining peatlands in South-East Asia, for example - predominantly to make way for oil palm plantations - accounts for a massive 8% of global carbon dioxide emissions (Hooijer *et al*, 2006). These factors are often overlooked by those calculating various biofuels' greenhouse gas emissions.

Agrofuels that displace agriculture also have significant *indirect* impacts on climate change. Biodiesel feedstock, for example, may be sourced from existing stands of oil palm and therefore appear to be relatively sustainable (since no deforestation is involved). But that palm oil would otherwise have been sold to the food sector. As demand for palm oil outstrips supply and the price of palm oil rises, investors are attracted in to the sector, and land and forests elsewhere area are then converted to oil palm. But this will be palm oil for food, which cannot be controlled through energy certification schemes (although there are some attempts to develop 'correction factors' to try and take some account of this) (FoEE *et al*, 2008). Similarly, certification schemes cannot address the fact that increasing competition for land leads to escalating food prices; and they do nothing to stop over-consumption, since they do not reduce demand for fuel.

“Although there are high levels of uncertainty in the data, the science and in the modelling of the indirect effects of biofuels, the balance of evidence shows a significant risk that current policies will lead to net greenhouse gas emissions and loss of biodiversity through habitat destruction. This includes effects arising from the conversion of grassland for cropland.”

(Gallagher, 2008)

“By using a worldwide agricultural model to estimate emissions from land-use change, we found that corn-based ethanol, instead of producing a 20% savings, nearly doubles greenhouse emissions over 30 years”

(Searchinger *et al* 2008)

agrofuels certification schemes

The influence of industry – and the general exclusion of small-scale producers - is also a major cause for concern. Many agrofuels certification schemes are dominated by transnational corporations engaged in selling or using commodities such as sugarcane and soy (FoEE, 2008a) and this clearly influences the design of these schemes.

The Better Sugarcane Initiative (BSI), for example, is partly funded and dominated by transnational companies such as Tate & Lyle, Coca-Cola, Cargill, BP and Shell. There are no trade unions, or rural community organizations from sugar-growing areas, on the steering committee. The producers that are involved explicitly hope to benefit from self-assessment, increased trade, a 'leveling of the playing field' on social and environmental issues, and enhanced brand reputation. These are decidedly trade-oriented concerns (BSI, 2009).

With a similar focus on corporate concerns, the Roundtable on Sustainable Palm Oil (RSPO) does not prohibit deforestation, even on climate-critical peatlands. Thus RSPO-certified companies such as Sinar Mas and United Plantations can continue to deforest Indonesia, even while they grow and export 'sustainable' palm oil. Furthermore, RSPO-certified companies are not even obliged to start changing their practices until *after* they are certified (Greenpeace, 2008).

It is also questionable whether any of these certification schemes will ever be fully implemented and enforced. So far none have the necessary operational requirements to guarantee compliance with the relevant standard (FoEE, 2008a). The lack of transparency in many schemes also introduces a considerable risk that such standards will be open to abuse (FoEE, 2008a).

'biochar': a new threat to the world's forests?

Yet the impact of agrofuels on hunger, our climate and biodiversity could be just the tip of the iceberg, if plans to roll out another biomass-based technology – 'biochar' – proceed. Biochar's proponents claim that biomass waste from urban, agricultural and forestry sources can be converted into charcoal, a stable and long-lasting form of carbon, releasing bioenergy in the process. The charcoal can then be used as a soil fertilizer. Its proponents argue that biochar reduces the need for conventional fossil fuels and fertilizers, increases soil fertility and plant growth (and thus carbon absorption), and reduces emissions of nitrous oxide, a potent greenhouse gas (IBI, 2009).

Like agrofuels, a lot depends on the scale and sustainability of the proposed production processes. Critically, the production of biochar is dependent upon a supply of cheap biomass (Lehmann, 2007), and therein lies the main problem. Without regulation, where the 'waste' comes from will depend on the comparative cost of different waste – or non-waste – streams, not their suitability from a social or environmental perspective. Thus the large-scale production of charcoal envisaged by some could require many hundreds of millions of hectares of land being converted for biomass production (primarily in the form of tree plantations), which would in turn have incalculable effects on global food production and biodiversity (Regenwald, 2009).

There is a risk that 'biochar' could also be used to promote the ongoing development of environmentally damaging genetically-engineered tree varieties. Industry is already engineering reduced-lignin loblolly pine and poplar trees, for example. The idea is to cut the cost of manufacturing paper, but weaker low-lignin trees are also more susceptible to disease and insects. This means genetically-engineered tree plantations would probably need to be treated with toxic pesticides that would contaminate soils and ground water. Low-lignin trees also rot and release CO₂ more quickly, and the escape of the low-lignin trait into natural forests could lead to increased forest mortality as contaminated trees would die more easily, again increasing the climate risk (GJEP, 2009).

industry moves to cash-in on climate change

Many more 'false solutions' are being proposed and implemented, as industry moves to cash-in on climate change. The main risk is that the urgency of the situation, combined with the dominant 'market-friendly' approach, will lead to a hasty acceptance of untried and untested technologies, including outlandish geo-engineering experiments, a revival of the once-rejected genetic modification and nuclear industries, and reliance on as yet undeveloped 'carbon capture and sequestration technologies' (which is being used to justify the continued use of fossil fuels such as 'clean coal').

Companies such as Monsanto, for example, are promoting drought-resistant GM crops as a way of adapting to climate change. Yet recent research indicates that organic agriculture has the potential to reduce, mitigate and adapt to climate change impacts, while remaining accessible to the billions of subsistence farmers around the world - unlike expensive GM-crops such as Monsanto and BASF's new drought tolerant GM corn, which may provide higher yields during times of drought, but lower yields when the weather is normal (Niles, 2009).

But will details like these – inconvenient for Monsanto, perhaps, but potentially devastating for subsistence farmers around the world – really be taken on board in the rush to resolve climate change? The overwhelming presence of business participants at recent climate change negotiations suggests that the potential emergence of new and potentially lucrative 'climate change markets' will continue to dominate proceedings.

wto manoeuvres to present itself as part of solution

The WTO is also anxious to be seen as part of the solution to climate change. To this end negotiators have proposed the liberalization of 'environmental goods and services' (EGS) as a key way in which trade negotiations could help to address climate change. But this is yet another false solution. Unsurprisingly, WTO negotiations have taken a primarily trade-oriented approach to the issue, with countries proposing to liberalize trade in precisely those EGS in which they have a competitive advantage. This is especially the case in relation to technologies the US and EU hope to export, including traditional 'end-of-pipe' technologies such as waste disposal and wastewater treatment technologies. But some other countries favor a broader definition that could include any product that has some environmental benefit (thereby including *their* own exports).

Many controversial proposals have been tabled, some of which also have questionable benefits for the environment: Qatar, for example, has proposed natural gas and natural gas-fired generation systems (still based on fossil fuels); and Brazil, Canada and New Zealand have proposed biofuels (now known to have questionable or even negative impacts on climate change and food security (ICTSD, 2006b)). (For a list of environmental goods submitted by the 'Friends of EGS Group,' which includes Canada, the EU, Japan, Korea, New Zealand, Norway, Switzerland, Chinese Taipei, and the US, check Appendix 6 of World Bank, 2008a). A plurilateral agreement has also been proposed, if it seems impossible for all countries to agree on this issue.

EGS negotiations have also focused on trade-oriented concerns such as whether or not to liberalize 'dual use technologies' (that might or might not be used for environmentally-beneficial purposes); and the value of giving a one-off 'benefit' to technologies that might be cutting-edge now, but could be superseded by other technologies tomorrow. (ICTSD, 2006b)

There is also a question as to whether tariff reductions will really make much difference to the diffusion of climate-friendly technologies (Jha, 2009), especially compared with the benefits that could be generated by an increase in straightforward and genuine technology transfer for domestic technology development. Tariff reductions also lead to a loss of tariff revenue, which is a key source of income in many developing countries (who also have tighter restrictions on imports of environmental goods).

This turgid trade-oriented EGS discussion can have little part to play in the development of a swift response to climate change. Even more importantly, this EGS debate also distracts attention from the more significant fact that technology transfer is constrained by aspects of intellectual property rights rules, especially the WTO's Trade-related Intellectual Property Rights (TRIPS) agreement.

risky carbon markets finance climate change measures

Governments have also opted to use international trading mechanisms to drive and finance all these climate change measures and technologies. Carbon trading in particular has been and remains central to current climate change negotiations, in spite of the fact that it permits the rich, industrialized North to buy its way out of its commitments if necessary, and even though the outcomes of carbon markets to-date have been dubious, to say the least.

The Kyoto Protocol commits a specific list of 38 industrialized countries to binding reductions in the levels of greenhouse gases they may emit (to an average of 5.2% less than 1990 levels, between 2008 and 2012). These emissions allowances are expressed as 'assigned amount units' or 'AAUs' and countries can trade them with each other. Countries can also buy carbon credits or 'offsets' generated by projects in developing countries through the Clean Development Mechanism (CDM), or engage in shared projects in other countries with emissions reductions targets (known as Joint Implementation (JI)).

The overall idea is that climate change is a global problem, so emissions reductions can occur anywhere with the same result. In theory, trading carbon credits means that the market should ensure that reductions take place wherever it is cheapest. However, in addition to providing a route for the rich world to buy itself out of trouble, these 'Kyoto mechanisms' are already beset with problems. Not least of these is the fact that Russia and Ukraine were allocated too many AAUs in the first place (Ramming & Kleinwort, 2008) and could potentially flood the market. For the system to work, demand for credits has to be greater than the supply: otherwise the credits are too easily obtained and there is no incentive for a country to focus on improving its energy efficiency.

CDM fails to finance new and additional projects

The CDM has been roundly criticized by many because it effectively privatizes the atmosphere, allocating pollution rights to those that can afford to buy them. But even its supporters now recognize that it has failed to deliver on its original goals. It is complex, slow and cumbersome, and seems to be riddled with fraud: Certified Emission Reduction credits (CERs) have been allocated to many projects that would have taken place anyway. A Financial Times investigation also uncovered examples of credits that do not yield any reductions in carbon emissions; companies profiting from doing very little or undertaking efficiency measures they would have implemented anyway; and carbon brokers providing services of little or no value. The investigation concluded that, "*companies and individuals rushing to go green have been spending millions on 'carbon credit' projects that yield few if any environmental benefits.*" (Financial Times, 2007)

Several research reports reveal serious deficiencies in the way in which this issue of 'additionality' has been dealt with in the CDM (FOE, 2009; Schneider, 2007). Even staff at the World Bank acknowledge these criticisms: "*Important concerns have been voiced about CDM on issues of its additionality, its procedural efficiency and ultimately, its sustainability. Some critics of the CDM maintain that its rules are too complex, that they change too often and that the process results in excessively high transaction cost; they ask for relief from the rules. Other critics question whether*

certain project activities are truly additional, or whether CDM can create perverse incentives; they ask for even more rules.” (World Bank, 2008:4)

Importantly the Bank staff also observe that, *“Delays in payments also increase a systematic bias in favor of those projects that can be self-financed by large, wealthy project developers. Projects that really need the carbon payments to overcome barriers are more likely to fail as a result of these delays.” (World Bank, 2008:5)* And that, *“Over 70% of issued CERs come from industrial gas projects, with the vast majority of energy efficiency and renewable energy projects remaining stuck somewhere in the pipeline.” (World Bank, 2008:4)*

national carbon trading programs multiplying

A number of regions and countries have also decided to use carbon trading internally to distribute the burden of compliance ‘efficiently’ and at least cost. The biggest and most well known of these is the EU’s Emissions Trading Scheme (ETS). New Zealand and Switzerland have also launched national emissions trading schemes, and Australia and Japan plan to do so soon.

The ETS demonstrates some of the disadvantages of using carbon trading schemes, including their susceptibility to corporate lobbying. Companies such as Royal Dutch Shell and the steel giant ArcelorMittal, for example, reportedly threatened to freeze some of their investments in Europe unless the plan was reviewed (IHT, 2008). As a result too many permits were initially provided to certain industries, contributing to a slide in the price of carbon (World Bank, 2007) and a failure to restrict emissions.

As one media commentator has pointed out: *“the experience in Europe, which established the world’s largest greenhouse gas market three years ago, tells a cautionary tale – one in which politicians and influential industries may be diverting carbon trading from its original purpose of reducing planet-warming gases” (IHT, 2008).*

The scheme has certainly generated *“record profits for... RWE AG and other utilities.” (Bloomberg, 2006)* The UK’s Environmental Audit Commission has also cautioned that *“unless airlines are forced to buy their emissions permits through auction, they are expected to earn windfall profits – perhaps between €3.5 billion (£2.4 billion) and €4 billion (£2.7 billion)”* in Phase II of the ETS (EAC, 2007). It also seems that EU officials found establishing such a vast market much more complicated than they anticipated (IHT, 2008).

The possibility that the ETS is failing to maximize reductions in CO₂ was recently corroborated by an ex-European Commission official, who believes that the existence of the ETS is actively preventing energy-efficiency investment in the electricity sector. Jørgen Henningsen, now a senior adviser at the European Policy Centre, said, *“The Commission has clearly been over-optimistic about the contribution of emissions trading to CO₂ reductions. So far, the system has hardly delivered anything and the low CO₂ prices at present support the fear that not only the present trading period, but also the 2013-20 period, will be a failure”*. He argues that because the EU has chosen to use a market-based approach, the resulting price volatility, combined with the financial crisis, will effectively stop investment in energy efficiency (Euractiv, 2009).

Carbon markets, like any other market, are also volatile. Yet instability and unpredictability are hardly desirable characteristics in a determined and structured effort to mitigate climate change. Any factor that causes the price of carbon to drop, for example, makes it cheaper for companies to pollute, and thus less likely that they

will implement energy efficiency measures or develop new technologies. Uncertainty will also reduce upfront investment in desirable technologies.

The global credit crunch is one such factor: many companies now have allowances they do not need because output has fallen, so they are selling their surplus emissions allowances to generate funds. This, in turn, is contributing to a fall in the price of carbon.

Because climate change projects are often associated with uncertainty – because of poor process, as in the CDM, or the risky nature of some of the projects themselves – ‘subprime’ carbon credits may ultimately fail to reduce greenhouse gases and, like subprime mortgages, could collapse in value. Yet they are already being securitized and resold in secondary markets, without proper oversight (FoE US, 2009), and complex carbon derivatives are also emerging within the EU ETS (Reyes, 2009).

Yet many governments seem willing to continue as if nothing were amiss. Ignoring lessons that might be learned from the global financial crisis, they seem determined to press ahead with carbon markets. There are even proposals to use them to finance a new mechanism, Reducing Emissions from Deforestation in Developing countries (REDD), which is currently being discussed in the UN’s climate change negotiations (although an increasing number of governments are beginning to oppose this form of financing, including Bolivia, Brazil, China, El Salvador, Paraguay, and Tuvalu).

can REDD be made to work?

Stopping deforestation could certainly make a significant dent in the quantity of greenhouse gases being emitted each year. But a closer analysis shows that some governments favor a form of REDD that is not intended to stop deforestation, but to reduce it in a way that is comfortable and convenient for industry. REDD could also be used to reward those engaged in logging and industrial agriculture, whilst ignoring those countries and communities that have low deforestation rates. It could also provide lucrative opportunities for those with money to invest, including forest carbon finance companies.

Critically, REDD could hamper much-needed efforts to mitigate climate change if it is based on a definition of forests that includes plantations. Plantations are not forests. Large-scale monoculture tree plantations cause serious environmental, social and economic problems. Furthermore, they only store 20% of the carbon that intact old growth forests do. It thus seems inconceivable that climate change negotiators would sanction any process that allows natural forests to be replaced with plantations. Yet this is exactly what is being proposed by many governments in the climate change talks at the moment. Some countries even support a potentially profitable ‘net deforestation’ approach: this would allow them to continue logging and cutting forest to make way for agricultural exports in some areas, whilst being rewarded for conserving forests or extending plantations in others.

REDD also refocuses attention on a key moral and legal dilemma – to whom, if anyone, do forests belong? And who has the rights to sell forest carbon credits? It is certainly clear that in the absence of secure land rights, Indigenous Peoples and other forest-dependent communities have no guarantees that they will receive any form of REDD ‘incentive’ or reward for their extensive forest conservation efforts. Instead they may find that governments and others are increasingly likely to ignore the customary and territorial rights of Indigenous Peoples, as they seek to protect an increasingly valuable resource from ‘outside’ interference, violently or otherwise. (FoEI, 2008a).

If REDD *is* funded through carbon market 'offsets' it will offer yet another way for countries with carbon intensive lifestyles to continue consuming inequitably and unsustainably, diverting critical resources and attention away from measures to address fossil fuel consumption and the real underlying causes of deforestation.

Without addressing these key issues – the rights of Indigenous Peoples to benefit, the inclusion of plantations, and funding through carbon markets - REDD could join the long list of false and futile solutions to climate change which are currently supported by many governments keen to comply with international trade and investment priorities.

Conclusions

Trade and investment rules are clearly contributing to climate change in many different ways. They are also preventing the implementation of real and effective measures to mitigate and adapt to climate change, by limiting what governments are willing and able to do.

In addition, it is clear that many government officials, economists and others believe trade liberalization is more important than climate change; and that this is leading to reliance on a set of trade-compatible 'false solutions', which will almost certainly fail to deliver the far-reaching and swift economic and technological transformations required to slow climate change.

The social movements and civil society organizations listed below, who are members of the Our World Is Not For Sale network, believe the answer is clear: we urgently need to change the rules of the neoliberal, corporate-based global economy, if we are to avoid the worst impacts of climate change.

A new approach that puts the long-term health of the planet and the well-being of all its people before short-term considerations, would be better for our climate, better for people *and* better for our economies. To achieve this transformation, governments need to:

refocus trade and investment to promote the use of sustainable energy

Trade and investment negotiations and agreements that promote energy-intensive industries, including the exploration for and exploitation of new fossil fuel sources, should be stopped. This includes the WTO's energy services negotiations and various bilateral investment treaties. Governments should refocus their efforts on developing and implementing alternative policies that help to nurture and sustain clean, renewable, locally-controlled and low-impact energy resources and technologies, based on the principle of energy sovereignty.

To this end, governments should also redirect the very substantial amounts of public funds, tax exemptions and other forms of subsidies currently provided to the fossil fuel and agrofuels industries. These funds – totalling hundreds of billions of dollars every year (Stern, 2006) - should be used to fund climate mitigation and adaptation efforts instead, including the effective promotion of energy-efficient and accessible mass public transport systems and sustainable urban development; the development of safe, clean and community-led renewable energy technologies including solar, wind, geothermal, wave and energy efficiency technologies; and funds to help stop deforestation.

Furthermore, the World Bank's Clean Energy Investment Framework, which has no targets for emission reductions and promotes dangerous business-as-usual fossil fuel extraction, coal, carbon trading and offsetting schemes, should be dismantled.

remove IPR rules that stop the transfer of low-carbon technologies to developing countries

Intellectual property rights (IPRs) rules that prevent the transfer of free or affordable low-carbon technologies to developing countries, who are not responsible for climate change or the costs associated with avoiding it, must be dismantled. So too must rules on the patenting of life forms that threaten food security and farmers' ability to adapt food production to our changing climate.

In addition, the transfer of technology and finance that allows developing countries to make use of existing technologies and develop new ones is critical. These changes would allow impoverished countries to develop their economies, whilst minimizing their greenhouse gas emissions.

Progress on this fundamental concern could also remove one of the main obstacles to reaching a deal on climate change: whether or not all countries can agree on a way of moving forward together, whilst still recognizing that developing countries are not responsible for climate change.

The WTO's turgid trade-oriented 'environmental goods and services' negotiation has little part to play in the development of a swift response to climate change, and is little more than a distraction from the urgent need to address concerns about IPRs and technology transfer.

transform the way we produce food

It is also essential that we transform the way we produce food. WTO rules on agriculture and IPRs currently frustrate attempts to protect and promote diverse and sustainable small-scale forms of food production, even though this approach has minimal climate impacts compared with industrial agriculture, helps people to diversify and adapt to changing weather patterns, and helps avoid climate-damaging deforestation.

We need to protect and develop systems of food production and trade that reflect social, environmental and economic sustainability. Sustainable low-impact food production, that promotes food sovereignty, protects family farms, and uses seasonal food to provide first and foremost for local needs, together with changing dietary habits, would lead to a significant reduction in greenhouse gas emissions, as well as helping to combat hunger. The solutions to the current food and climate crises - both in the short and long term - require a deep and radical shift away from exported-oriented, industrial agriculture. Ultimately, WTO rules should not apply to food and agriculture.

stop deforestation

Governments need to challenge the underlying causes of deforestation directly, nailing down demand-side drivers in importing countries and resolving governance, poverty and land tenure issues in forested countries. It is also critical that trade liberalization negotiations – especially those aimed at bans on exports of timber – are stopped.

In so far as funding is required to stop deforestation, financing should be invested in national programs and infrastructure that directly support alternative rights-based forms of forest conservation, sustainable management, natural regeneration and ecosystem restoration, such as community-based forestry.

Funding to stop deforestation should not come from carbon markets; and other forms of finance should not increase the value of forests. Rather it should be tied to national commitments to cease commercial deforestation and restructure logging, pulp and paper and other industries, possibly over a number of years. It is important to bear in mind that financing is not everything. There are other important and relatively cheap options that could help to prevent deforestation, including deforestation bans and moratoria.

Any agreements aimed at stopping deforestation in order to mitigate climate change must also focus on stopping rather than reducing rates of deforestation. In order to

be both effective and equitable they must also exclude plantations and recognize and fully implement the rights of Indigenous Peoples as set out in the UN Declaration on the Rights of Indigenous Peoples (UNDRIPs). Without resolving these dilemmas, proposals such as those concerning Reducing Emissions from Deforestation and Degradation (REDD) could join the growing list of false and futile solutions to climate change.

stop corporations influencing policies to combat climate change

Corporate interests cannot be allowed to continue to influence the choice and design of policy measures to combat climate change (with governments avoiding measures to keep fossil fuels locked up underground, for example). Dismantling the power of corporations is an urgently needed step that would allow nation states to regain their ability to implement effective climate change policies.

Rescinding bilateral investment treaties, and the investor-to-state dispute resolution mechanisms, all of which underpin corporate threats to relocate their operations, is critical (and would also help to counter the threat of carbon leakage). These treaties, together with the International Centre for Settlement of Investment Disputes, should be replaced by an alternative body of investment rules, which deals with the responsibilities, rather than the rights, of investors. Corporations should also be held strictly liable for any social and environmental damage that has occurred as a result of their activities and should be effectively prosecuted if they fail to uphold environmental and labor laws.

abandon false market-based solutions

Relying on false market-based solutions – including problematic labelling and certification schemes, the liberalization of environmental goods and services, agrofuels, ‘biochar’, genetic engineering, geo-engineering, as yet undeveloped ‘carbon capture and sequestration’ (CCS) technologies, and the use of carbon markets to finance and drive these various processes – is not the way forward.

These mechanisms are all highly susceptible to corporate lobbying and manipulation. Whilst they can generate large revenue streams, they also attract already wealthy companies who hope to – and often do – profit handsomely from participation, sometimes without any gain for the environment. Those revenue streams can also be volatile and unreliable. Market-based solutions are also extremely complex, bureaucratic and expensive to participate in. They can be slow, cumbersome and almost impossible for local communities and Indigenous Peoples to engage with. They are no substitute for strong, fair and effective regulation: in fact, they *prevent* governments from opting for regulation.

Governments engaged in negotiating the next stage of the climate change negotiations need to recognize that the existing Kyoto mechanisms have failed to reduce greenhouse gas emissions, and find an alternative approach. Carbon trading and other market mechanisms and offsetting mechanisms commodify nature, and allow Northern governments and corporations to buy their way out of emissions reductions.

create a coherent rights-based framework to combat climate change

The context within which the global response to climate change take place is critical. The existing intergovernmental architecture has no coherent framework and this is a recipe for continued conflict. The WTO exists independently of the United Nations system within which the climate change negotiations are taking place. It also has a strong and binding dispute-resolution system. Thus trade concerns frequently outweigh other social and environmental problems, including climate change. This

balance of power has to be reversed, to ensure fair and effective measures are put in place to protect our environment and combat climate change.

Solutions to the climate crisis will not come from industrialized countries and big business. Effective and enduring solutions will come from Indigenous Peoples, peasant communities, fisherfolk, and especially women in these communities, who have been living harmoniously and sustainably with the Earth for millennia. To be effective in a world with enormous (and still increasing) gaps between rich and poor, multilateral negotiations and treaties on climate change must enshrine a rights-based approach to limiting the levels of greenhouse gases.

prioritize climate justice and climate debt, not trade and investment

A new, fair and climate-friendly approach to economics, based on the principles of climate debt and climate justice, is urgently required. Climate justice ultimately means that all people have the right to an equitable share of the world's natural resources, within ecological limits. It means redressing inequalities of wealth, power and access to the Earth's resources. It also means radically reducing wasteful production and consumption, first and foremost in the North, but also by Southern elites.

To achieve climate justice, the world's greatest *per capita* polluters must make deep cuts in emissions by changing their polluting way of life and transforming their climate-intensive economies. It is time to reverse the export market-oriented development paradigm, and create an alternative vision of sustainable societies based on sovereignty, solidarity and sufficiency. In short, industrialized countries must repay their climate debt.

This will undoubtedly impact on energy-intensive industries, and their ability to compete on global markets. But the governments responsible for climate change need to shoulder this burden; they should be rapidly restructuring their economies anyway, as they move to low-carbon economies. However, this transformation could be eased by removing the many trade restrictions and priorities that work to stop governments introducing strict energy efficiency regulations; protecting infant industries; subsidizing the development of climate-friendly technologies; and creating new, green jobs for displaced workers, who should not bear the brunt of climate change.

There is still a need to address industrial migration, competitiveness and 'carbon leakage' though. There is no point imposing tough emissions reduction standards in industrialized countries if it simply drives dirty carbon-intensive industries from rich industrialized countries to poor developing ones that have no emissions reductions targets. This could bring efforts to mitigate climate change to a grinding halt: in the long-term, it would be a lose-lose outcome for everyone.

Transforming our approach to trade and investment in general could again provide an alternative way forward. Replacing trade and investment liberalizing agreements and negotiations with genuine collaborative intergovernmental efforts to assist developing countries to improve their economies is a prerequisite. So too are the necessary and already promised financial transfers from North to South, to help the latter mitigate and adapt to climate change.

The current neoliberal economic system has to be replaced, if we are to combat climate change. There is no other workable option.

Glossaries

The UNFCCC glossary of climate change-related terms can be found here:
http://unfccc.int/essential_background/glossary/items/3666.php

The WTO also has a well-explained glossary of trade terms here:
http://www.wto.org/english/thewto_e/glossary_e/glossary_e.htm

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