A Geopolitics' Approach to the Climate Change Regime: how making sense of sustainable development unwraps the Clean Development Mechanism.

Keywords: CDM, Elites, BICs, COP3, Sustainable Development, UNFCCC Non-State Actors, Climate Change Regime, Geopolitics

MSc Nature, Society & Environmental Policy

Candidate Number: 148474

Word Count: 14,991

Dissertation Supervisor: Dr. Heike Schroeder
University of Oxford, 2009-2010

Abstract.

The paper argues for a geopolitical perspective of the climate change regimes historical-materialism. By doing this the State and Non-State actors who have formed the regime and adopted its guiding principle of 'sustainable development' may be engaged with and problematised. The international response to global warming is as much about climate change as it is about competing factions of political-economic 'elites' as the phenomena becomes a method to stimulate Foreign Direct Investment in the larger developing economies, characterised as the 'BICs' (Brazil, India, China). Critical stagnating literature on the CDM and its neoliberal market-environmentalism basis is shifted on to account for the new geopolitical configuration of the worlds political-economic 'elite'. The paper adopts three methods. (1) A literature review allows process-tracing and position-triangulation. (2) Key Informant interviews are used to test these positions and gain practical insights to the process. (3) Empirical analysis of CDM project transactions is used to illustrate the complexity and nature of the CDM.

Acknowledgements. Many thanks to the key informants who agreed to be interviewed and offered frank and open discussion on the subject matter, and who gave up considerable amounts of their time. Also thanks to Dr. Heike Schroeder for her insights and help, especially in the initial stages of the project. Finally, thanks must be appreciated to my peers and colleagues who provided crucial advice and guidance throughout the project.

Contents.

i. List of Tables and Figures

Figures.

Tables.

Abbreviations.

CDM	– Clean Development Mechanism
SD	– Sustainable Development
BIC	– Brazil, India, China
CCR	– Climate Change Regime
FDI	– Foreign Direct Investment
UNFCCC	– United Nations Framework Convention on Climate Change
KP	– Kyoto Protocol
THM	– Transnational Historical Materialism
KI	– Key Informants
NSA	– Non-State Actors
MEA	– Multilateral Environmental Agreement
COP	– Conference of the Parties
WMO	– World Meteorological Organisation
UNEP	– United Nations Environmental Programme
INC	– International Negotiating Committee
IPCC	– International Panel on Climate Change
CER	– Certified Emissions Reduction
FM	– Flexible Mechanism
IPE	– International Political Economy
BINGO	– Business/Industry Non-Governmental Organisation
ENGO	– Environmental Non-Governmental Organisation
REDD	– Reducing Emissions from Deforestation and Degradation
SBI	– Subsidiary Body for Implementation
SBSTA	– Subsidiary Body for Scientific and Technological Advice
GEF	– Global Environmental Facility
OPEC	– Organisation of the Petroleum Exporting Countries
AOSIS	– Association of Small Island States
GRULAC	– Group of Latin America and Caribbean Countries
GRILA	– Group of Ambassadors of Latin America
CC	– Climate Change
CSR	– Corporate Sustainability Report
WRI	– World Resources Institute
OECD	– Organisation for Economic Cooperation & Development
UNCTAD	– United Nations Convention on Trade & Development
WTO	– World Trade Organisation
MAI	– Multilateral Agreement on Investment
AIJ	– Assisted Implementation Jointly
CDF	– Clean Development Fund
UNCED	– United Nations Convention on Environment & Development
UNGA	– United Nations General Assembly
WCED	– World Commission on Environment & Development

Chapter I.
Introduction

Part I.

Introduction to the paper. Since the industrial revolution dating from around 1750, in excess of 290bln tonnes of carbon have been released in the atmosphere from fossil fuel combustion and deforestation – half of which has occurred in just the last 40 years. As a result, atmospheric concentrations have increased by 30% since 1750 (Barnett, 2007:1363; UNEP, 2002), a concentration of 400ppm of CO2 will soon be reached, pre-industrial revolution concentrations were around 273ppm (Helm, 2008:212). The wealthy and/or industrialised countries are largely responsible i.e. between 1900 and 1999 the USA was responsible for 30.3% of emissions, EU for 22.1%, China at 16%, Russia at 6% and India and Japan at 5%, making this group the highest emitters (World Bank, 2007). Climate change (CC) therefore goes to the "heart of the modern industrial economy" (Newell, 2000:9). However, the framing of such emissions in terms of 'States' and 'sovereignty' may be misleading. The complex weave of corporate and individual actors across geographical space makes it much more of a geopolitical case of 'class' and 'capital' (Barnett, 2007:1363) associated with the interaction of State and non-State Actors (NSA). CC offers political challenges both in terms of the international scale of cooperation that is required, and that the issue interacts with so many other issues on the international agenda (Newell, 2000:8). The true scale of the impacts resulting from disruptions to the hydrological system on water, food and disease suggest a potential to adversely affect by 2025 in excess of 500million people in over 50 – predominately developing countries, in regions such as central and southern Africa, South America and the small islands of the pacific which account for around 382.6mln people (Yamin & Depledge 2004; Paavola & Adger, 2006; Barnettt, 2007; Sachs, 2008).

The response to the awareness and growing consensus on climate change was to form the climate change regime (CCR). In 1988 the IPCC was founded by the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP); this signified the institutionalisation of the scientific arm of the CCR. The 'regime' was concretised at the Rio Earth Summit (1992) which would lay down the methods-of-engagement for over a decade to come, the operator of this 'regime' became the UNFCCC – the multi-lateral negotiating arm of the CCR – which holds annual Conference's of the Parties (COPs).

In the face of growing concern that CC poses threats to continued economic growth, a solution which ostensibly rectified both concerns was sought. In 1997 the 'Kyoto Surprise'

was unveiled by the Chairman of the third COP; Raul Estrada, towards the close of negotiations, marking the formation of the Clean Development Mechanism (CDM) – one of the 'flexible mechanisms' (FM). This allows industrialised countries to meet their emission reduction targets through purchasing emissions reductions credits (CERs) generated from developing countries, through the finance and transfer of 'clean technology'. The CDM market as a whole was worth in excess of $6bn in 2006 and nearly $13bn (World Bank, 2008:7) in 2007. The CDM sits within a framework of FMs, together with the 'Joint Implementation' and 'Emissions Trading'. However, the CDM in terms of its governance and geographical scope is unique, in that the mechanism generates projects with the purpose of channelling finance from the 'developed North' to the 'developing South' in exchange for carbon credits. This purposeful geographical interdependence represents how; through the issue of 'CC' new forms of governance are (re)scaled to reflect a plethora of actors sitting within a complex network of interests and functions (Bumpus and Liverman, 2007:3).

The CDM is defined under Article 12 of the Kyoto Protocol (KP) as its purpose being to "assist Parties not included in Annex I in achieving sustainable development"; this statement is dialogical with developed countries as the mechanism is also aimed to "assist Parties included in Annex I in achieving compliance with their quantified emission limitation and reduction commitments" (UN Kyoto Protocol, 1998:11). Within Article 12, it is requested that CDM projects must operate on the basis of: 'voluntary participation of each party involved' (Art.12.5(a)); provide 'real measureable, and long-term benefits to the mitigation of climate change' (Art.12.5(b)); provide 'reductions in emissions that are additional to any that would occur in the absence of the certified project activity' (Art.12.5.(c)). The CDM signifies the first time under international environmental law that provisions for private entities have been made that actively produces an environmental commodity (i.e. a carbon credit) through the adoption of a market mechanism (Bohringer, 2003; Langrock et.al., 2004).

Today around 2062 projects have been registered with a further 179 in the registration process, 5122 CDM projects are now included in the pipeline and 709 projects are generating CERs. This represents around 790MtCO2e of project based transactions (World Bank, 2008:7); Asia and Latin America taking the lionshare with 78.4% and 16.9% respectively, along with Europe and Central Asia (1.2%), Africa (2.5%) and the Middle East (1%) (UNEP-Risoe, 2010). The transactions of these projects are mostly between developing Brazil, India, China (BICs) and the developed States of the UK with 31%, Netherlands 11% and Japan 12%

- Europe in its entirety is involved with 86% of the projects (World Bank, 2008:7). The top buyers of CDM project generated credits include EcoSecurities, EDF, RWE, Cargill, Camco and Mitsubishi; such companies are mostly involved in wind-power projects, biomass energy and hydropower (ibid).

(1.1.) **Aim.** The paper aims to question the normative understanding of the relation between the developed and developing world. It aims to show that an actor*centric* i.e. State or business for example, will only ever tell part of the story. It therefore aims to show that for an analysis of a global problem, in which a global response has been triggered, a global perspective needs to be taken which fully accounts for the complexity of how various actors interact. The paper therefore doesn't look to *achieve* what others have either directly or indirectly sought to do in the past in blaming one specific actor or group of actors, but instead, will aim to show that the international response to global warming is as much about CC as it is about competing factions of political and economic powers. In sum therefore, the real *problem* may emanate out of the ideological basis and normative value system through which the plethora of actors interact and participate within. The overarching aim of the paper is take-to-task the disconnect between the extensive literature which applies a critical 'International Political Economy' (IPE) of the relations between the developed and developing world, and demonstrate what is occurring in reality in the shifting geopolitical context of the 21st Century.

(1.2.) **Argument.** To reply to these aims the paper takes three levels of analysis, the first focuses on the context of the CCR through analysis of geopolitics taking the lead from Barnett (2007:1361) who points out that 'climate change is a geopolitical problem'; the second level focuses on the concept of SD; and the third level brings these two together to critically engage with the CDM. The unifying actor to all these levels is the UNFCCC and its 'agent' the CDM.

The papers argument is rooted in the notion that 'natural events' do not occur and have impacts independently from their socio-political context, also, a responding action to such 'events' is the product of human action, and for this to occur decisions have to be made – such decisions are the "products of human cognition and volition" (Halden, 2007:28,29). Finally, rational human 'action' is necessarily connected to value systems and ideas about the world, such 'action' is derived from purposes or motives which in turn are derived from social and political systems. The UNFCCC, I argue, is an example and the result of such

'action'. Such 'action' is to be understood as being greatly influenced by powerful political and economic forces which have a high-stake in the international response for regulation of the industrial economy, such 'forces' hold great amounts of capital which awards large amounts of power. Within the negotiations, power is wielded to gain access 'to' and influence decision-making, "thus power is seen here to be an effect of exclusionary social practices and the limited accessibility of social structures" (Holzscheiter, 2005:731). I argue that such 'forces' are unlikely to question the fundamental relationship between capitalism and ecological degradation and will instead actively influence the international response to maintain their power. Furthermore, the paper is grounded in the notion that the international system does not supplant the sovereign-State, but that these two spheres mediate and condition each other in a dialectical relationship (Levy & Egan, 1998:341). In this sense the paper echoes the words of Andrew Dobson that:

"...It is simply untrue to say that, given the present conditions, it is in everybody's interest to bring about a sustainable and egalitarian society. A significant and influential proportion of society, for example, has a material interest in prolonging the environmental crisis because there is money to be made from administering it." (Dobson, 1990:152, *in* Newton, 2001:4)

Furthermore on this point, the paper argues in favour of Paavola & Adger's (2006:595) point that "national governments do not protect the interests of all their citizens equally – the most vulnerable people often have the least voice". Turning towards the application of this notion, the paper argues that policies such as the CDM instead of facilitating a process in which 'forces' or 'elites' in the developed world absorb capital and resources from the developing world, what in fact occurs is that 'elites' in the developed *and* developing world work hand in hand within an intricate network of public-private-partnerships to discipline State bargaining positions (Falkner 2003). On this point, the paper argues for attention to the complexity of actors involved – action occurs both internally and externally of the formal meetings, by both State and NSAs and at local, national and international scales (Paavola & Adger 2006:596). An appreciation of the 'complexity' of the interdependency of these actors and networks is essential to the paper (Newton, 2001:6).

It must be noted that the paper strongly argues that the traditional dichotomisation of the global 'North' and 'South' increasingly "obscures as much as it reveals about the main cleavages in the climate change negotiations" (Newell 2000:17). The CDM facilitates a new

strategy to foster renewed channels of FDI (Brown & Corbera 2003:S52), this causes the proliferation of policies which allow the furtherance of 'elite' capital accumulation in both the developed and the emerging 'elite' middle-class in the developing world. This is propounded within the formation of international environmental law, as multi-lateral agreements (MEAs) continuously focus on the 'State' as the key actor, when in fact much of the inducement of CC – in both a physical and political sense, comes from private actors. I argue this has the affect of the lowest-common-denominator often being achieved, rather than progressive principles of law. The paper argues, that *understanding* this argument explains how the CCR came to accept a Protocol that "penalized the large emitters in 'Annex I' through higher commitments while rewarding the largest 'non-annex I' emitters with access to the largest share of funds" (Werksman, 2000:230). In sum the paper calls for a new sort of value system which has a new approach to sustainable consumption and production patterns especially with the use of natural resources (Taylor, 2007:170), essentially emissions need to be understood for the industries and markets they represent, and the countries, companies and people they impact. (Zamecnik, 2009:64).

(1.3.) **Contribution.** The general contention in the literature is that this emergence of new governance structures facilitates the development of policies that are characteristic of market-environmentalism. Whilst the paper agrees with this contention, the paper takes its point-of-departure from the ostensibly accepted argument that simplifies the socio-power relations within such polices, which argue that, tools like the CDM facilitate the channelling of capital, power and resources from the developing world for the profit and benefit of the developed world *only*. The paper therefore agrees with Gough & Shackley (2001:330) that the literature has had a propensity to identify a small number of powerful forces that act out of selfish motivation, as focusing on multinational corporations or politically corrupt administrations is a far more successful storyline than a 'we are all to blame' message or identifying a cooperation between powerful 'elites' in the developing *and* developed world. The literature on the international politics of the environment appears to focus on the power of institutions and their orientation towards the regime, regime analysis is often state-centric and often obscures explanations for political outcomes. I look to broaden this focus beyond the 'institution' and contextualise the 'regime'.

The papers unique contribution lies in its ability and strategy to make the link between the historical, present and shifting future geopolitical context and how this relates to CC policy,

taking into account the roll of FDI and the coalitions of interest that have formed overtime at the State level. However, the paper adds depth and mileage to the current literature by extending beyond a single level of analysis i.e. looking solely at inter-state interactions, and taking a political-economy approach, recognising that the relationship between the political and economic spheres – are dialectical, and that this is characteristic of a power relation which is influential in the formation of MEAs – when the outputs of these agreements have an impact on business operations. Furthermore the papers contribution to the critical literature on the CDM and the wider UNFCCC process lies in its engagement with the reality of the geopolitics in which it operates. Understanding that the "the geopolitics of the UNFCCC cannot be explained merely as a matter of the differences between the 'North' and the 'South'" (Barnett, 2007:1367).

The paper therefore incorporates the described geopolitical context, with an integrated simultaneous analysis of the roll of NSAs, both Business/Industrial Non-Governmental Organisations (BINGOs) and Environmental Non-Governmental Organisations (ENGOs). Arguing that understanding how State, Business and Civil Society work and interact with each other, is the same as understanding the output of this interaction, i.e. the policy derived from the 'container' of that interaction. In this case the 'container' is the UNFCCC Conference of the Parties (namely COP3 Kyoto) and the output being the CDM. By triangulating not only the levels of scalar analysis i.e. supranational, national and local; but also the types of actors which interact with and within each of the levels of scalar analysis, a more detailed picture can be framed and a more realistic account offered. The paper is timely in that it calls for a refocus on market-based mechanisms and offers a pragmatic approach to such solutions and engages with the roots of the problems with the CDM, this in light of the immanency of REDD and the possibility of adding REDD to existing CDM (Murphy et.al., 2009:29).

Part II. Contextualising the Argument.

(1.4.) The UNFCCC.

Context. The UNFCCC was ratified at the 1992 Rio Earth Summit after 18 months of deliberation by the International Negotiating Committee (INC). It was part of the basic framework of governance which entered into force in 1994 based on the understanding that climate is a transboundary issue requiring a global environmental regime (Boyd et.al., 2008:97). The CCR forms the "principles, norms, rules and decision-making procedures

around which actor expectations converge in a given issue-area (Haufler, 1995:96; Paavola & Adger, 2006:598). The CCR firmly establishes the "duty of developed countries to assist developing countries by financing, technology transfer and insurance...as part of the institutional infrastructure for channelling assistance to developing countries", how much assistance constitutes the 'sharing of burden' is not defined (ibid:599). The key article to this paper is that of the 'common but differentiated responsibility' of countries, within Article 3 of the Convention – this is the basis for 'assistance' between developed and developing countries. Arguably, the regime's design inhibits the perpetuation of the 'North'-'South' divide by employing Article 3, by seeking to differentiate the responsibilities of nations by requiring only industrial countries to meet targets, and imposing no binding commitments for developing countries (Thorne & Raubenheimer, 2002:55).

The formal container for the input of science into the UNFCCC is the IPCC which was originally structured by a small group of individuals at the UNEP and the WMO. The US has considerable influence over the IPCC by having its scientists and bureaucrats on the Panel. In its first assessment period, in 1990 prior to Rio, the IPCC had no formal participation rules and peer review was ad hoc. As Rio approached and CC appeared in prominence the political environment became polarized both at a national level and an international level as big developing countries such as Brazil and Mexico became very suspicious of the IPCC and its relationship with the US. Powerful interest groups with large stakes now began to show an interest in the IPCC. Notable entrants onto the political stage at this point were the 'Global Climate Coalition' (GCC) and the 'Climate Council', representing the fossil fuel and business lobbies, the numbers of these increased again with the announcement in 1996 that the US would support strengthening of the UNFCCC through a 'legally binding instrument' (Carpenter, 2001:314). The IPCC's relaxed structure meant that it was susceptible to political pressure, and its summaries and 'final negotiated statements' were often based on least-common-denominator conclusions. The IPCC 'Working Group' and its First Assessment played a "critical role in pushing the negotiations towards a convention...the negotiation and the signing of the climate convention would 'definitely not' have been possible without the IPCC" (Agrawala 1998:635). Arguably, the INC sensing a defection of the Latin American powers appointed 'Raul Estrada-Oyela' of Argentina its vice-Chairman. Early regime-building negotiations throw light on the political dynamics and key issues that shape CC negotiations in the current day (Depledge, 2005:25)

Structure. The UNFCCC represents the negotiation-bargaining platform, which refers to the "politics that take place within the formal international fora; the focus is on the process of bargaining and the trade-offs that are traditionally assumed to take place exclusively between states" (Newell, 2000:154). The UNFCCC's annual COP is typically attended by around 10,000 delegates, two subsidiary bodies (SBI & SBSTA) which are guided by the COP bureau but essentially 'independent' – providing working drafts for further negotiations and liaising with the IPCC. The COP has 11 officers, with all but one nominated by five regional UN groupings. The 11 officers are the COP President, seven Vice-Presidents, Rappoteur and the Chairs of the two Subsidiary Bodies, the effective management of these actors is key to the negotiations (Depledge, 2005:151). The UNFCCC is supported by a one-hundred strong secretariat, and the 'Global Environmental Facility' (GEF) under the auspices of the World Bank providing the main financial mechanism for developing countries i.e. financing of delegates to attend (Richards, 2001:1,2). The structure is shown in *'figure one'*, and a summary of bloc negotiating positions in *'table one'*.

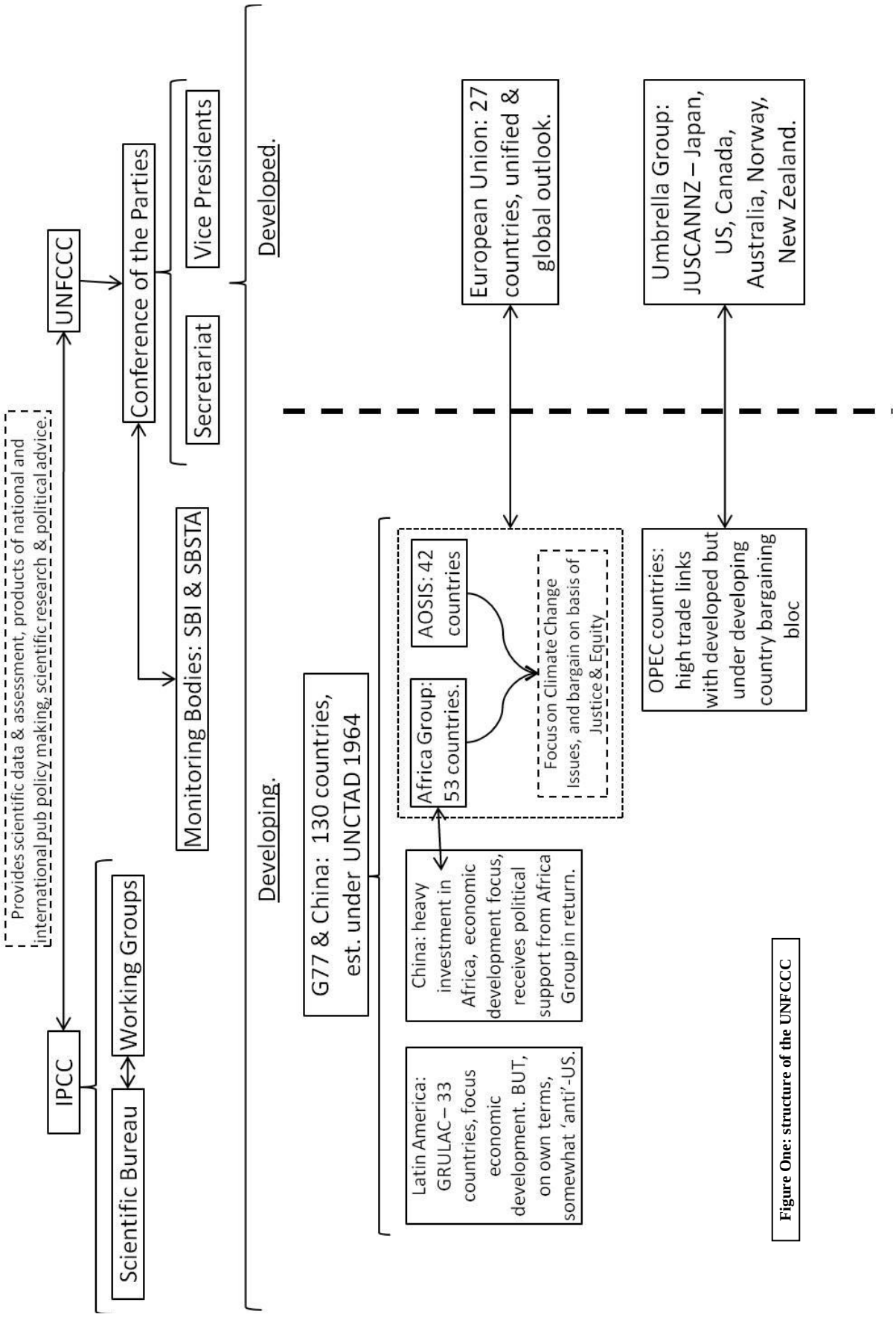

Figure One: structure of the UNFCCC

Bargaining Positions		
Group	**Barraging Character**	**Group – Cohesive or Fractured?**
AOSIS	Drafted the 'Toronto Target', call for a 20% reduction in emissions by 2005. Proved to be compatible partners with large ENGOs. Group galvanized by their vulnerability	***G77 and China* –** very **fractured**, different stages of development, and different development paths and trajectories. Also tendency to bias in favour of OPEC countries to chair – 5 of the 10 Presidents of the G77 have come from OPEC countries of which there are only 12 member states.
Latin America	Either as 'GRULAC' (Latin America & Caribbean) or as GRILA (Latin America minus Brazil), group in favour of sinks in the CDM; often block position or commitments dictated by the US.	
OPEC	Resist controls on emissions of GHGs by drawing attention to the costs that will be incurred by them in any move away from a carbon based economy; argue that this impinges on *their* right to development. Represent a veto coalition, dominated by Saudi Arabia, grouped together with AOSIS which have diametrically opposed views.	
Brazil, India, China (BICs) (South Africa & Mexico possibly could be included	Large emitters of CO2 (low per capita emissions). Most percentage development will occur in these countries, most to gain from subscribing to no commitments. China world leader in renewable technology. BIC have emerged as a serious political and economic contender on the international political stage. Self-imposed emissions reductions also made as part of economy development.	
EU	More in common with developing country positions than their 'developed' counterpart the US. Conceded to market mechanisms despite vehemence against pre Kyoto – position has been weaker for it.	***EU* –** relatively **cohesive**, but division between proactive northern EU and the less proactive southern EU.
US	For years adopted a blocking position during the negotiations, heavily lobbied by the fossil fuel lobby. 'Change' in prospect with Obama, possibly too little too late in the face of BIC. Masterfully forced the key COP at Kyoto to adopted market mechanisms.	**US (formerly JUSCANZ) –** very **cohesive**, formed 'Asia-Pacific partnership to continue market based approaches

Table One: bargaining positions. (Ashe et.al., 1999; Newell 2000; Richards 2001; Depledge 2005; Coen 2005; Barnett, 2007; Murphy et.al., 2009)

From the negotiations organised under this structure, the CDM was developed and is defined under Article 12 of the Kyoto Protocol which lays down the mechanics to allow developed countries to meet their emissions limits and developing countries – the hosts of CDM projects – to achieve 'Sustainable Development' (SD). The basis of the CDM is that finance is supplied to developing countries so that capital that would otherwise be spent by the host country is displaced and invested elsewhere providing 'leverage for development' (Mathy et.al., 2001:256,263). The mechanism involves mostly the exchange of private-sector led capital for project development of 'low-carbon' or 'renewable' technology. The CDMs crediting system allows for example a hydro-electric project that reduces emissions by one tonne in China to enable the UK to increase its domestic emissions by a commensurate amount. Therefore the total global emissions don't decline, and the onus is on the project to be truly additional, i.e. it wouldn't have occurred in the absence of external finance (Baumert, 2006:383,384).

(1.5.) **Geopolitical context.** The paper finds it crucial to understand the complexity and the interdependency of actors at the international negotiations. There indeed exists South-South, North-North polarizations and commonalities as pointed out by Boyd et.al. (2008) in which "diverse and often conflicting sub-groups and new coalitions reflect heterogeneity" (ibid:107) among and within developed and developing countries. The following outlines the geopolitical configuration in the 21st Century and offers an indication of why certain blocs and groups collate together, why they take such positions in the international fora and why fracturing and cohesion takes place on the international stage.

Africa. African States often both lack the means to address the problems of their populations and also the interest to do so. The State apparatus is often detached from other 'civil society' organisations within the territory. This precipitates an often 'coercive-intensive' apparatus which exploits the resources of the State for certain privileged groups such as the dominant tribe/clan due to patrimonial relations often embedded within State structures during decolonialisation. There is internal complexity within Africa with the strong and integrated States of South Africa, Namibia and Tanzania; existing alongside weak and loosely coupled States such as Congo and Sierra Leone. There are also States which have a high influence in the region with extensive militaries but are weak in their internal capabilities, such as Nigeria, Uganda and Angola. The stresses which African States will no doubt face as a result of CC may provide them a higher degree of bargaining influence, however many African States are

being coerced into falling to the whim of their large FDI partners in Asia such as Sudan and Zambia (Halden, 2007:64,65,66,71).

Middle East. States are characteristically autocratic and exhibit a weakly integrated state-society complex, in which the state is to a large extent decoupled from society. The State is strong and has extensive capacities to maintain order; such capacity is built on an oil-based economy which embeds a carbon-economy within its very infrastructure. To this extent, States gained in strength and influence during the 1970s and 1980s due in part to rising oil revenues. In the face of CC, diversifying away from a carbon based economy could be the regions downfall – they therefore remain a very powerful public counterpart with private business interests looking to mitigate regulation on CC (Halden, 2007:72,73,73; Helm, 2008:215).

China. Environmental degradation places large strains on China's economy accounting for losses of 10-15% of its GDP, this combined with the extensive rolling out of plans to consume more coal as part of meeting energy demands mean that China is central in the climate debate. Action on CC and environmental degradation poses a potential threat to the authoritarian State, although protests and action are mostly channelled at local scales and not seen as challenging 'systemic' problems. Tight regulation on access to communication means that the middle-classes pose the largest potential danger – although many are enjoying prosperity alongside China's boom. China also doesn't suffer from 4-7year political cycles, so coherent negotiating position are easier to achieve (Halden, 2007:84,85,88).

India. The south-Asian complex is dominated by the relationship between India and Pakistan. India has economic and political dominance in this region, and the decline of Pakistan in recent years has allowed India more room to manoeuvre both economically and in the diplomatic sphere. Predictions of CC in India show that by 2100 the costs of CC to India could be as much as 9-13% of its GDP, meaning that India has a high stake in the future direction of MEAs (Halden 2007, 91,92).

Latin America. The region is similar to Africa in that it suffers from the presence of armed militias and the relative weakness of the State, although differs in that it is home to large and strong industrialised economies and relatively accountable governments. Large disparities in wealth and standards of living mean that economic differences and access to resources often

become politicised between authorities and local communities. Large amounts of the population in various Latin American countries are dependent on the Amazon and the minerals within it, such populations often have infighting within i.e. between indigenous communities and ranchers or oil prospectors. The dominance of Brazil – and to a certain extent Argentina – has brought by-in-large stability to the continent acting as a status-quo of power and stability. The region as a cohesive unit often acts to challenge the hegemony of the US offering a powerful counter (Halden, 2007:94,95,96).

EU & US. The EU is a mix between a states-system and a common polity "giving it elements of great power concert, (heavily modified) inter-state dynamics and a form of State" (Halden 2007:101). The EU adopts a supra-national governance approach, emphasizing the transnational activity of firms, placing pressure on governments to cooperate. In this way, the EU adopts a 'liberal intergovernmentalism' approach arguing that domestic actors, including NSAs should inform the preferences of the State (Cowles, 2003:104). The US and its position towards the CCR is to be grounded in the notion that they are "eager to obtain the consent of *all* major affected sectors and to avoid steps that would be economically harmful to them" (Levy & Egan 1998:346).

The paper has begun with an introduction to contextualise the debate (Chapter I.) followed by a thorough literature review which analyses the discourse surrounding the subject (Chapter II.). The paper then turns to explain three methods used to unpack, analyse and test the 'argument' in 'Methods of Analysis' (Chapter III.). The context and discourse analysis then condenses to form a logical argument offering a critique of SD examining how the impregnation of this multifarious concept within the UNFCCC – and by implication the CDM, may explain the CCR character, culminating in a sub-section offering alternative solutions (Chapter IV.). This is followed by a reflexive conclusion (Chapter V.).

Chapter II. Review of the Literature

The paper looks to shift the critical debate of the CDM on from the stagnating literature of its neoliberal market-environmentalism basis, to it accounting for the new geopolitical configuration of the worlds political and economic 'elite'. Research looks at the international relations of and between State and NSAs at international negotiations on CC and critically engages with the ongoing process and the policy it produces. The paper takes a global historical perspective, focusing on the CDM to engage with its structural strategy in linking developed and developing countries. Crucial to the paper is a thorough historical materialism of the CDM, forwarding the notion that such policies are thoroughly understandable in terms of their origins, emergence and application. In this way engagement with the concept of SD as the implicit 'basis' concept of the UNFCCC – to which the CDM emanates out of – is used to explain initially why the CDM behaves the way it does, and also offers possible solutions going forward and warnings to future policies such as REDD. As Snidal *in* Newell (2000:2) points out: "analysis of the formation and development of international political regimes cannot be studied without an appropriate understanding of the strategic structure of the underlying issue area". For this reason the following literature review looks to fulfil the complexity to which this reference demands.

(2.1.) **Geopolitics.** The term 'Geopolitics' or 'Geopolitik', is defined as "the theory of the state as a geographic spatial phenomenon" (Kjellen, 1916 *in* Halden, 2007:44). Here geopolitics is used as a method to explain how actors operate at negotiations to maximise their domestic gains and minimise the negatives (Barnett, 2007). Specific instances of these cases of bargaining and intermingling of public and private actors provide rich insight into the geopolitical nuances of the COPs (Ott et.al., 2005; Boyd et.al., 2008; Bodansky, 2010). Literature on the overarching debates on how CC in terms of physical impacts and, in terms of policy strategy; also informs this paper (Barnett, 2007; Halden, 2007; Helm, 2008). The global geopolitical configuration has shifted over the last decade; the CCR is one of a few opportunities to elaborate on this insight, although literature is thin on the role of the BICs on the global stage Murphy et.al.,(2009), however, offers an excellent typological awareness. Key to the new geopolitics in the context of CC is an attention to the impacts within the 'developing' world, who will be most affected both in physical and policy interventions terms (Sutton, 1996; Heller & Shukla, 2003).

(2.2.) **Historical-materialism context.** The paper triangulates three levels of analysis in this context – of the CCR and its notion of SD; the UNFCCC and IPCC and; the CDM. Analysis of the theoretical and practical construction of the concept of SD is crucial to understanding what sort of normative values and motives lie within the concept, this analysis requires a critical historical perspective (Simon, 1989; Thorne & Raubenheimer, 2002; Arts, 2005; Taylor, 2007), with non-critical perspectives also useful in providing more objective insight (Mathy et.al., 2001; Najam et.al., 2003). Building on this, the context for the UNFCCC and IPCC may be unpacked and the structure of this supranational organisation may be more thoroughly understood (Agrawala, 1998; Richards, 2001; Yamin & Depledge, 2004; Depledge, 2005; Baumert, 2006). Bridging the literature on the physical structure of the CCR and a critical engagement with the structure requires a detailed analysis of the system from its geopolitical-historical emergence (Jakobsen, 2004), and an analysis of regime formation and the role of private actors (Haufler, 1995; Levy & Egan, 1998).

(2.3.) **State, NGO, Business: legitimacy & authority in policy creation.** The paper condenses the critical analysis of the negotiations, especially that of COP3 and its CDM. The paper adopts Arts (2003:3) definition of NSAs that they are "all those actors that are not (representative of) states, yet that operate at the international level and that are potentially relevant to international relations", however such social agents are embedded in historically and socially constructed structures. The relationship between State and NSAs within the CCR "may be instrumental in nature, with the State dominant" (Haufler, 1995:94,95; Siebenhuner, 2003; Jordan et.al., 2005). However, the paper warns away from a statecentric analysis which regime theory tends to offer, taking the view that NSAs are key and prominent whilst at the same time the UNFCCC process being ultimately dictated by the State (Levy & Egan, 1998, Newell, 2000; Jakobsen, 2004; Hoffman, 2008). To maintain balance however, the paper agrees with Cowles (2003:114) and Arts (2003) that we should be "cognizant of how these actors [NSAs] fit in the reality" within negotiations as global actors. In the negotiation of environmental policy, ultimately there exists an assemblage of power with shifting geometries of influence and access.

Since COP3, review papers of the over-arching NSA engagement in the negotiation process detail how the globalisation of private governance institutions are increasingly influential in the formation of MEAs (Corell, 1999; Smythe, 2004). The tendency to narrow NSA functions

to limited levels of governance and to certain normative groups should be complicated; it is simply untrue to describe that ENGOs such as 'Greenpeace' and 'WWF' don't interact with business interest actors such as 'Swiss Re' or 'BP' (Cowles, 2003:109). More detailed literature on specific groups of actors is also well documented. Newell (2000) points out that the influence of 'fossil fuel lobbies, and to a lesser extent environmental NGOs persists for the whole policy process' making these notable actors. The influence of business and the powerful lobbies such as the GCC and Environmental Defense are key to understanding the CCR (Egenhofer & Cornillie, 2001; Carpenter, 2001; Coen, 2005; Kolk, 2008; Vormedal, 2008). Haas (1992:30) points out that the role of epistemic communities is vital to understanding policy outcomes as they "insulate their views and influence national governments and international organisations, by occupying niches in advisory and regulatory bodies". The role of NGOs and the strategies adopted to impact decision-making in CC politics is therefore a key consideration in the triangulation of actors to be accounted for (Corell, 1999; Gough & Shackley, 2001; Corell & Betsill, 2001; Hoffman, 2008). The characteristics and strategies of these two groups and of successful lobbying in general are fundamental. ENGOs tend to have intra-group relationships, with BINGOs being largely dominated by one group – the fossil fuel, energy and chemical sectors. Both groups submit sections or entire drafts of conventions to the COPs. ENGOs tend to adopt more informal and radical headline grabbing strategies, whereas their counterparts adopt a methodical more formal approach offering alternative evidence to representatives and using scientific discourse and language as oppose to polemic (Giorgetti, 1999; Arts, 2003; 2005; Coen, 2005).

Detailed assessment of the multitude of actor involvement can be unpacked by adopting the literature on international environmental governance and the associated proliferation of the privatisation of governance institutions within civil society (Cashore, 2002; Falkner, 2003; Cowles, 2003; Pattberg, 2004; Holzscheiter, 2005; Arts, 2003; 2005). Newell (2000:160) also points out that we should be aware that "certain groups are permitted access to decision-makers and are allowed to participate on advisory committees". This fits well with the broader more encompassing analysis of network governance more generally (Rose & Miller, 1992; Hasenclever, 1996; Benford & Snow, 2000; Sorensen, 2002; Vogler, 2003; Lemos & Agrawal, 2006; Rhodes, 2007), in which, within international regimes – in this case the CCR – with specific political-economic normative value systems, the relationship between political and financial capital may explain the formulation of policy.

(2.4.) **International Environmental Policy Process.** Detailed analysis of specific COPs especially COP3, has been given much attention (Carpenter 2001; Egenhoffer & Cornillie, 2001; Yamin & Depledge, 2004; Ott et.al., 2005; Baumert, 2006; Boyd et. al., 2008; Zamecnik, 2009; Bodansky, 2010), with more encompassing reviews of COPs over specific time periods coming from Giorgetti (1999) (Rio 1992 – Kyoto 1997) which also offers an excellent review of the various NSA who regularly attend the COPs, more general reviews of environmental policy developments from Kolk (2008) (Rio 1992 – Sydney APEC Declaration 2007). More broadly, critical engagement of the carbon markets has been well documented within the academic literature (Newell & Paterson, 1998; Levy & Egan, 2003; Stephan, 2008). An excellent critical review can be referenced in Bumpus and Liverman (2007) in which an assessment of the spatiality of actors is used to engage the concept of carbon offsets mechanisms as a capital accumulation strategy.

More general engagement with the CDM as a function of climate governance has also been well documented, in it signifying a reorganisation of State power and the emergence of NSAs equipped with the legitimacy and authority to play a key part in the decision-making process of the CCR (Suchman, 1995; Bulkeley, 2001; 2005; Lister, 2003). Greater critical academic engagement is also in thick supply on the CDM notably stressing the hastily put together mechanism and the inherent problematic of using 'market-environmentalism' to deal with issues of fairness and equity (Werksman, 2000; Mathy et.al., 2001; Thorne & Raubenheimer, 2002; Heller & Shukla, 2003; Brown & Corbera, 2003; Pardy, 2004). A gradual stream of NGO, Business and media reports have emerged on the subject of market mechanisms, (Lohmann, 1999; 2001; 2005; 2007; 2008a; 2008b; King, 2009; JPMorgan, 2010; Jones, 2010), some more critical than others but; the CDM appears often as the poster-boy for apparent failures and as representing issues with transparency inherent within the system itself.

(2.5.) **Climate justice.** What is understood and widely agreed upon within the climate justice literature is that "capacity to adapt is a function of access to economic resources, technologies...[and a] degree of equity in a society and the quality of governance...low income societies are therefore typically more vulnerable to CC than wealthy societies" (Barnett, 2007:1363; Agrawala, 1997:629). However, the critical CCR literature tends to

either focus or implicitly dichotomise the regime as a tale of 'winners' and 'losers', 'North' and 'South', developed country interests prevailing over the weak developing country bloc (Matthews & Paterson, 2005; Harvey, 1996; Ali, 2007), with more critical literature denoting powerful language relating to such market mechanisms, such as 'carbon fraud' and 'carbon colonialism' also being prescribed (Richman, 2003; Bachram, 2004). Such literature pits one against the other and either overtly or inherently follows the 'justice', 'fairness' and 'equity' literature, which arguably informs such a debate incorrectly (Rawls, 1971; Been, 1993; Ikeme, 2003; Okereke, 2007).

Encompassing arguments concerning issues relating to human rights and CC appearing especially since the introduction of the FMs – notably the CDM, apply this dichotomy sometimes constructively but often exposing a narrow focus (Ashe et.al., 1999; Shukla, 1999; Sinden, 2007; Sachs, 2008). Issues of equity within CC policy, and developing frameworks for consideration have greatly increased since the CDM was formalised after COP3. Such publications carefully unpick the principles as defined in the Articles of the convention and build a case for how international equity, sustainability and fair adaptation should take traction (Cazorla & Toman, 2000; Metz, 2000; Roberts, 2001; Shukla & Heller, 2003; Brown & Corbera, 2003; Depledge, 2005; Paavola & Adger, 2006; Grasso, 2007).

A reflexive critical literature has emerged outlining that; the failure of developing countries to accept a responsibility to combat CC, has left them out in the cold when it comes to influencing the COP policy outcomes (Najam et.al.m 2003:224). Pardy (2004) builds on this and criticises the 'common but differentiated responsibility' as divisional and counterproductive in making all actors responsible for combating CC. The environmentalist, developing country delegate and journalist Mark Lynas, stresses the impact to and role of 'developing countries' during the negotiation rounds and calls attention to the deep fracturing and internal geopolitics within the developing country bloc and the relative power of their largest representatives (Lynas, 2009a; 2009b; 2009c; 2009d). Fortunately some of the academic (law in particular) literature (Thorne & Raubenheimer, 2002; Ott et.al., 2005; Baumert, 2006; Halden, 2007:141) and some of the independent policy institutes redress this disconnect (Richards 2001; Zamecnik, 2009; Murphy, 2009).

Chapter III. Methods of Analysis

The paper builds on the identification that there remains disconnect between what is experienced in reality and what is described in the literature. The paper therefore aims to ground-truth positions within the literature by interviewing key informants (KI) on their experiences of policy negotiations. I do this by applying secondary literature and policy review publications to a critically informed process tracing of the historical emergence of the CCR. The paper adopts a critical 'transnational historical materialism' (THM) for looking at the "international system from the 'bottom up' and 'outside in'" (Sutton, 1996:420). The utility of such an approach is that "the discipline of theory [enables me] to make sense of the relevance of [the] empirical observations" (Clark, 1998:77). The second method includes the qualitative assessment and analysis of triangulated key informant interview responses; this is then applied through an empirical analysis of the CDM in the context of this paper. Essentially the implicit guiding philosophy for the methods used in this paper is the Deleuzein warning to rationalist philosophies in which the abstract is given the task of explaining reality providing the tendency for the abstract to be 'realised' in the concrete (Deleuze, 2006:vi).

Theoretical grounding: of State & Private actors.

(3.1.1.) **Theoretical basis.** The critical literature on neoliberalism is as extensive as it is diverse. For the purposes of this paper, I've chosen to condense the relevant offerings that have formed my critical basis.

Most developed countries are characterised as economically interventionist States who have significant linkages to business/industrial 'elites'. These linkages culminate in the State apparatus having the responsibility to "act domestically and internationally in order to assist economic actors within it's territory". In a globalised world this often means ensuring that the State maintains and creates spatially diverse markets for new channels of FDI (Haden, 2007:137,138). The contemporary political-economy therefore has an alliance between multinational corporations and trade or growth-orientated political parties, whether these are to the 'left' or the 'right' of the political spectrum. The popular interest shared by these two counterparts "must be concerned about growth because it provides ever-growing consumption and employment" (Peet & Watts, 2004:xiv). In the context of CC, when regulation which circumvents the continuation of these 'ideals' is threatened, multinationals with 'mobile capital' will naturally use the political leverage derived from the threat of 'capital flight' to

shape that regulation in their favour, this requires a strategy (Levy & Egan, 1998:341; Smythe, 2004:77).

The 'strategy' is two-fold, firstly, the cultural production of a conceptual device is adopted to appear to "bridge the impassable divide between growth and the environment" (Peet & Watts, 2004:xv), here SD is the 'conceptual device' and is therefore to be understood ideologically. Secondly, displacement of power upwards and outwards to unelected supranational and NGOs, relieves pressure from the State. Through this exercise of power this strategy may produce both 'action' and 'inaction' (Newell, 2000:156) – under this political and economic liberalism the resulting in/action will have anthropocentric priorities at its core i.e. environmental and social sacrifices for the continuation of current consumption trajectories (Taylor, 2007:169,190). In this sense, under the utilitarian approach of the private sector environmental degradation and resource depletion might be economically rational and justifiable (Simon, 1989:42). Within international markets and the global political-economy one increasingly finds a complimentary relationship between public and private actors and mechanisms (Cowles, 2003:109). NSAs as autonomous individuals become active in regime-shaping through directing its normative basis and operating on state preferences through domestic and transnational coalitions (Haufler, 1995:109). Their impact on decision-making may also be more indirect, as discourses disseminated from such 'agents' shape the discursive space within which actors discuss political issues and agendas (Arts, 2003:12, Falkner, 2003).

(3.1.2.) **Transnational Historical Materialism (THM).** The theory argues that there exists the emergence of a transnational historical-bloc comprising both State and NSA 'elites' that transcend any single class, but are bound together by common interests and identities by material and ideological structures. This emergent 'conscious international elite' depends on the security and continuation of the international trade and investment regime which is maintained by-in-large by co-operating State apparatuses (Levy & Egan, 1998:338,339). Bringing these actors together, a THM describes that the hegemony of firms with their large financial material capabilities enables them as holders of capital to dominate to the detriment of weaker societal actors (Cowles, 2003:111). Bearing in mind that the tale of 'emissions' is really more one of individual and corporate actions, then CC becomes revealed as really more of a problem of class and capital than of states and sovereignty (Barnett, 2007:1363). What is key is that we remain reflexive and identify that "social and political actions proceed from

social and political systems" (Halden, 2007:36), such systems are co-produced by civil society, the State and private actors. The historical element comes to the fore when notions of historically achieved 'hegemony' and therefore 'power' legitimates some actors over others. In this sense, the power and influence of some privileged social actors have been able to already "select and exclude specific topics, worldviews, participants or modes of speaking before the [other] agents enter the picture" (Holzscheiter, 2005:731). Although the constructivist approach which focuses on structures is important, ultimately agents *act* and structures are products of agents. A THM therefore enriches the picture and joins the dots taking a holistic and broad perspective to international relations; key therefore to understanding solutions to CC through focusing attention on the "capillaries of power that run through the global system" (Newell, 2000:162).

Applied in brief THM may be employed to highlight the complex assemblage of State actors and private interests which have powerful and vested interests in pursuing market mechanisms. For example, reforestation and aforestation projects in El Salvador and Guatemala, and biomass stoves in Senegal and Ghana become embedded in a political and economic network of actors. The plethora of actors is deeply complex and spatially diverse. Credits authorised under developing country governments allow third-party project developers to implement new technologies and protect indigenous commodities. These fictitious-commodities are generated and digitally transacted across space by private financial consultancies like JPMorgan and Goldman Sachs and sold off on the trading floors of the European (ECX), Chicago (CCX) and Australian (ACX) Climate Exchange's at key financial nodes like the City of London.

(3.2.) **Key Informant Interviews (KI).** Interviews were used to help bridge a conceptual analysis of political-economic influence, which may be vulnerable to abstraction, with the intricacies of the CCR experienced by the actors involved (Newell 2000). In this way, 'close dialogue' was adopted as a strategy for interviewing as received opinions were set against theoretical predispositions, recognising the limitations of the interview as being unlikely to overturn predispositions on the basis of one conversation (Clark, 2007:190). Using this method allowed the interview process to be reflexive towards the theoretically informed argument. Stylized facts were tested against empirical observations and primary sources – however, whilst still bearing in mind that empirical observations are "saturated by an implicit

order...[and] never theory free" (Clark, 1998:77). The structure of the paper, dictated by the argument I wish to make formed the basis of the semi-structured interview questions. This allows the responses to be readily codified and accessible to the argument, so that the response may interact with the argument. The purpose of adopting a KI interview strategy is to bring something new to the debate and the literature in a form of 'world making', "rather than simply accepting as a given a ready-made world composed by theorists" (ibid:79).

The KIs were interviewed over a two-week basis, after a two-week request period in which a sample of around thirty KIs were requested for interview – in some cases multiple people from the same organisation were sent requests. The KIs were indentified through the literature as reoccurring and prominent figures in the field of study, from the NSA literature identified in the previous chapter, and also specifically from Giorgetti (1999), Boyd et.al. (2008) and Gough & Shackley (2001) which helped identify three main groups and the actors within them. The triangulated actors were BINGOs such as 'Swiss Re'; ENGOs for example 'Sierra Club' who have an environmental focus; and, NGOs more generally such as 'CDMwatch' who have a more 'monitoring' or placing *checks-on-government* role.

A complete list of the KIs requested for interview, their position and response is provided in the 'Appendix (a)'.The list of KIs used for the purposes of this paper are also outlined and provided alongside a 'code' which is used for referencing the KIs comments used in this paper '(b)'. The interviews lasted on average for about an hour, and whilst every attempt was made to have an even greater diversity and number of KIs, time and resource constraints both of *this* paper and of the KIs placed limits on availability.

(3.3.) **Empirical Analysis.** The paper ultimately attempts to identify cross-sectoral, trans-state coalitions that include both elements of government and international organisations in alliances with different interest groups (Newell, 2000:166). In application of this, the paper is, as described, adopting the CCR and the CDM (as its representative-output) to highlight a geopolitical point of the complexity of the actor network, even at a highly refined level; the investment dynamics between developed and developing countries; and finally, show that this is often between equally wealthy and powerful counterparts. Also to demonstrate that often the companies in the non-Annex countries have strong links to the state or government ministries, pointing out that this may indicate why certain non-Annex countries bargain in a

particular way, explaining geopolitical ties. It also looks to elaborate on the purpose of the CDM, that the volume, size and type of investments facilitated under this mechanism would support the notion that the CDM projects may replace traditional forms investment i.e. military or trade, and represent a new form of FDI. This highlights concerning implications that should a mechanism designed to tackle CC be used to stimulate FDI between wealthy elites? The fact that the CDM doesn't actually reduce emissions and instead displaces the emissions by allowing Annex II countries to continue increasing their emissions would support the negative answer to this 'implication'.

The strategy for doing this is as follows, and involves the analysis of the CDM project data. The data was provided by UNEP-Risoe which gave me around 4000 projects to analyse – for the data to be analysed and presented in a realistic and useful way, a sample had to be created. The methodology for doing this was as follows: the 'Annex II' countries that provided investment for CDM projects in return for CER credits were separated and organised by country. Within the individual 'Annex II' countries the 'main' or 'large' transactions in terms of investment figures and number of projects invested in were extrapolated providing a sample of 2333 different projects. From this the data was then 'consolidated' by way of totalling the investment in a single project – as say 'Ecosecurities' may make several investments into the same project over a period – often there was no data on investment provided so these projects were also eliminated providing a refined sample of 315. These projects were then separated into blocs in which 'non-Annex' countries have shown themselves to bargain in. To refine the sample once again to a manageable size, the investment per individual project was calculated by dividing the total investment by the number of projects that had been invested in providing the 'average investment per project'. From this a sample of the top 10% were extrapolated as a sample for analysis, based on picking out a diversity of buyers of 'Annex II' and 'non-Annex' countries; type of project; and a range of individual private actors. Often the 'Annex II' investor would be involved in several project investments in different countries within the same 'bargaining bloc', this was taken into account providing the 'diversity of investment by buyer', this was used to calculate the 'involvement factor' of the buyer by dividing the 'investment per project' – calculated earlier – by the 'diversity' (or 'number of projects invested in). This allowed the analysis to identify the 'main' or most prominent transactions and actors in each 'bargaining bloc', providing me with a sample of 24. Therefore the data in the table is representative of

the largest and most prominent transactions between 'Annex II' and 'non-Annex' countries by bargaining group. As a caveat, if there was no or little information on one of the transaction actors, then another project transaction was analysed instead. The complete sample used is shown in the 'Appendix (c)'.

The paper now turns to the core of the paper, the application of the methods in the context of the background context.

Chapter IV. Findings & Analysis

The following chapter unpacks the arguments outlined in 'Chapter I.' and utilises the context offered in 'Part II.' of that chapter to achieve the papers aim. Part I. starts by illustrating a critical-historical perspective of the emergence and formation of the CDM. From this, the geopolitics that surrounds the CDM and its use may be realised. This then leads on to unpacking 'SD' as a conceptual device utilised by the UNFCCC. Part II. then builds into looking inwards to the UNFCCC process. Both the role of NSAs and the public-private actor interactions that exist within the international negotiating meetings are critically engaged. Condensing this allows the argument to reveal and explain the logical attraction of the CDM, and with this its internal issues. Part III. is then able to critically engage with the normative critique of the CDM as monopolising on developing country weakness and incapacity, and a critical approach to the role of the 'elite' is realised. Part IV. concludes with a constructive and reflexive analysis of COP3s FMs and the wider UNFCCC process, and offers some possible solutions and points out some existing areas of comfort.

Part I.

(4.1.1) **Historical emergence, context and formation of the CDM.** This story is two-fold, the first part describes the shift in the impetus and restructuring of FDI globally, and the second part demonstrates how the drive to create new channels for investment was realised by the CCR and appeared by way of the CDM. This Part also shows that the CDM was realised by cooperating 'elites' in both the developed and the developing world who were equally as enthusiastic to set up a new market to channel FDI.

The 1980's economic crisis, led to a restructuring of FDI, causing host countries of FDI outflows to push for liberalised investment regulations, targeted at opening up developing country markets; resulting in FDI being tied to 'debt relief' creating a 'structural dependence' of developing countries on the developed world (Levy & Egan, 1998:348). This investment and trade liberalisation led to the forging of economic alliances between a small group of financial OECD powerhouses and the larger non-OECD developing countries – the relaxing of regulation meant that much of the economic alliances were based on privatised 'intra-firm' transactions culminating in the contemporary characteristics of political-economic globalisation. Some of the alliances were based on investment to enhance trade i.e. Brazil, Argentina, but most, such as the African states had liberalised investment inflows tied to 'debt relief' i.e. Rwanda, Ethiopia. From the outset therefore, within the FDI alliances which

were forged by a public-private impetus within the OECD, a normative grouping of developed and the developing countries is concretised and instituted (Zamecnik, 2009:62).

In this sense, the OECD 'club' would play a large part in forecasting the development prospects of non-OECD countries – especially those which were large developing countries such as the BICs. The US ultimately dominated this 'club'. Following on from the political context of the 1970s Reagan-Thatcher era, the US continuously pushed for voluntary regulation and "pushed hard at the OECD to get an agreement among capital-exporting countries" (Smythe, 2004: 78). This culminated in 1991 when the US pushed for a full-scale binding investment treaty at the OECD. The supranational governance approach adopted at such meetings emphasizes how "firms' transnational market activity brings about pressures for governments to cooperate" (Cowles, 2003:104). The rise of private flows of investment can be seen as to the detriment of official development assistance (ODA) from governments. ODA stagnated over the past two decades whilst private flows have increased at least five-fold since 1990; FDI is also uneven with 10 countries receiving 70% of FDI (Heller & Shukla, 2003:8). The type of investment is also interesting; most is directed at the BICs who have initiated energy sector and infrastructure reforms to attract investment.

The push by the OECD to establish formalised trading partnerships, coincided with two key events. The late 1980s saw aid fatigue between the developed and developing world, the latter appearing increasingly vulnerable to the ostensibly endemic instability (Yamin & Depledge, 2004:26). During this time, Brazil suffered attacks from the international community on the deforestation of Amazonia with President Jose Sarney in 1989 insisting on Brazil's 'sovereign right to use its own territory'. A change of president in 1990 to 'Collor' led to the realisation that Brazil had to achieve the formidable task of changing its image, protect the Amazon – its main national resource, and stimulate inward investment from North America and West Europe (Jakobsen, 2004; Halden, 2007). Brazil's international obligation for action was further intensified when the WRI made a claim that Brazil was ranked third in the GHG index (1987). Brazil was now thrust into the limelight as a key actor in any intergovernmental agreement. The OECD coordinated with the WTO and notably UNCTAD in 1996 and 1997 to conduct workshops with the then cautious Brazilian administration, to show how a 'Multilateral Agreement on Investment' (MAI) maybe beneficial to contributing to economic

development in Latin America – this struck a very positive chord with the Brazilian President Collor, and cabinet member and future President Itamar (Jakobsen, 2004).

Prior to any forwarding of a financial mechanism at Kyoto, the other key developing countries – namely India and China, were highly sceptical. With the US looking to ratchet down any agreement on CC and pushing for new FDI channels, and with Brazil too in the spotlight and looking to absorb new FDI the build up to COP3 in Japan can be characterised as a time of regime building and strengthening (Depledge, 2005:26). The power of Brazil in its regional bloc meant that Latin America was united in pushing for a 'financial mechanism' in exchange for accepting some 'responsibility' (Richards, 2001:11) – Brazil's position remained dogmatic in not accepting limitations that would interfere with their economic development (Roberts, 2001:506). The tacit dance of getting key people on the international scene in agreement with the objectives of the US and Brazil begun in light of some projections on how much money could be flowing between nations if trading takes off that "suggest that trading could soon overshadow foreign and military aid" (ibid:504). India for example had an altered position at COP2 towards a market-mechanism proposal within the AIJ (Assisted Implementation Jointly), led by the US and the Netherlands. This came after India's main research centre, 'TERI', received considerable funding from the 'Rockefeller Foundation' (US), 'International Development Research Centre' (Canada) and the 'Ford Foundation' (US) (Jakobsen, 2004:282).

At COP3 the 'Kyoto Surprise' – so called because of its expedient and late arrival to the negotiations – was unveiled and agreed upon as part of the FMs. It's described as being able to provide 'win-win' opportunities for developed countries to achieve their commitments through financing projects which achieve the SD of developing countries. Article 12(9) invited the "participation of private and/or public entities (i.e. non-state actors) into both sides" of a CDM transaction (Werksman, 2000:236), bearing in mind that under Article 4(7) it is the 'responsibility of developed countries to provide technology transfer and financial resources'. The text of the CDM also differentiates implicitly who will likely receive funding. Firstly, the GEF would be provided as the interim facility, GEF stated 'four focal areas' that should be fulfilled for a state/project to receive funding. Ultimately, to receive funding a "project would have to offer substantial global benefits to obtain GEF financing" (Ashe et.al., 1999:216), this rules out most if not all AOSIS members and small scale projects. In this way,

it appears most likely that Najam et.al. (2003:225) are correct in describing that "the CDM will follow the path of foreign direct investment". GEFs resources and mechanisms for channelling resources to most developing countries therefore appears limited and restricted (Richards, 2001:24). With this in mind some observers have come to the conclusion that the problem with the CDM is that essentially it was the product of a watered-down version of the 'Clean Development Fund' (CDF) which would place a penalty/surcharge on developed countries if they failed to meet their emissions reduction targets:

"That concept [CDF] was basically turned inside out at Kyoto and called the CDM, and of course the definition says it's for sustainable development and emissions reductions in that order, but in fact sustainable development is kind of window dressing basically, we don't really have an effective set of indicators and performance measures" **(SierCCcamp).**

At COP3 the US was described as treating the CC talks "as if they were international trade negotiations" (Egenhoffer & Cornillie, 2001:10). With the EU exasperated, and seemingly willing to make great concessions for a treaty to be signed that included the US, the last bastion of hope for challenging a mechanism which was focused more on FDI than on CC, was ultimately the AOSIS negotiating bloc who would stand to achieve little benefit from the mechanism. The chair of AOSIS was 'Annette Auguste des Illes' of Trinidad and Tobago who have a debt worth 28% of their GDP, and who receive around 67% of their GDP from the US. Furthermore, the US directs $3.8bln worth of public investment, and around $1bln worth of private investment. Trinidad and Tobago also have a natural resource dependent economy, of which 46% comes from oil exports. Finally, Trinidad and Tobago have well-known bilateral relationships with US policy and objectives (nationmaster.com). In this sense, Trinidad and Tobago may not have been best placed to challenge the 'will' of the US, and enact its veto on the FMs.

'Figure two' demonstrates how powerful cooperating elites in the developing world, acting in the interests of themselves to stimulate FDI 'used' the UNCED to achieve this.

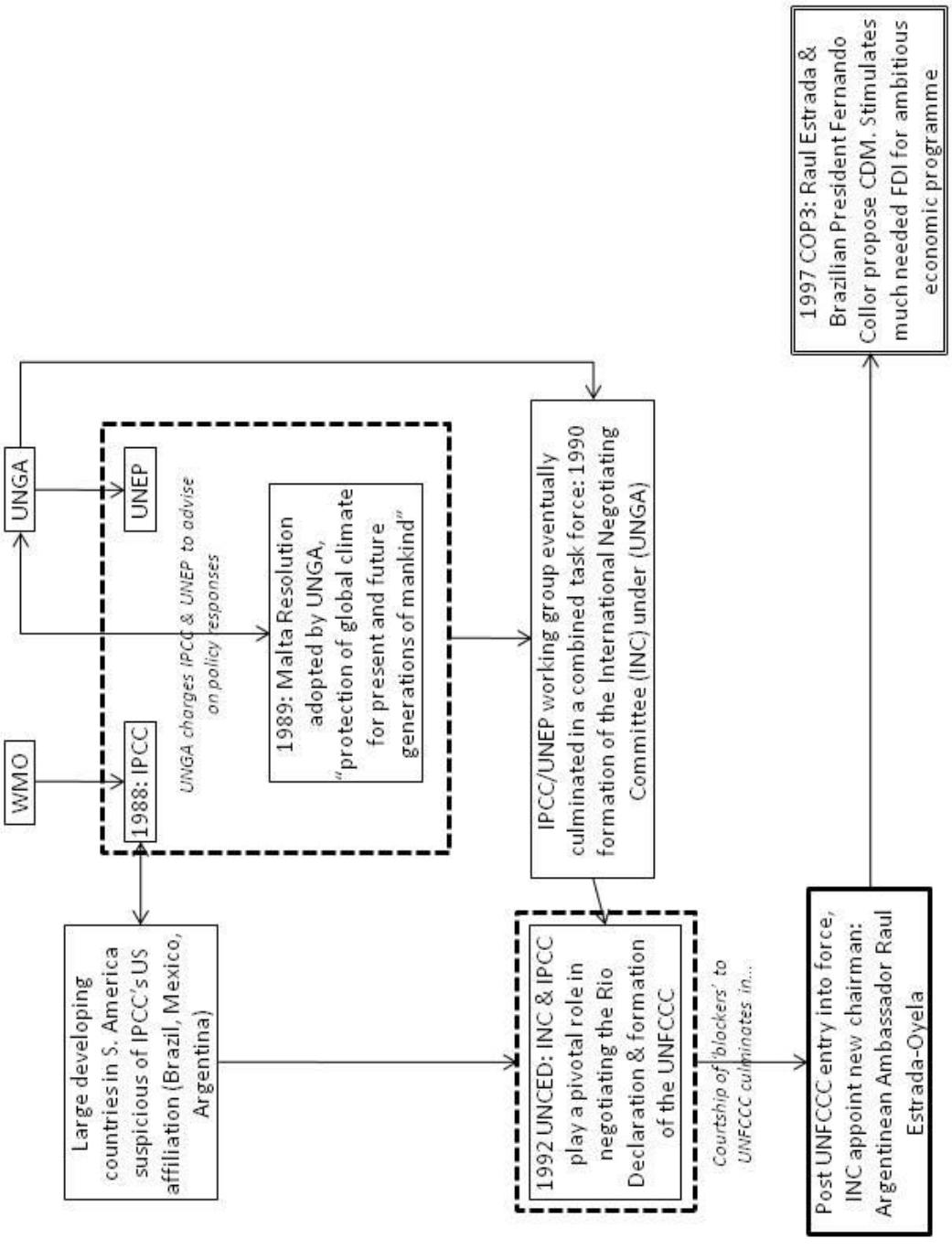

Figure Two: summary of the geopolitics within the formation of the CDM

(4.1.2.) **Geopolitical shift.** A key challenge of the CC negotiations is the tendency of parties to act out of 'competitiveness' rather than 'cooperation', this is derived from the high political stakes and concerns over national economic interests, this, against a background of historical mistrust and differing perceptions of the problem (Dedpledge, 2005:35). Contemporary growth trajectories appear to depend largely on hydrocarbon based economies to the extent that even in spite of looming environmental disaster countries looking to develop have an "unwillingness to concede mitigation of emissions....with reference to their right to economic and industrial development" (Halden, 2007:93). The impracticalities of asking developing countries to forgo their industrial development – given current technological capabilities – means that large developing countries prove incredibly powerful in bargaining within the context of CC, possibly even more than developed countries. Observers of the negotiations sum this up by describing that: *"the central geopolitical dynamic at the centre of the negotiations right now, the large emerging developing economies at the upper end of the scale, they have fast growing standards of living, they really have different set of interests even compared to a lot of the other developing countries. These tensions are coming out now in a new way at the UN climate negotiations, the drivers are much more overt than they used to be"* **(SierCCcamp.).**

China's relative power within the CCR lies in part as being the most populous country in the world and undergoing rapid industrialisation, this is a similar story in India and Brazil and is why reports on climate policy, national emissions and other national communications are taken so seriously (Ott et.al., 2005:89) and why their growing presence at the 'Gleneagles Dialogue' in 2008 was essential (Murphy et.al., 2009:15). Hence why: "[At the negotiations] *without China nothing was really happening, only when china and the US sat at the same table did negotiations really get started. They have huge power due to their footprint and to their economic growth and power in that respect"* **(Swiss/CCstrat.).**

The large developing countries are also crucially acting more in concert, and gradually drifting from their smaller developing country counterparts. Acting as a coalition, the might of the BICs in a geopolitical context within the CCR is proving a powerful bargaining position: *"I think it was a master stroke by the Chinese to get the Indians, the Brazilians and the South Africans to be part of this group because it gave them a huge amount of political cover in Copenhagen, it brought to the attention of the world the changing power geopolitics*

and the emerging power of these big developing countries, on the other side they are the ones who split the G77 because they formed an interest group of the big and the powerful and given up on this charade of being united in the progress of the third world, and much of the G77 seem not to realise this" **(Mald/Ad.).**

The coalitions bargaining power is only strengthened by their constructive willingness to make concessions on making future emissions reduction commitments. Mexico announced a national goal to reduce carbon emissions by 50% below 2002 by 2050; Brazil pledged to cut deforestation rates by half; South Africa pledges to stabilize emissions by 2020 (Murphy et.al., 2009:26). Influential developing countries have emerged in regions of the world characterised as being 'developing' regions: *"China is not yet fully at the global superpower level yet, but they're heading there and that to some degree colours what's happening at the G77, and with China in the UN negotiations. Brazil is the dominant country in the Latin American sphere, India is the dominant country in the sub-continent, South Africa is the dominant country in Africa. And china competes directly with those countries in their own zones."* **(SierCCcamp.).**

'Figure three' represents a geopolitical map of the main bargaining relationships that exists within the CCR in the context of the CDM.

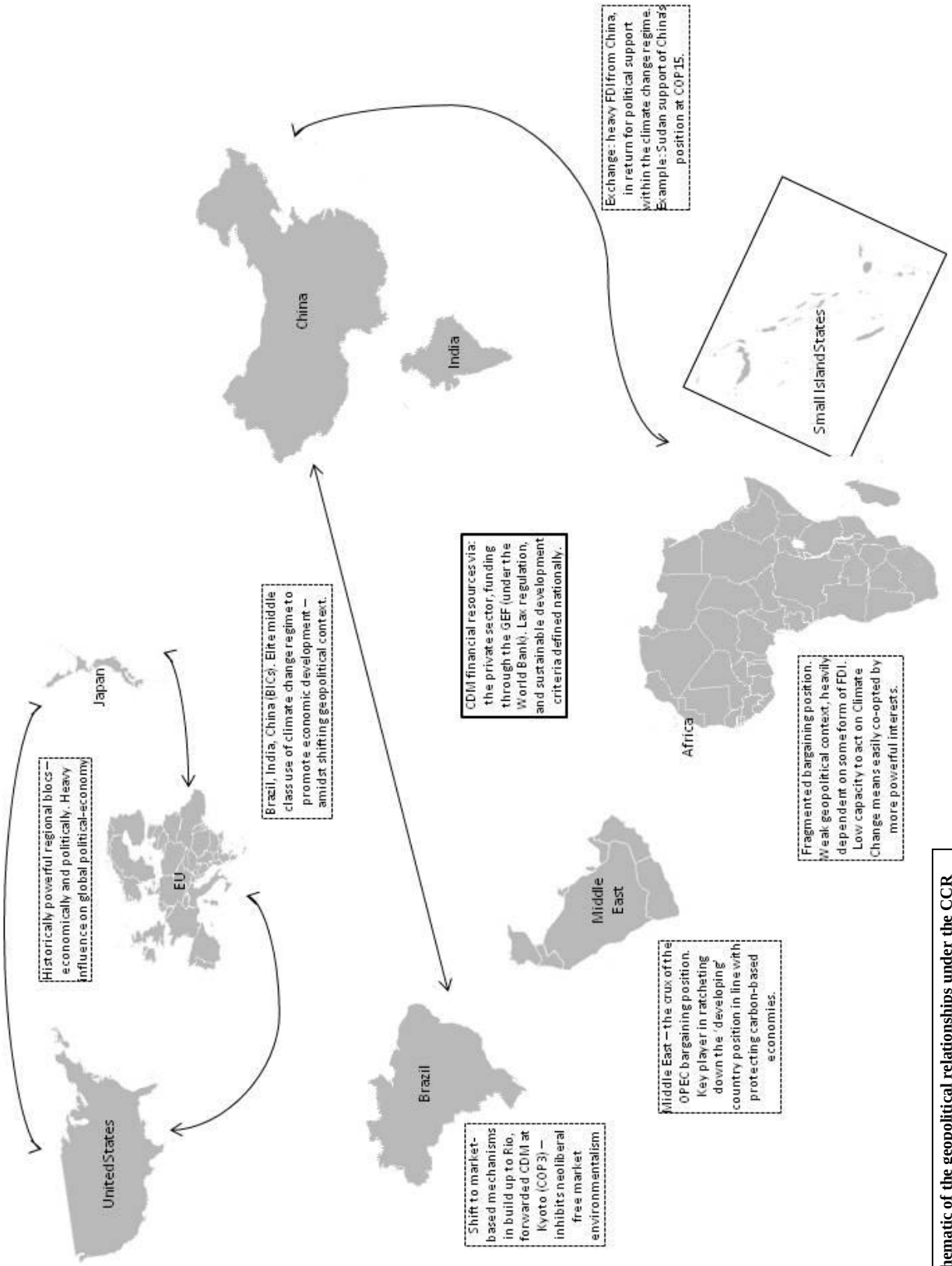

Figure Three: schematic of the geopolitical relationships under the CCR

(4.1.3.) **Geopolitics and the CDM.** It could be said that the CDM exists as a product of the realization that any agreement must involve the large-scale fiscal transfer of capital from the developed to the developing world. The CDM facilities the call by Latin American countries for FDI, African States for financial assistance and capacity building, and India and China's demands that the developed countries subsidise any alternative investment. The US pushing for a market-based approach (and new markets) embraced the flexibility that the 'Brazilian Proposal' offered towards commitments on emissions and finance (Werksman 2000:230). However, despite this apparent cohesion there is considerable fracturing within and between the regional blocs: *"there's been tensions between AOSIS and the G77 as a whole since all this started...China is booming and even by 2003 with their succession to the WTO, their view and the pressures on them are just completely different"* **(SierCCcamp.)**. Furthermore, there is considerable tension within the G77 & China grouping: *"you get power politics where different smaller weaker nations are picked off to join the sphere of influence of the larger one, there's nothing new about that"* **(Mald/Ad.)**. This occurs alongside and simultaneously results in the ratcheting down of commitments and lowest-common-denominator policy: *"the fact that we have industrialising countries leaning back and sitting on the argument that we won't have sustainability criteria, but it is the developed countries who decide on the projects, and so it's a take it or leave it situation, whereby the developing countries don't have a choice than to adapt to their [developed country] criteria"* **(CDMw.).**

However, it would be inaccurate to reduce the argument to simply saying that the most powerful parties get their own way, this only tells part of the story. Essentially what occurred in a geopolitical sense with the formation of the CDM was a compromise between coalescing State and NSAs (Levy & Egan, 1998:355). Power relations are rarely about total control, but instead represent the interweaving of interdependencies between actors. A power relation can only occur if one party does not have total control over another. In such situations, there exists a power 'game' where the participants always have control "over each other" and in consequence are also always to some extent dependent on each other. Here the power game is between the US and Brazil, cooperating with China and India. In consequence to this power relation, something comes into being that was planned and intended by none of these individuals, yet has emerged nevertheless from their intentions and actions. In this context, because the end goals of each of the actors were mutually beneficial, the UNFCCC and its idea of SD, is able to be channelled and reconciled within the CDM which meets many of the

aims of both parties (Newton, 2001:6,7). This occurs because a regime is essentially a form of "regulated conflict management among States which is resilient in the face of deteriorating relationships among participants" (Haufler, 1995:98). The relevance of the largest developing countries as powerful 'participants' on the international stage of the CCR is summarised neatly: "[China] *it's not a democracy so it doesn't think in terms of seven or four year political cycles...Brazil, India, Mexico and South Africa are all very big strong powerful countries with a foot in both camps, they're developing countries but have also got a foot in the developed country camp"* **(IIEDres.)**. The 'regime building' process before COP3 is most obviously seen from the results of the Berlin Mandate, which witnessed stronger alliances and more decisive positions of States to commitments (Giorgetti,1999:208), this is shown in *'figure four'* below:

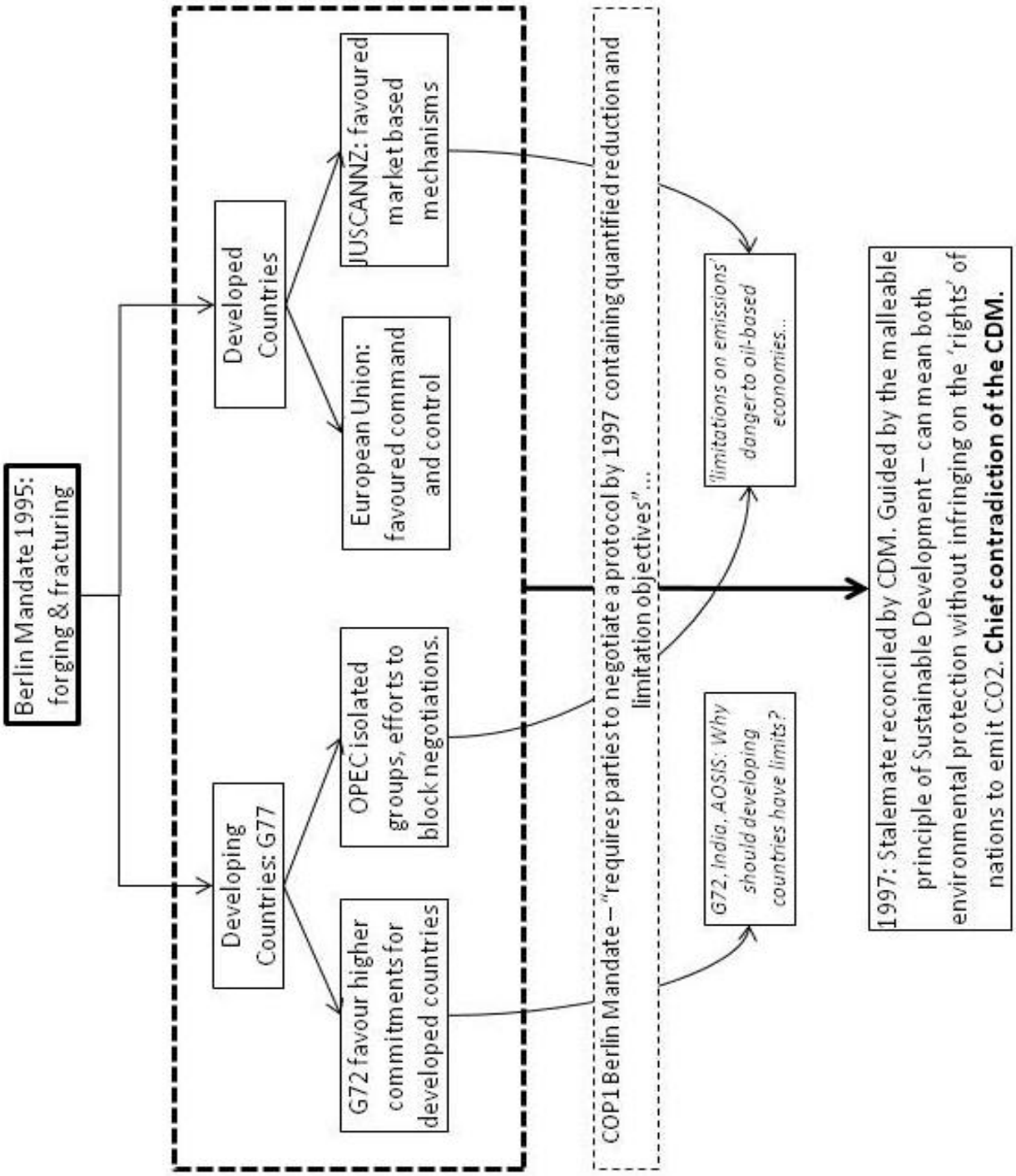

Figure Four: forging and fracturing, otucomes from the Berlin Mandate

This culminated in strong positions by Brazil and the US at COP3 when the US had a highly influential role in formulating a market-based approach, and a bilateral partnership between the two countries led informal group discussions around the CDF, which ultimately resulted in the CDM (Boyd et.al., 2008:99,100) achieving the US push for a 'quid pro quo' solution (Bodansky, 2010:7). Essentially the formation of the CDM may be summarised as the result of cooperation due to geopolitical competition and domestic impetus between the 'elites' of *both* developed and the largest developing countries. The continuation of this shared objective is achieved through making bedfellows with powerful lobby groups such as the fossil-fuel lobby, and maintaining strong trade and political ties with developing countries, especially OPEC who direct disproportionately the G77 bargaining position (Jakobsen, 2004:274; Ott et.al., 2005:89).

(4.1.4.) **Sustainable Development as a concept.** The UNFCCC is ultimately the result of the realisation in Stockholm 1972 that the majority of human development has been at the detriment to the environment (Mathy et.al., 2001:252). That current trajectories are unsustainable and will have a huge environmental and social impact on the world's most vulnerable who have *not* shared in the previous development (Taylor, 2007:167). It has a condensed set of ideas, values and norms. Legitimised by its affiliation to the historically embedded and justified UN and through its membership, it creates an environment to act on its claims of CC (Cashore, 2002:520). Prior to the UNFCCC, in 1987 WCED recognised the need for a 'new ethic' to underpin SD, accordingly a 'Charter' was drawn up to form the foundation for UNCED agreements and to be adopted in any Convention that emanated out of the awaited 'Rio Earth Summitt' in 1992. The draft Charter which stated that "the making of profit must not be at the expense of the social and ecological systems that host corporations" (Taylor, 2007:184) was rejected and instead the 'Rio Declaration' was adopted with a focus on 'ecological modernisation' (ibid:175)[1]. Searching for a catch-all concept with an attractive solution, 'ecological modernisation' provides the perfect platform in that being 'green' can be 'good' for business (Levy & Egan, 1998:352). However, the inherent problematic of the established approach by the UNFCCC in adopting 'ecological modernisations' concept of SD to direct 'human actions' is that it both priorities one groups idea of 'nature' over another, and therefore speaks for natures plurality with one voice (Newton, 2001:9).

[1] The draft 'Earth Charter' was a remarkable piece of literature boasting 'responsibility' for the 'community of life', 'obligations to rights', 'responsibility to operate consistently with social responsibilities and within the limits of the ecological systems' (Taylor, 2007)

Today observers describe SD as *"fundamentally a rather wooly term... it's just that it's appeared on so many CSR reports it's become somewhat devalued"* **(Mald/Ad.)**. At negotiations the instituted idea of SD nurtures the formation of lowest-common-denominator policies: *"some country's have taken quite a low bar in terms of their definition of what is sustainable development, and you don't have to do very much to have something satisfied as being sustainable development"* **(IIEDres.)**. In terms of the disconnect between what has been defined as SD under the UNFCCC and what it means to those most affected by CC, an observer to the COP describe that: *"one thing I've learnt from being involved with the UN climate negotiations is how big the gap is on that particular issue* [ideas of SD]*. It's 'the thing' in developing countries, and here in the developed countries it's just not the sort of thing we're thinking about every waking moment"* **(SierCCcamp.)**. Furthermore, *"what it means for developing countries also means economic development, but they also want to see an active contribution to the environment"* **(CDMw.).**

Taylor (2007) makes the distinction between the 'idea' of SD within the UNFCCC and the sense of a 'strong' SD defined in the decades before the UNFCCC formation which challenges our current economic paradigm, she describes that ultimately 'ecological integrity' is in contrast to the CCRs idea of SD. However, the argument is careful not to *throw the baby out with the bath water*, "sustainable development is needed because it can provide the conditions in which climate policies can be best implemented" (Najam et.al., 2003:228). The concept initially followed the format of the 'Earth Charter', with offerings from the IIEDs 'Barbara Ward' and 'Michael Redclift' who pointed out the obvious that: "human economy and society are fundamentally constrained by the overarching ecological systems upon which they depend" (Taylor, 2007:202) and therefore we can only operate within them. 'Flexibility' therefore means pursuing the dead-end of denialism by equivocating on commitments. Presently, the concept of SD offers a system which creates a negotiation space for foreign investors and wealthy private interests in the most affluent developing countries for the exchange of capital and credits with no absolute gain to the ecological situation – this is in stark contrast to how SD was first conceptualised within the 'Earth Charter'. Many projects under the CDM have turned out to be totally unsustainable, furthermore any project that occurs at the expense of the environment is unsustainable (Simon, 1996:41,42).

A flow diagram of how SD developed as a concept is shown in *'figure five'*.

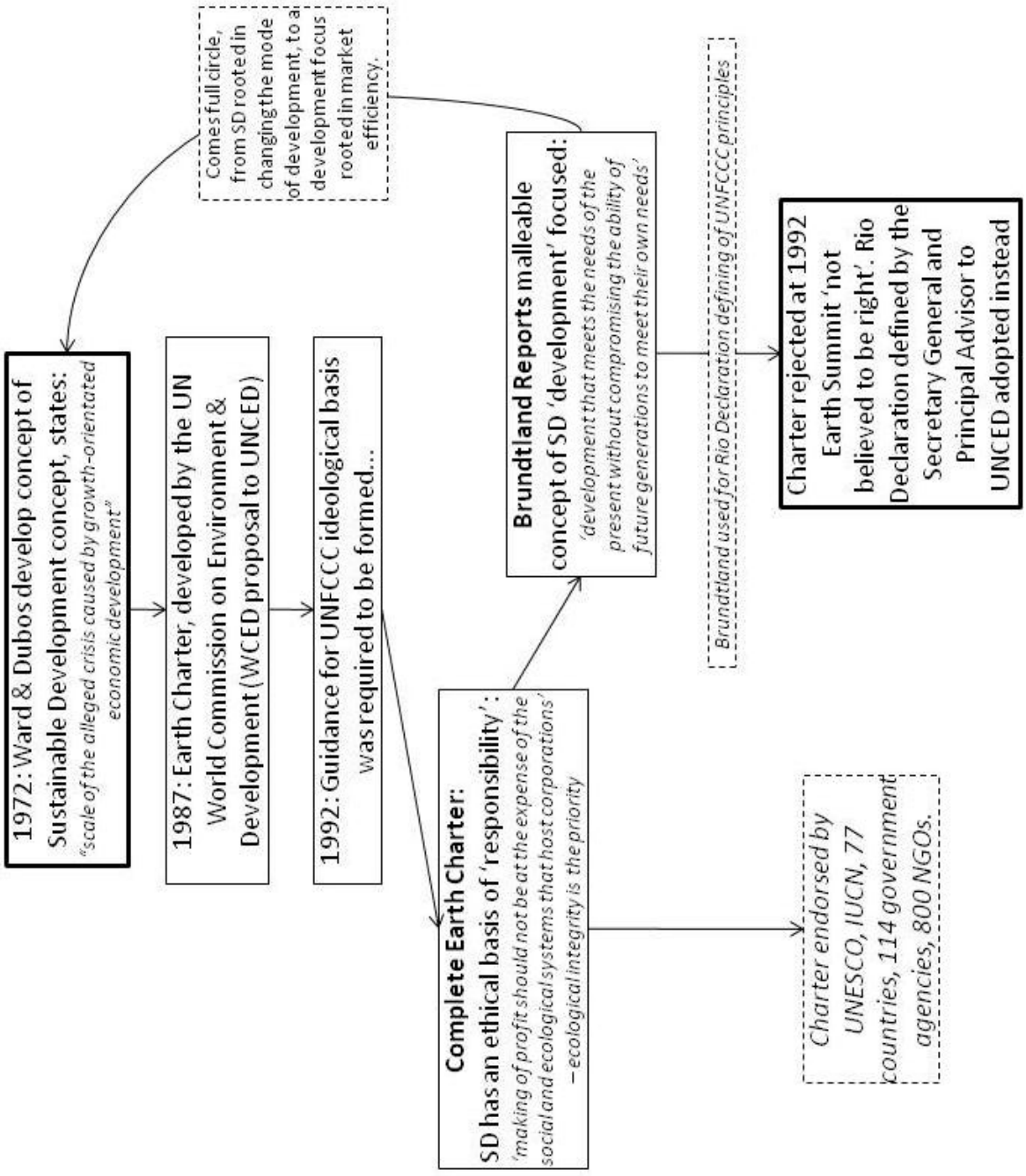

Figure Five: the historical emergence of SD as a concept

Part II.

(4.2.1.) **Public-Private Actors Interaction.** Access by civil society groups is limited by the institutional context limiting direct influence on the negotiations. The response to this 'restricted access' has been NGO-State partnerships and networking facilitated by the heterogeneous membership of the UNFCCC process (Arts, 2003:14; Hoffman, 2008:33,34). Another consideration for influence, is the tacit power of influential lobbies to influence policy formation through an awareness by policy-makers of their presence within the institutional environment (Newell, 2000:159; Cowles, 2003:112), illustrated by the point that *"in terms of lobby groups, oil is hugely important. The negotiations are definitely motivated by oil producing companies, and in some countries the two are pretty much synonymous"* **(IIEDres.)**. The participation of other groups is demonstrated by the statement that: *"we do try to influence the negotiations in our favour, not so much the political dimension but more with respect to how it affects us... I consulted the negotiators at the table with our team, and basically explained how insurance could play and interact with other adaptation measures, so we were really part of the negotiations... we are a member of the UNEP climate change working group which links NGOs and so on, we are indirectly influencing the negotiations"* **(Swiss/CCstrat.)**. The complexity of this interaction is outlined by Barnett (2007:1371) who describes that "the group [OPEC] is heavily influenced by Saudi Arabia, and Saudi Arabia appears to be heavily influenced by the same oil companies that effectively lobby the US Government".

Lobbying is not necessarily about paying high political contributions. In the US it incorporates this, but it also involves reaching out to the most key actors. The EU is learning from the US to some extent, although lobbying in Europe is still less overt and polarised (Agrawal, 1998:639; Coen, 2005). The specific nuances of how different NSA epistemic groups interact within the negotiation space have been outlined in 'Chapter II., section 2.3.'. Ultimately different types of actors engage with similar strategies of influence and access, by staking claims to 'knowledge' and claiming 'legitimacy' towards a particular area of focus and interest – this occurs at the State, Supranational, and actor specific level internally and externally of the negotiations. *'Figure six'* illustrates the dialectical entanglement of State, NSA and the UN, *'Figure seven* applies the political-strategies used by NSAs to lobby the UN and its Convention in detail (Kolk, 2008:7), and draws links between this and the policy that has evolved to demonstrate the private-public interaction that has co-evolved within the

CCR. It also points out that the legitimacy of the State and the UN is dialectical with the membership and support of NSAs (Cowles, 2003:109):

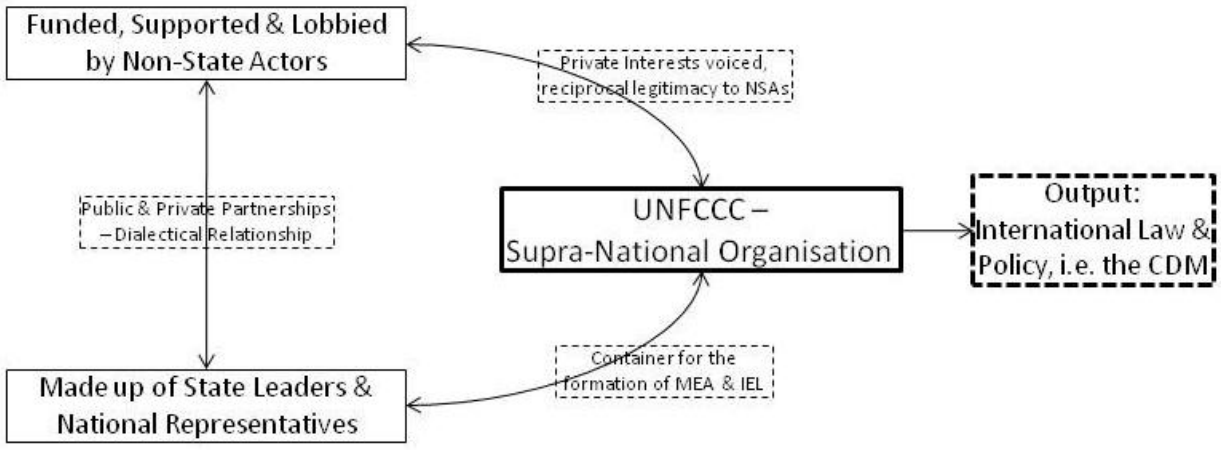

Figure Six: dialectical interaction between State, NSA and the UNFCCC

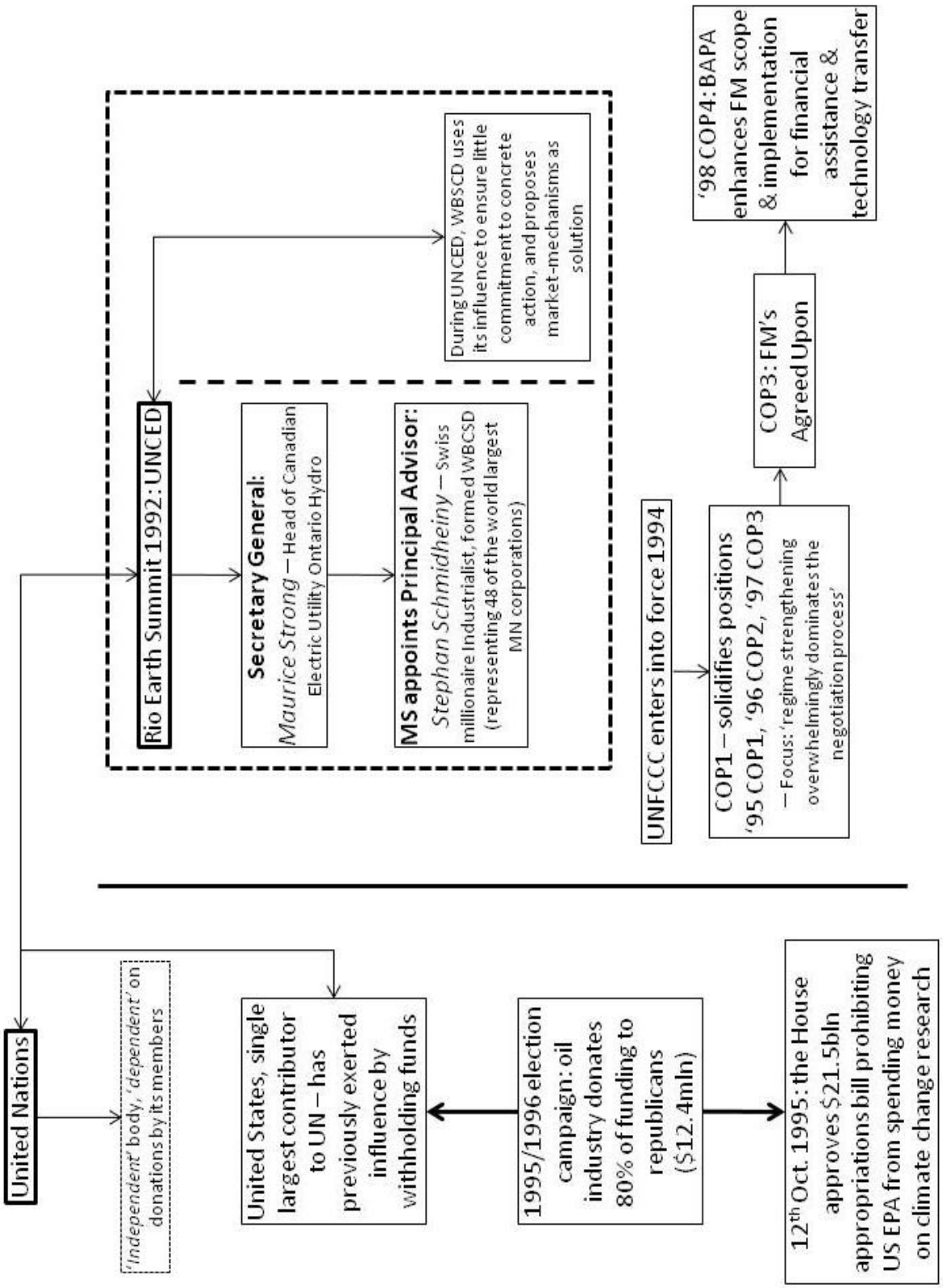

Figure Seven: public-private interests and evolution of the CCR

When this interaction is highlighted the CDM and the problems that have evolved out of the mechanism begin to make sense. One observer describes that: *"*[the CDM has] *worked as a way for large authorities and companies in a few developed countries, to get financing for big projects that they were probably going to do anyway, and so you have the additionality issues which are not related to sustainable development. And you have these constituencies that have sprung up in favour of the CDM as it stands in China, India and Brazil, who don't mind at all getting funding for these projects...when you're talking about money, everyone behaves in a very consistent way; they're defending their interests to the nth degree"* **(SierCCcamp.)**.

(4.2.2.) **Attraction (or problems) with the CDM.** The CDM facilitates 'flexibility' in all directions, principally through the main objective of SD being allowed to be defined nationally: *"one of the purposes of the CDM is to allow flexibility in what sustainable development was defined as. They wanted to let countries decide, firstly because they couldn't agree at the international negotiations, but secondly because there is maybe no universal definition of what a CDM projects sustainable development could be"* **(IIEDres.)**. Also flexibility in how robust the project actually is in reducing carbon emissions. This leads critical eyes to describe that: *"it doesn't occur to most people who set up carbon markets and operate within them that you're not actually reducing emissions your just shifting them around, and in the best possible situation where it is regulated and the project is additional, that your just shifting emissions around and theres no actual net reduction, there just going where the reductions are cheapest".* Moreover: *"carbon markets simply give negative incentives, I mean having a price on carbon is good for private sector investment decisions without a doubt but in terms of how you negotiate when you're sitting round that table at Cancun or wherever, if you want to maximise your income from carbon credits you have to negotiate the lowest ambition target then exceed it and then sell the difference, so it's not an incentive to go for carbon neutrality...* [also] *there's big additionality concerns you get a lot more money for building a factory producing f-gases and then shutting it down than you do for doing carbon abatement. Its related to the fact that the CDM takes place in uncapped markets, so its a fundamental problem if you try and create a price signal without having a cap"* **(Mald/Ad.)**.

Issues with the CDM are therefore deep-rooted and not simply methodological concerns (Werksman, 2000:238). They go back to the very foundations of the container for the process

of which CDM was borne out of and right through to its structure currently as under-funded and under-resourced (Ott et.al., 2005:88). The CDM creates a lucrative market, private capital attracted by the flexibility of voluntary regulation and relaxed methodological criteria is able to connect with foreign markets. The resulting issues over additionality and the absence of the sort of multiplier effects that project finance was believed to bring about, make the following observation thoroughly understandable: "[SD] *should have a much more dominant role within the CDM, but as it stands now it doesn't have... HFC projects are the basis of the CDM as it produces the vast majority of credits, so seeing that there can be such an extreme flaw within the methodology it weakens the CDM considerably, and with the CDM in place including such a huge flaw, it takes away the credibility of the CDM"* **(CDMw.).**

The CDM may be characterised as illustrated in *'figure eight*:

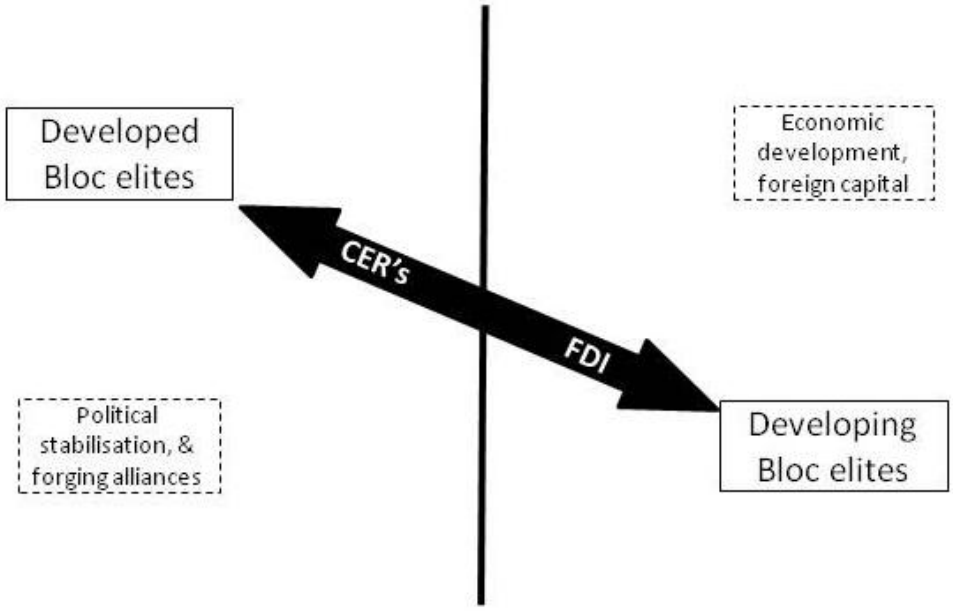

Figure Eight: the transaction process within the CDM

This leads some observers to summate the CDM as proving *"to be a difficult to manage mechanism with really severe internal restrictions and because of the way the early projects worked out it really distorted the distribution of fund by country and by project so at this point I would have to say it was really a failed experiment... it's not like you can just shut it off but again this is a very difficult debate within the G77 about 'what to do with the CDM' but many countries feel like it's just past-the-by... most of the money has gone to China, India*

and Brazil... there's nothing wrong with being optimistic or idealistic about things, but I think it was a bit naive to think that this was all simply going to work out if all you had to do is declare that 'all the CDM would be about sustainable development and emissions reductions' and this would naturally happen" **(SierCCcamp.).**

Part III.

(4.3.1.) **Developing-Developed country cooperating elites.** Grasso (2007:226) argues that in the climate debate "justice concerns are rooted in a fundamental difference in the balance of power" between developed and developing countries. This paper argues instead that the balance of power isn't simply between developed and developing country actors but between the power 'elite' within each of those groups acting in symbiosis. Finally, Grasso contends that history has polarised power, I argue that the shifting geopolitics means that power is far more diffuse and is held by a transnational 'elite'. Based on the methodology outlined in 'Chapter III. section 3.3', I look to illustrate that contention. *'Table three'* describes a sample of transactions derived from the available CDM data from 'UNEP-Risoe' (2010), *'Figure nine'* maps these transactions visually:

Table Two: Summary of the main investments in CDM projects and transactions of CER credits

	Top 4 Investments/CER Transactions by Bargaining Group.						
	Project Developer	**Analysis of Project Developer**	**Financial Indicator of Developer Size (US$)**	**Type of Project**	**CER Buyer**	**Country of Buyer**	**Investment Mln US$**
China	Gansu Datang Yumen Wind Power Co., Ltd	Owned by 'China Datang Corporation' (CDT), solely state owned. President/'CEO' 'Hu Jintao'.	1.116bln (profits 2007)	Wind	Tricorona Carbon Asset Management	**Sweden**	932.8
	Chishui Zhongshui Hydro Power Development Co.Ltd.	Part of 2002 splitting of 'China State Power Corps'; acts as commercial instrument. President and CEO Mr. Liu Zhenya - strong links to State owned enterprises.	847.96mln (profits 2007)	Hydro	Clean Carbon Capital	**United Kingdom**	1008.3
	Guohua (Tongliao) Wind Power Co., Ltd	Owned by 'China Windpower Group Limited ' (CWP). CEO Liu Shunxing: council member of China Energy Research Institute & Deputy Director of the China Special Interest Committee.	23.34mln (profits 2007)	Wind	Tricorona Carbon Asset Management	**Sweden**	258.0
	Datang Zhangzhou Wind Power Co., Ltd	Owned and run by 'Datang International Power Generation Co., Ltd.'. CEO Cao Jingshan & Zhou Gang - worked in the 'East China Power Administration Bureau'.	410.1mln (profits 2007)	Wind	Essent Energy Trading	**Switzerland**	53.8
Brazil	Rhodia Energy Brazil Ltda	President of Rhodia Brazil 'Marcos A. De Marchi', Textiles and manufacturing background.	35.6mln (profits 2007)	N2O	Ecoinvest Carbon	**Switzerland**	30.0
	Celulose Irani S.A.	CEO & MD 'Pericles de Freitas Druck', strong ties to regional state government	199.2mln (operating income 2007)	Methane Avoidance	Luso carbon Fund	**United Kingdom**	5.1
	CAMIL Alimentos S.A. / PTZ BioEnergy Ltd.	Both private enterprises, one of the largest project developers in Brazil, Companies part of Brazil push to increase biofuel production.	35.3mln (profits 2007)	Biogas	Econergy Brasil	**Switzerland**	4.3
	ALBRAS - Alumínio Brasileiro S.A.	Company is made up of 32 Japanese companies (a 'trust') and 'VALE' to form the Nippon Amazon Aluminium Co. Ltd. Company. Japan Cooperation Bank (organ of the Government) is the largest holder of the trust.	1.3bln (profits 2007)	PFCs & SF6	MGM Carbon Portfolio	**United Kingdom**	1.3
OPEC & Oil Based	JORDAN: Central Electricity Generation Company (CEGCO)	40% owned by the state, 51% privately owned. Energy investment arm of 'Jordan Dubai Capital'. CEO is Mr. Ismail Tahboub, also a member of many pri-pub and state owned property, energy and electricity organisations.	For sale in 2007: US$320mln (no financials)	Fossil Fuel Switch	EcoSecurities	**United Kingdom**	21.8
	UAE: Public Works and Services Department (PWSD), Government of Ras Al-Khaimah	Solely state owned and run.	State Owned (no financials)	Landfill Gas	EcoSecurities & Biogas	**United Kingdom**	4.9
	EGPYT: Alexandria Carbon Black Company S.A.E.	Chairman 'Mr. Adel El Danf', also Chairman of the Arab iron and steel union.	Produces 285,000t annually (no financials)	Landfill Gas	Spanish Carbon Fund & Veolia Propreté	**Spain**	3.1
	UZBEKISATAN: SJSC "Uzkimyosanoat" / OJSC "Maxam-Chirchiq"	CEO Mr Batir Salihov. Close links to regional government in Tashkent i.e. operations contracted by State.	est. sales: US$10-50mln	N2O	Mitsubishi	**Japan**	5.6
GRULAC & Mexico (not Brazil)	COLOMBIA: Empresas Publicas de Medellin	State owned utilities company, property of the municipality of Medellin.	6.2bln (operating budget 2007)	Hydro	Netherlands Clean Development Facility	**Netherlands**	126.0
	MEXICO: Eurus, S.A. de C.V.	Japanese owned private company	211.7mln (paid in capital 2007)	Wind	Spanish Carbon Fund	**Spain**	103.7
	CHILE: Hidroeléctrica Guardia Vieja S.A.	Hydro plant owned by Colbun SA of Chile, which is owned by ENDESA.	308.3mln (revenue 2007)	Hydro	Netherlands Clean Development Facility	**Netherlands**	142.4
	COLOMBIA: Gerente Corporativo del Sistema Maestro Empresa Acueducto y Alcantarillado de Bogota	Privately owned, but with strong ties to the municipality.	718.6mln (operating revenue 2009)	Hydro	AgCert	**United Kingdom**	38.1
G77 Africa, AOSIS (& India)	MALI: Société de Gestion de l'Energie de Manantali	SOGEM nationally owned energy company. Director General 'Moussa Makan Sissoko', active in Malian politics.	State Owned (no financials)	Hydro	IBRD	**Spain**	96.9
	KENYA: Orpower 4, Inc	Owned by 'Ormat Technologies'. Chairman 'Lucien Y. Bronicki'. US company	122.6mln (profits 2007)	Geothermal	IBRD	**Spain**	86.4
	INDIA: Enercon (India) Ltd	Indian company is a subsidiary of a German company 'ENERCON GmbH.'	83.8mln (profits 2007)	Wind	Japan Carbon Finance	**Japan**	213.3
	PAKISTAN: Gul Ahmed Textiles Mills Limited	CEO Bashir Ali Mohammad - prominent in assisting government delegations in negotiations with foreign countries and Chairman of the 'Pakistan - Britain Advisory Council' - provides private sector advice on investment.	133.5mln (revenue 2007)	Energy Efficiency	EcoSecurities	**United Kingdom**	8.9
G77 Asia (not China)	PHILIPINES: Laguna Lake Development Authority	'Authority' attached to the 'Philippines's Department of Environment and Natural Resources', state owned and run.	State Owned (no financials)	Methane Avoidance	IBRD	**Netherlands**	120.7
	INDONESIA: PT. Perusahaan Listrik Negara/PT. Pertamina Geothermal Energy	Government owned corporation, has a monopoly over electricity distribution/infrastructure. CEO Dahlan Iskan, CEO has links/held positions associated with government.	State Owned (no financials)	Methane Avoidance	EcoSecurities	**United Kingdom**	352.2
	INDONESIA: PT Manunggal Energi Nusantara	Essentially a coal mining company. CEO Mr Agus Nugroho Santoso	111.0 (revenue 2007)	Biomass	Mitsubishi UFJ Securities	**Japan**	129.6
	THAILAND: Phu Khieo Bio-Energy Co., Ltd.	Project owned by 'Mitr Phol Group'. CEO 'Krisda Monthienvichienchai' - previously a hotel group CEO.	1.1bln (revenue 2006)	Biomass	Agrinergy	**United Kingdom**	53.0

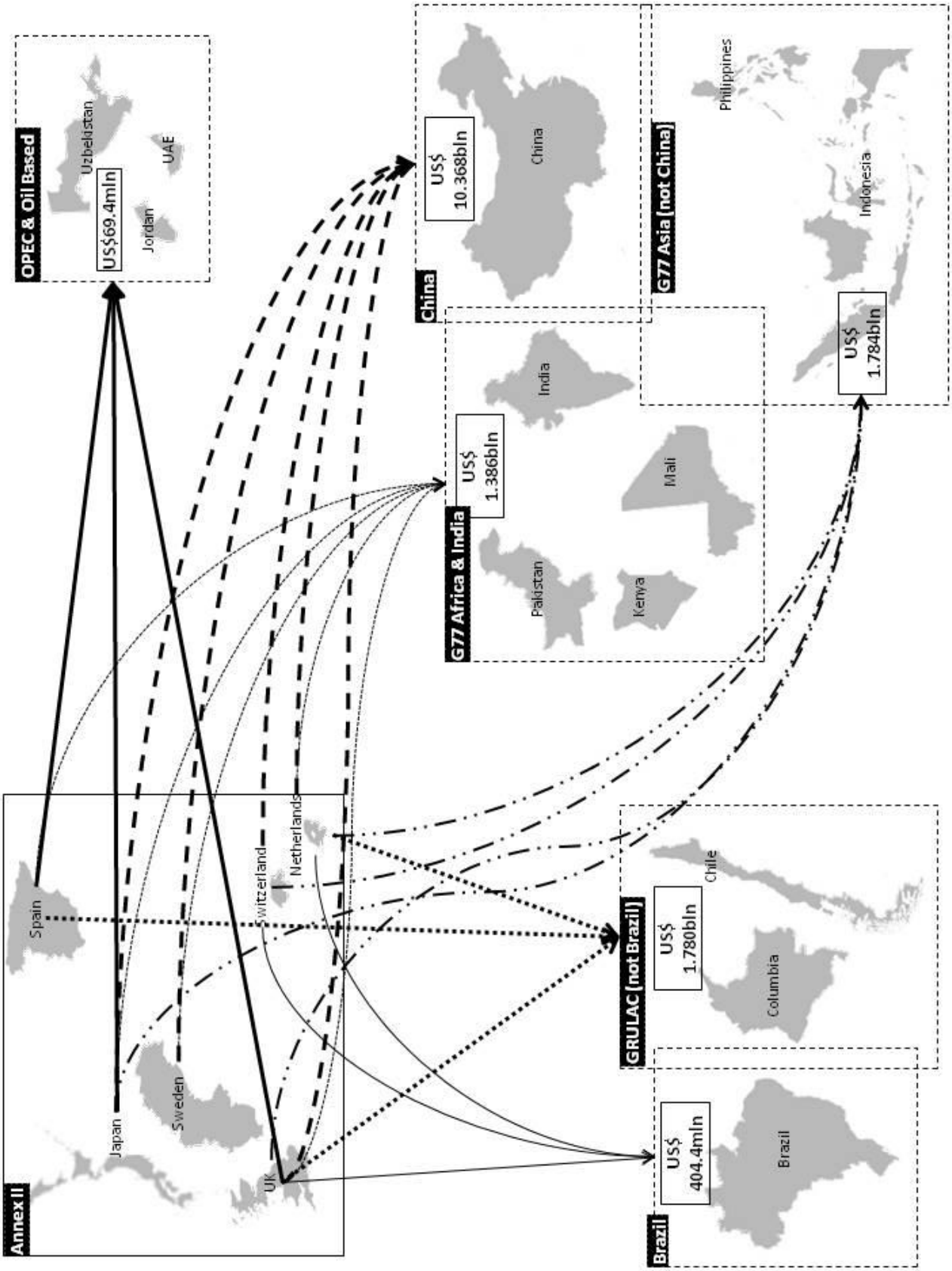

Figure Nine: main transactions of investments in CDM projects and CERs credits mapped

The analysis shows the interests of powerful-capital: *"the largest recipients of the CDM and the largest purchasers of CDM credits which is a few European countries and Japan kind of want to keep it going the way it's going"* **(SierCCcamp.)**. It also further demonstrates the relative power of the supposed 'weak' developing countries within the CCR: *"they're very powerful, they're organised they have negotiators who are articulate and skilled and very strong"* **(IIEDres.)**. The uncapped markets of the non-Annex countries mean that many of the larger developing countries and especially their 'elites' "may actually benefit from climate change" (Helm, 2008:219). Many 'elites' are dependent on the fast growth of their domestic GDPs and some directly interested in carrying on a carbon-based economy (ibid:234). In sum, the most active countries are India, China, Brazil and Mexico who hold in excess of 68% of the projects (Baumert, 2006:386). The main actors involved and the polarization of benefactors and those left out in the cold, demonstrates that materially wealthy actors can influence the political agenda to achieve their interests – and often the actors are directly embedded within the decision-making power itself (Holzscheiter, 2005:730,731). Therefore Grasso's (2007:243) argument that the CDM represents the container for the developed world to compensate the developing world for its past misdeeds is a difficult proposition when on both sides; already very wealthy and influential actors are the ones benefiting and involved in the transaction.

(4.3.2.) **Where 'Justice', 'Equity' and 'Fairness' fits in.** Primarily it is absolutely essential to realise and accept the intricacies of the developing country negotiating bloc: *"there's a tendency to think that this G77 and China is just a monolithic thing, not at all, it's a big unhappy family and it has been for years"* **(SierCCcamp.)**. Not realising this has the effect at the negotiations of: *"the southern NGOs who are then followed like sheep by the northern NGOs banging on about equity because they've made the assumption that carbon-dioxide equals economic development and therefore poverty reduction...it gives space then for the Chinese and Indian delegations to pretend that they've got equity and justice on their side whilst they torpedo more ambitious mitigation targets not just for themselves but everyone else, so they've got the NGOs over a barrel 'hoisted by their own petard', they've been handed a pot of moral gold by the NGOs and given the allowance to behave like the Saudi's whilst looking like paragons of moral virtue"* **(Mald/Ad.).**

The main problems facing developing countries capacity to react to CC lie both domestically and within the structure of the UNFCCCC. Lack of information, poor domestic structures to assess impacts, lack of willing personnel, inadequate prescience of the issue to the State and underfunding of environmental ministries prove fundamental in the weak bargaining position of developing country delegations (Agrawala, 1998:628,629,630; Richards, 2001:21; Depledge, 2005:32): *"one of the biggest hurdles is just the inertia of the civil service the general lack of understanding the environment minister doesn't have the faintest idea of what carbon neutrality means... he thought it meant driving to work one day and walking to work the next... it's a very small number of people who you could say 'get it', are informed and signed up"* **(Mald/Ad.).** The Africa Group, AOSIS and G77 delegations are less than half the size of China, India and Brazils and on average more than eight times smaller than the EU or the US', (Richards, 2001:19). The CCR therefore remains an "unequal arena for international cooperation" dominated and directed by those with 'political capital' and political-economic power (Paavola & Adger, 2006:600). *'Figure ten'* summarises how low capacity States are co-opted by more powerful actors within the CCR, and therefore suggests why policies such as the CDM become instituted with relative ease:

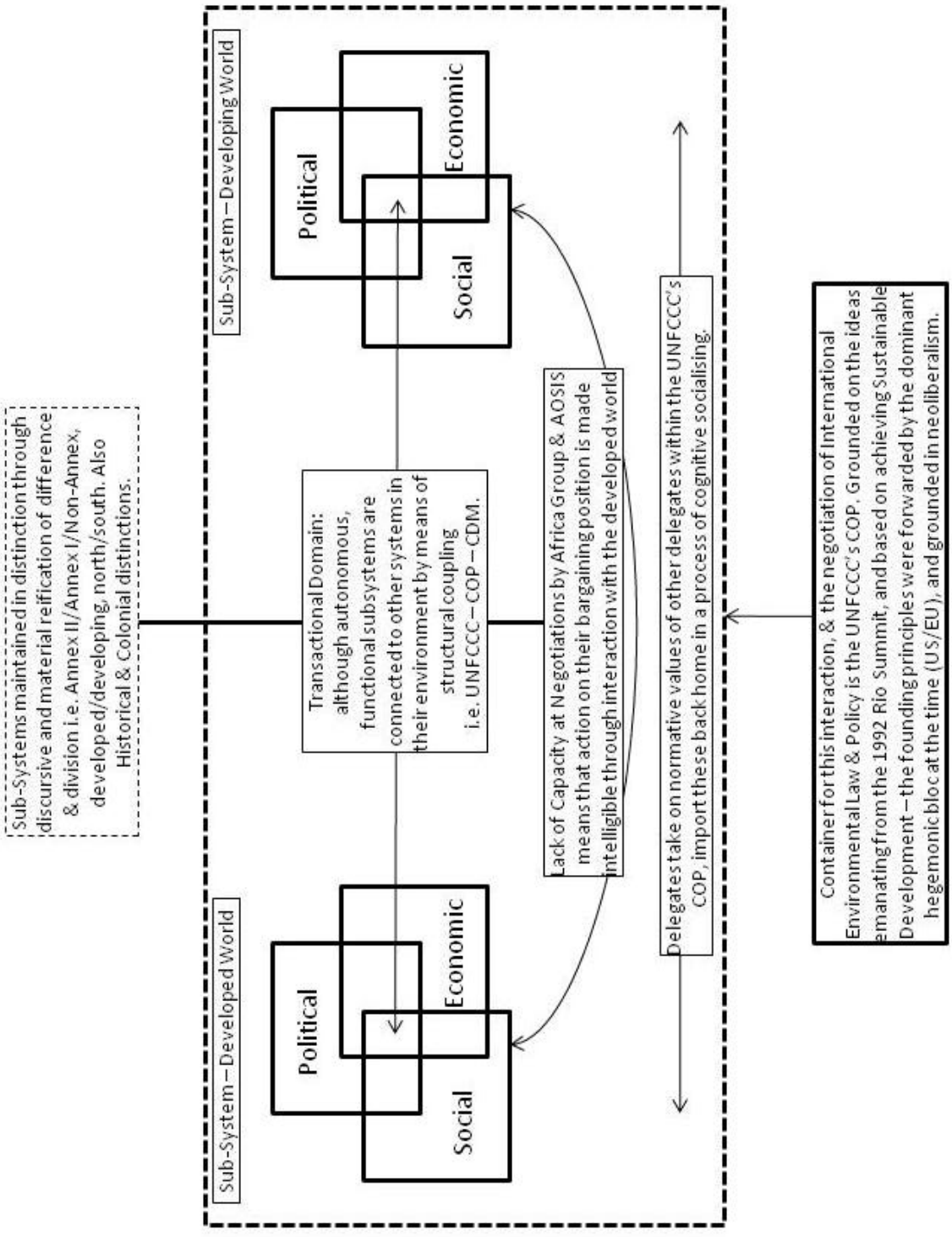

Figure Ten: how reduced capacity developing countries interact with influential developed countries

Part IV.

(4.4.) **Keys flaws of the CDM and possible solutions for the UNFCCC CCR.** As well as the deeper structural problems of the flawed notion of SD of which the CCRs UNFCCC is based on, the following more specific flaws can be identified:

Negative Incentives: For developing countries saying that they are committing to 100% carbon mitigation has a negative incentive. Under the current system short-termism is inherent within as, if a country declares carbon neutrality and announces a mitigation of '100%' how can it then claim 'additionality' on any financed projects afterwards. The finance will therefore disappear. *"the absence of a cap potentially gives you a higher mitigation, because the cap actually acts as a ceiling to mitigation, because you can't reduce emissions over and above the mandated level in a carbon market"* **(Mald/Ad.)**. Therefore the paper agrees with Pardy (2004) that the 'common but differentiated responsibility' policy needs to be readdressed to consider the reality of global geopolitics, there needs to be essentially more absolute responsibility of large emitting States.

Selection of 'Bloc' Representatives: a viable climate treaty should grant all parties equal access, and a level playing field of participation and not bias on the basis of political capital or economic weight (Ott et.al., 2005:86; Grasso, 2007:228):*"the process is highly controversial, and everyone's complaining about how it is done, but having someone like the ambassador of Lumumba representing you...this guy was a war criminal and supposedly representing on behalf of half of the world nations"* **(Mald/Ad.)**.

'Weighted Majority' voting system: this needs to be readdressed to reflect not 'financial subscriptions' to the COP but based on parameters and metrics which take into account the forecasted negative effects that will be felt by CC as well as the numbers and types of members affected (Richards, 2001:7).

Domestically led technology investment rather than central CDM board planning: *"the CDM executive board only have like 10 people on it, so they don't really have any capacity to regulate effectively...that's one of the problems in setting up an artificial market, your basically in a position of a regulator setting price, the free-market isn't meant to have that, it's meant to have the invisible hand, rather than a handful of experts deciding on*

everything" **(Mald/Ad.)**. Examples from India, China, Brazil, South Africa, Mexico and Costa Rica (Taylor, 1998:200; Baumert, 2006:378; Murphy et.al., 2009:17,18) all show that projects that are both domestically led and orchestrated, and/or have external investment but are centrally administered, have far greater trickle-down effects than purely external private investments.

Chapter V.
Conclusions

Conclusions. The paper has argued for a greater emphasis within the literature for an understanding of contemporary geopolitics and it's dynamism in the context of the CCR. Such a need for an understanding seems obvious when at the most recent COP in Copenhagen, there seemed to be a sudden upsurge in nationalism in the negotiation process, resulting in political considerations focusing on domestic short-termism, and delegations focusing on protecting political interests. If the CCR is to be successful it needs to break through this and focus on the long-term problem of climate change.

The paper has argued for a reformed basis to the CCRs UNFCCC. The focus should stay on 'SD' as it's fundamentally a 'good' concept, however, its goal and methodology for achieving that goal needs to be refocused on the core meaning of the concept which pre-dates its application to the UNFCCC. The concept also needs to be framed and conceptualised to better incorporate the nuances that exist between co-operating groups during the negotiations. SD in the developed world mostly means developing in a way that staves off financial collapse, in the developing world it tends to mean developing as rapidly as possible so that it has the capacity to deal with human induced or natural disasters – especially when we remember that most of the worlds developing countries exist in hostile areas, either due to natural vulnerabilities or human conflicts. What must be realised in earnest is that "the current nature of our industrial society is fundamentally unsustainable" our denial of this is only possible through living a 'myth' (Taylor, 2007:167). The CCR and its agent of action – the UNFCCC, must discipline the negotiations so that competition between states is channelled for genuine solutions, rather than counterproductive or stagnating mechanisms. On the structure of the UNFCCC, the paper has shown that it bias' organisations that more than often results in-favour of those countries and/or actors which hold great amounts of capital and power. It has a tendency to neglect and under-represent those members who are financially inferior or geopolitically irrelevant, this also needs reform.

However, in the context of 2010 amidst a global financial recession, any reform of the FMs must take into account that governments may invest more cautiously in response to there being less money flying around in the system. Ultimately, despite the known impacts of CC, private sector investments in 'green' policies are a luxury or add on to more mainstream markets. The paper therefore offers not a neo-marxist solution of turning over the neoliberal system – such a proposition in my opinion isn't realistic, and what 'better' system could

really replace it? The paper suggests that the State needs to be fundamentally decoupled both in a financial and political sense from the private sector. Government as our only elected international institution needs to take a much more prominent and pragmatic approach in the intervention of social, environmental and political issues to which society as a whole depends (Sutton, 1996:418). The role of NSAs is equally crucial here. They need to behave as the Actors demanding transparency of the State, and also forging a stronger link between 'State' and 'Society'. NSAs must however, adopt a vigorous accountability regime first which justifies their societal representation.

The paper closes with the observation made by Rasmussen: "if you are prepared to accept risks that your competitors are not, then you will forge ahead as they stop at the brink while you take the leap". Applied in the papers context, "a country prepared to accept the risks of adapting to a less-fossil intensive energy profile, through efficiency measures as well as through innovation...will avoid the risks that neglecting such evolutionary steps entail" (Rasmussen *in* Halden, 2007:143).

ii. Appendix & Bibliography

Appendix.

(a) Key Informant Interview Requests (Table Three)

KI and in what Capacity to be interviewed	Accept/Declined/No Response/Unable to in Time
Governmental Advisors to the Negotiations	
Special Advisor to the President of the Maldives & Environmentalist	Accepted
Special Advisor to the President of Grenada	No Response
BINGO & Private NSAs	
Global Environment Facility	No Response
Special Climate Change Fund/Least Developed Countries Fund/Adaptation Fund	No Response
Environmental Defense Fund	No Response
American Petroleum Institute	No Response
International Chamber of Commerce	No Response
WBSCD	Declined
Swiss Re, Head of Climate Change Strategy	Accepted
EU Business Council for a Sustainable Energy Future, e5	Declined
ENGO and other NGOs	
SouthSouthNorth Project	Unable to in Time
International Institute for Research and Development Researcher	Accepted
Climate Action Network	Unable to in Time
Greenpeace	Unable to in Time
Sierra Club, Head of Climate Change Campaign	Accepted
World Watch Institute	Unable to in Time
WWF	Unable to in Time
Keystone Centre	Unable to in Time
Friends of the Earth	Unable to in Time
CDM watch, Director	Accepted

(b) Key Informants and Reference Codes (Table Four)

Key Informant	Code
Special Advisor to the President of the Maldives & Environmentalist (face to face interview)	**(Mald/Ad.)**
Swiss Re, Head of Climate Change Strategy (based in Zurich – over the phone interview)	**(Swiss/CCstrat.)**
International Institute for Research and Development Researcher (over the phone interview)	**(IIEDres.)**
Sierra Club, Head of Climate Change Campaign (based on Oregon, United States – over the phone interview)	**(SierCCcamp.)**
CDM watch, Director (based in Belgium – over the phone interview)	**(CDMw.)**

(c) Revised Sample: Raw Data Set (Table Five)

Bloc	Country of Generation	Predominant 'Type' of Project	Project Developer	PDD consultant	Buyer of CER	Country of Buying	Investment MUS$	Investment US$/tCO2	# Projects	MUS$/Project	Diversity of Investment by Buyer	Involvement Factor
CHINA	**China**	Wind	Gansu Datang Yumen Wind Power Co., Ltd	CWEME	Tricorona Carbon Asset Management Sweden	**Sweden**	932.8	3789	7	133.2571429	13	1732.342857
	China	Hydro	Chishui Zhongshui Hydro Power Development Co.Ltd.	China Carbon Technology	Clean Carbon Capital	**United Kingdom**	1008.3	1256	3	336.1	5	1680.5
	China	Hydro	Muli County Muli River Dashawan Hydroelectric Development Co., Ltd.	Beijing Tianqing Power International CDM Consulting	Vitol	**Switzerland**	495.8	1593	4	123.95	10	1239.5
	China	Hydro	Fengshun County Han River Hydro Power Co.Ltd	Hunan CDM Project Service Center	Tricorona Carbon Asset Management Sweden	**Netherlands**	244.9	1116	3	81.63333333	13	1061.233333
	China	Hydro	Chishui Zhongshui Hydro Power Development Co.Ltd.	Coway International TechTrans Co.	Clean Carbon Capital	**United Kingdom**	1620.8	2348	9	180.0888889	5	900.4444444
	China	Wind	Guohua (Tongliao) Wind Power Co., Ltd	CREIA	Tricorona Carbon Asset Management Sweden	**Sweden**	258.0	2191	4	64.5	13	838.5
	China	Hydro	Xiaojin County Jitai Electric Power Investment Co., Ltd.	CWEME	EcoSecurities	**United Kingdom**	2286.5	12074	18	127.0277778	6	762.1666667
	China	Hydro	Qinghai Dangshun Hydropower Development Co., Ltd.	CasperVanderTak	Vitol	**Switzerland**	468.9	1602	7	66.98571429	10	669.8571429
	China	Wind	Ganluo County Guohe Power Co., Ltd.	Beijing Ruichi Electric Power Information Technology	EDF Trading	**United Kingdom**	782.9	2681	6	130.4833333	5	652.4166667
	China	Hydro	Qinghai Dangshun	Gaoxin Technical Development Co.	Mitsubishi	**Japan**	607.2	1473	5	121.44	5	607.2

			Hydropower Development Co., Ltd.									
	China	Hydro	Chongqing Lanxi Power Industrial Co., Ltd.	Beijing Changjiang River International Holding	Mitsubishi	**Japan**	1301.5	3586	14	92.96428571	5	464.8214286
	China	Hydro	Yuzaikou Hydropower Co., Ltd	Beijing Haohua Rivers International Water Engineering Consulting Co.	Tricorona Carbon Asset Management Sweden	**Sweden**	307.1	3254	10	30.71	13	399.23
	China	Wind	Datang Zhangzhou Wind Power Co., Ltd	China Fulin Windpower Development Corporation	Essent Energy Trading	**Switzerland**	53.8	465	1	53.8107753	7	376.6754271
Bloc	**Country of Generation**	**Predominant 'Type' of Project**	**Project Developer**	**PDD consultant**	**Buyer of CER**	**Country of Buying**	**Investment MUS$**	**Investment US$/tCO2**	**# Projects**	**MUS$/Project**	**Diversity of Investment by Buyer**	**Involvement Factor**
OPEC (oil based)	**Jordan**	Fossil Fuel Switch	Central Electricity Generation Company (CEGCO)	EcoSecurities	EcoSecurities	**United Kingdom**	21.8	55	1	21.82899	3	65.48697
	Morocco	Biomass	Surac SA	EcoSecurities	EcoSecurities	**United Kingdom**	6.6	208	1	6.578947368	3	19.73684211
	Georgia	Landfill Gas	Public entity / Tbilisi City Municipality	Shimizu	Shimizu	**Japan**	5.2	72	1	5.2	3	15.6
	Uzbekistan	Landfill Gas	Mahsustrans, within the Tashkent Admin.	Shimizu	Shimizu	**Japan**	5.2	62	1	5.2	3	15.6
	United Arab Emirates	Landfill Gas	Public Works and Services Department (PWSD), Government of Ras Al-Khaimah	EcoSecurities	EcoSecurities & Biogas	**United Kingdom**	4.9	123	1	4.881676	3	14.645028
	Syria	Landfill Gas	Homs Governorate / Public	Shimizu	Shimizu	**Japan**	8.9	134	3	2.966666667	3	8.9
	Egypt	Landfill Gas	Alexandria Carbon Black Company S.A.E., Egypt, (Private entity)	WB-CF	Spanish Carbon Fund & Veolia Propreté	**Spain**	3.1	8	1	3.1	1	3.1

	Israel	N2O	Fertilizers & Chemicals Ltd., Israel (Private)	N.serve	N.serve+Johnson Matthey+Electrabel	**United Kingdom**	8.1	37	3	2.7	1	2.7
	Uzbekistan	N2O	SJSC "Uzkimyosanoat" / OJSC "Maxam-Chirchiq"	Mitsubishi	Mitsubishi	**Japan**	5.6	45	4	1.4	1	1.4
Bloc	**Country of Generation**	**Predominant 'Type' of Project**	**Project Developer**	**PDD consultant**	**Buyer of CER**	**Country of Buying**	**Investment MUS$**	**Investment US$/tCO2**	**# Projects**	**MUS$/Project**	**Diversity of Investment by Buyer**	**Involvement Factor**
BRAZIL	**Brazil**	Hydro	Eletro-Primavera Ltda.	EcoSecurities	Ecosecurities	**Netherlands**	42.9	864	2	21.45	2	42.9
	Brazil	Biomass (Landfill Gas/Hydro)	Private entity Maurício Martinuv / Private entity Incomex – Indústria, Comércio e Exportação Ltda Company. /	EcoSecurities	EcoSecurities	**United Kingdom**	282.1	7380	31	9.1	2	18.2
	Brazil	N2O	Rhodia Energy Brazil Ltda	MGM	Ecoinvest Carbon	**Switzerland**	30.0	177	2	15	1	15
	Brazil	Biomass	Geradora de Energia Elétrica Alegrete Ltda. (GEEA) (Private entity)	Mitsubishi UFJ Securities	Mitsubishi UFJ Securities	**Japan**	28.3	976	4	7.075	1	7.075
	Brazil	Methane Avoidance	Celulose Irani S.A.	BrasCarbon Consultoria	Luso carbon Fund	**United Kingdom**	5.1	111	5	1.02	2	2.04
	Brazil	Biomass	Geradora de Energia Elétrica Alegrete Ltda. (GEEA) (Private entity)	Ecoinvest	Chugoku Electric	**Japan**	10.4	248	9	1.155555556	1	1.155555556
	Brazil	Biogas	CAMIL Alimentos S.A. / PTZ BioEnergy Ltd.	Econergy	Econergy Brasil	**Switzerland**	4.3	43	6	0.716666667	1	0.716666667
	Brazil	PFCs & SF6	ALBRAS - Alumínio Brasileiro S.A. (private)	MGM	MGM Carbon Portfolio	**United Kingdom**	1.3	15	3	0.433333333	1	0.433333333

Bloc	**Country of Generation**	**Predominant 'Type' of Project**	**Project Developer**	**PDD consultant**	**Buyer of CER**	**Country of Buying**	**Investment MUS$**	**Investment US$/tCO2**	**# Projects**	**MUS$/Project**	**Diversity of Investment by Buyer**	**Involvement Factor**
GRULAC & MEXICO (not BRAZIL)	**Colombia**	Hydro	Empresas Publicas de Medellin (EEPPM)	WB-CF	Netherlands Clean Development Facility	**Netherlands**	126.0	1230	1	126	6	756
	Mexico	Wind	Eurus, S.A. de C.V.	WB-CF	Spanish Carbon Fund	**Spain**	103.7	539	1	103.711577	6	622.269462
	Chile	Hydro	Hidroeléctrica Guardia Vieja S.A.	WB-CF	Netherlands Clean Development Facility	**Netherlands**	142.4	1032	2	71.2	6	427.2
	Mexico	Wind	Eurus, S.A. de C.V.	CEMEX, CO2 Global Solutions	CEMEX+CO2 Global Solutions	**United Kingdom**	137.6	1122	1	137.6	3	412.8
	Colombia	Transport	TransMilenio S.A.	Grütter consulting	CAF	**Netherlands**	909.0	5178	3	303	1	303
	Argentina	Methane Avoidance (EE/Biomass/Hydro)	Ecoayres Argentina S.A.	EcoSecurities	EcoSecurities	**United Kingdom**	268.6	1184	7	38.37142857	6	230.2285714
	Ecuador	Hydro	Hidroabanico S.A.	WB-CF	Netherlands VROM	**Netherlands**	55.5	622	2	27.75	6	166.5
	Colombia	Hydro	Gerente Corporativo del Sistema Maestro Empresa Acueducto y Alcantarillado de Bogota (EAAB)	AgCert	AgCert	**United Kingdom**	38.1	963	1	38.11	2	76.22
Bloc	**Country of Generation**	**Predominant 'Type' of Project**	**Project Developer**	**PDD consultant**	**Buyer of CER**	**Country of Buying**	**Investment MUS$**	**Investment US$/tCO2**	**# Projects**	**MUS$/Project**	**Diversity of Investment by Buyer**	**Involvement Factor**
G77, AFRICA, AOSIS (and INDIA)	**Mali**	Hydro	Société de Gestion de l'Energie de Manantali (SOGEM)	WB-CF	IBRD	**Spain**	96.9	515	1	96.9	6	581.4
	Nepal	Biogas	Alternative Energy Promotion Centre, Nepal (AEPC) Household Maiya	WB-CF	IBRD	**Netherlands**	59.1	1638	1	59.085	6	354.51

			Gautam Household Suk Man Tamang									
	Kenya	Geothermal	Orpower 4, Inc	WB-CF	IBRD	**Spain**	86.4	709	2	43.2	6	259.2
	India	Hydro	Subhash Kabini Power Corporation Ltd	CantorCO2e	Cantor Fitzgerald Europe	**United Kingdom**	694.8	1751	6	115.8	1	115.8
	Pakistan	Hydro	Aga Khan Rural Support Programme (AKRSP) representing 103 participating communities	WB-CF	IBRD	**Netherlands**	18.0	205	1	17.954	6	107.724
	India	Wind	Vindhyachal Hydro power limited (VHPL) (Private entity) / Enercon (India) Limited	ADB CDM Facility	Asian Development Bank	**Sweden**	61.2	642	1	61.19305857	1	61.19305857
	India	Wind	Enercon (India) Ltd	PricewaterhouseCoopers	Japan Carbon Finance	**Japan**	213.3	2811	5	42.66	1	42.66
	India	Hydro	R. M. Mohite Textiles Ltd.	EcoSecurities	EcoSecurities	**United Kingdom**	68.6	2211	7	9.8	4	39.2
	Pakistan	EE	Gul Ahmed Textiles Mills Limited	EcoSecurities	EcoSecurities	**United Kingdom**	8.9	250	1	8.904109589	4	35.61643836
	India	Biomass	Regent Energy Limited	Arquipélago Engenharia Ambiental	Agrinergy	**United Kingdom**	53.9	1661	4	13.475	2	26.95
	South Africa	Landfill Gas (Biomass)	ENER·G Systems uMhlathuze (PTY) LTD (private entity)	EcoSecurities	EcoSecurities	**United Kingdom**	25.9	484	4	6.475	4	25.9
Bloc	**Country of Generation**	**Predominant 'Type' of Project**	**Project Developer**	**PDD consultant**	**Buyer of CER**	**Country of Buying**	**Investment MUS$**	**Investment US$/tCO2**	**# Projects**	**MUS$/Project**	**Diversity of Investment by Buyer**	**Involvement Factor**
G77 ASIA (not CHINA)	**Philippines**	Methane Avoidance & Landfill Gas	Laguna Lake Development Authority	WB-CF	IBRD	**Netherlands**	120.7	1609	3	40.23333333	4	160.9333333
	Vietnam	Wind	Vietnam Renewable Energy Joint	Carbon Bridge	EDF Trading	**United Kingdom**	64.4	1361	2	32.2	3	96.6

			Stock Company (REVN)									
	Indonesia	Methane Avoidance	PT. Perusahaan Listrik Negara (Persero) [PT. PLN (Persero)] / PT. Pertamina Geothermal Energy	EcoSecurities	EcoSecurities	**United Kingdom**	352.2	1015	11	32.01818182	3	96.05454545
	Vietnam	Hydro	Energy and Environment Consultancy Joint Stock Company	Caspervandertak	Vitol	**Switzerland**	42.8	609	1	42.79930517	2	85.59861034
	Vietnam	Hydro	Song Vang Hydropower Joint Stock Company / Energy and Environment Consultancy Joint Stock Company	Perenia	EDF Trading	**United Kingdom**	26.2	490	1	26.18028414	3	78.54085241
	Indonesia	Biomass (Methane Avoidance/EE)	PT Manunggal Energi Nusantara	Mitsubishi UFJ Securities	Mitsubishi UFJ Securities	**Japan**	129.6	1684	8	16.2	4	64.8
	Indonesia	Fossil Fuel Switch (Fugitive/Methance Avoidance)	PT. Indo Matra Power – Batam	Sindicatum Carbon Capital	Sindicatum Carbon Capital	**United Kingdom**	341.3	1821.81	6	56.885	1	56.885
	Vietnam	Hydro	Duc Thanh Commercial and Manufacturing Company	KYOTOenergy	Bunge Emissions Fund	**Switzerland**	230.9	5839	10	23.09	2	46.18
	Vietnam	Hydro	Suoi Tan Hydropower Joint Stock Company	KYOTOenergy	Vitol	**Switzerland**	135.3	3212	7	19.32857143	2	38.65714286
	Thailand	Methane Avoidance	Jaroensompong Corporation	Mitsubishi UFJ Securities	Mitsubishi UFJ Securities	**Japan**	83.4	1818	9	9.266666667	4	37.06666667
	Thailand	Biomass	Phu Khieo Bio-Energy Co., Ltd.	Agrinergy	Agrinergy	**United Kingdom**	53.0	3247.7	3	17.66666667	2	35.33333333
	Malaysia	Biomass & Methance Avoidance	Mensilin Holdings Sdn. Bhd.	EcoSecurities	EcoSecurities	**United Kingdom**	204.5	4822	24	8.520833333	3	25.5625

Bibliography.

Agrawala, S. (1998) *Structural and Process History of he Intergovernmental Panel on Climate Change*. Climate Change. Vol.39, pp621-642. Kluwer Academic Publishers

Ali, S. (2007) *Climate Conflicts: Extricating post-Kyoto Debates in Science and Policy*. University of Vermont

Arts, B. (2005) *Non-state actors in global environmental governance: New arrangements beyond the state*. Palgrave

---------- (2003) *Non-State Actors in Global Governance: a power analysis.* ECPR Joint Sessions, Workshop 11: The Governance of Global Issues – Effectiveness, Accountability and Constitutionalization. March-April

Ashe et.al. (1999) *The role of the Alliance of Small Island States (AOSIS) in the negotiation of the United Nations Framework Convention on Climate Change (UNFCCC).* Natural Resources Forum. Vol.23, pp209-220. Elsevier Sciemce

Bachram, H. (2004) *Climate Fraud and Carbon Colonialism: The New Trade in Greenhouse Gases*. Capitalism Nature Socialism. Vol.15, No.4, Dec. pp1-16. Routledge

Baumert, K. (2006) *Participation of Developing Countries in the International Climate Change Regime: lessons for the future*. The Geography Wash. International Law Review. Vol.38

Barnett, J. (2007) *The Geopolitics of Climate Change*. Geography Compass. Vol.1, No.6.

Been, V. (1993) *What's fairness got to do with it? Environmental Justice and the siting of locally undesirable land uses*. Vol. 78, pp1001-1085, Cornell Law Review. *In*, Equity, environmental justice and sustainability: incomplete approaches in climate change politics. Edt. Ikeme, J. Global Environmental Change. Vol. 13, pp195-206. Pergamon

Benford, R. & Snow, D. (2000) *Framing Processes and Social Movements: An Overview and Assessment*. Annual Review of Sociology. Vol.26, pp611-639

Bohringer, C. (2003) The Kyoto Protocol: A review and perspectives. Oxford Review of Economic Policy. Vol.19, No.3, pp349-379

Bulkeley, H. (2001) *Governing climate change: the politics of risk society?*. Transactions of the Institute of British Geographers. Vol.26, No.4, pp430-447

---------- (2005) Reconfiguring environmental governance: towards a politics of scales and networks. Political Geography. Vol.24, No.8, pp875-902

Bumpus, A. & Liverman, D. (2007) *Accumulation by Decarbonisation and the Governance of Carbon Offsets*. Environmental Change Institute. University of Oxford.

Bodansky, D. (2010) *The Copenhagen Climate Change Conference: A Post-Mortem*. University of Georgia School of Law

Boyd et.al. (2008) *UNFCCC negotiations (pre-Kyoto to COP-9): what the process says about the politics of CDM-sinks*. International Environmental Agreements. Vol.8, pp95-112. Springer.

Brown, K. & Corbea, E. (2003) *Exploring equity and sustainable development in the new carbon economy*. Climate Policy. Vol.3, S41-S56

Carpenter, C. (2001) *Business, green groups and the media: the role of non-governmental organisations in the climate change debate*. International Affairs. Vol.77, No.2. Chatham House, Wiley-Blackwell

Cashore, B. (2002) *Legitimacy and the Privatisation of Environmental Governance: How Non-State Market-Driven (NSMD) Governance Systems Gain Rule-Making Authority.* Governance: An International Journal of Policy, Administration, and Institutions. Vol.15, No.4, pp503-529. October. Blackwell

Cazorla, M. & Toman, M. (2000) *International Equity and Climate Change Policy*. Resources for the Future. Climate Issue Brief No.27. Dec.

Clark, G. (2007) *Beyond Close Dialogue: Economic Geography as if it Matters*. Oxford School of Geography and the Environment.

---------- (1998) *Stylized Facts and Close Dialogue: Methodology in Economic Geography.* Association of American Geographers. Vol.18, No.1, pp73-87. Taylor & Francis Group

Coen, D. (2005) *Environmental and Business Lobbying Alliances in Europe: Learning from Washington?*. In, Levy, D. & Newell, P. The Business of Global Environmental Governance. MIT Press.

Corell, E. (1999) *Non-State Actor Influence in the Negotiations of the Convention to Combat Desertification*. International Negotiation. Vol.4, pp197-223. Kluwer Law International

Corell, E. & Betsill, M. (2001) *A Comparative Look at NGO Influence in International Environmental Negotiations: Desertification and Climate Change*. Global Environmental Politics. Vol.1, No.4. November.

Cowles, M. (2003) *Non-State actors and false dichotomies: reviewing IR/IPE approaches to European integration*. Journal of European Public Policy. Vol.10, No.1. Feb. Routledge

Deleuze, G. (2006) *Dialogues II*. Trans. Edt. Parnet, C. Continuum

Depledge, J. (2005) *The Organization of Global Negotiations: Constructing the Climate Change Regime*. Earthscan

Egenhoffer, C. & Cornillie, J. (2001) *Reinventing the Climate Negotiations: an Analysis of COP6*. CEPS Policy Brief No.1, 23rd March. Brussels.

Falkner, R. (2003) *Private Environmental Governance and International Relations: Exploring the Links*. Global Environmental Politics. Vol.3, No.2. May. Massachusetts Institute of Technology

Giorgetti, C. (1999) *From Rio to Kyoto: A Study of the Involvement of Non-Governmental Organizations in the Negotiations on Climate Change*. N.Y.U. Environmental Law Journal. Vol.7, pp201-245.

Gough, C. & Shackley, S. (2001) *The respectable politics of climate change: the epistemic communities and NGOs*. International Affairs. Vol.77, No.2. Chatham House, Wiley-Blackwell

Grasso, M. (2007) *A normative ethical framework in climate change. Climate Change*. Vol.81, pp223-246. Springer Science. London

Haas, P. (1992) *Polity and society: philosophical underpinnings of social science paradigms*. Greenwood Publishing Group.

Halden, P. (2007) *The Geopolitics of Climate Change: challenges to the international system*. FOI Swedish Defence Research Agency. Dec.

Haufler, V. (1995) *Crossing the Boundary between Public and Private: International Regimes and Non-State Actors*. Regime Theory and International Relations.

Harvey, D. (1996) *The Environment of Justice*. In, The Urbanization of Injustice. Edt. Merrifield, A. and Swyngedouw, E. Lawrence and Wishart. London

Hasenclever, A. et.al. (1996) *Interests, Power, Knowledge: The Study of International Regimes*. Mershon International Studies Review. Oct., Vol.40, No.2, pp177-228. Wiley-Blackwell

Heller, & Shukla, P. (2003) *Development and Climate Change: Engaging Developing Countries*. Beyond Kyoto: Advancing the International Effort Against Climate Change. Pew Centre on Global Climate Change.

Helm, D. (2008) *Climate-change policy: why has so little been achieved?* Oxford Review of Economic Policy. Vo.24, No.2, pp211-238

Hoffman, M. (2008) *Where the States are: Environmental NGOs and the UN climate change negotiations*. In, Transnational Activism in the UN and the EU: a comparative study. Edt. Joachim, J. & Locher, B. Routledge

Holzscheiter, A. (2005) *Discourse as Capability: Non-State Actors' Capital in Global Governance*. Millennium – Journal of International Studies. Vol.33, No.723. Sage

Ikeme, J. (2003) *Equity, environmental justice and sustainability: incomplete approaches in climate change politics*. Global Environmental Change. Vol. 13, pp195-206. Pergamon

Jakobsen (2004) *Transnational environmental groups, media, science and public sentiment(s) in domestic policy-making on climate change*. In, Non-State Actors and Authority in the Global System. Edt. Higgot, R., Underhill, G., Bieler, A. Routledge

Jones, (2010) http://www.guardian.co.uk/money/2010/apr/03/green-investors-bolivian-forests. Accessed: March 2010

Jordan, A. et.al., (2005) *The Rise of 'New' Policy Instruments in Comparative Perspective: Has Governance Eclipsed Government?*. Political Studies. Vol. 53, pp477-496. Blackwell.

JPMorgan (2010) http://www.berr.gov.uk/assets/biscore/business-sectors/docs/jpmorgan-presentation-african-case-study-feb-2010.pdf. Accessed: March 2010

King (2009) http://www.independent.co.uk/opinion/commentators/david-king-there-is-a-way-ahead-after-copenhagen-1845709.html. Accessed: March 2010

Kolk, A. (2008) *Developments in corporate response to climate change in the past decade*. In, Hansjurgens, B. & Antes, R. Climate change, sustainable development and risk: an economic and business view. New York

Langrock, T. et al., (2004) *Creating markets abroad: the case of CDM/JI projects*

Lemos, M. & Agrawal, A. (2006) *Environmental Governance*. Annual Review of Environmental Resources. Vol.31, pp297-325.

Levy, D. & Egan, D. (2003) *A Neo-Gramscian Approach to Corporate Political Strategy: Conflict and Accommodation in the Climate Change Negotiations*. Journal of Management Studies. Vol.40, No.4, June. Blackwell

---------- (1998) *Capital Contests: National and Transnational Channels of Corporate Influence on the Climate Change Negotiations*. Politics & Society. Vol.26, No.337. Sage

Lister, S. (2003) NGO *Legitimacy: Technical Issue or Social Construct?. Critique of Anthopology*. Vol. 23, No.175. Institute of Development Studies. Sage

Lohmann, L. (1999) *The Carbon Shop: Planting New Problems*. World Rainforest Movement.

---------- (2001) *Democracy of Carbocracy? Intellectual Corruption and the Future of the Climate Debate*. The Corner House. Briefing 24, Oct.

---------- (2005) *Marketing and Making Carbon Dumps: Commodification, Calculation and Counterfactuals in Climate Change Mitigation*. Science as Culture. Vol.14, No.3, Sept. pp203-235. Routledge

---------- (2007) Carbon Offsets Not Welcome Here. http://www.thecornerhouse.org.uk/pdf/document/OffsetsNotWelcome.pdf

---------- (2008a) *Carbon Trading, Climate Justice and the Production of Ignorance: Ten Examples*. Development. Vol. 51. pp359-365

---------- (2008b) *Carbon Trading: How it is undermining positive solutions to the climate crisis.* March

Lynas, M. (2009a) Mark Lynas' Copenhagen Notebook. The Independent. 13th Dec.

---------- (2009b) The Copenhagen conference means life of death for the Maldives. The Guardian. 15th Dec.

---------- (2009c) At this rate Copenhagen will be a disaster. The Independent. 16th Dec. 2009

---------- (2009d) How do I know China wrecked the Copenhagen deal? I was in the room. The Guardian. 23rd Dec.

Mathy et.al. (2001) *Clean Development Mechanism: Leverage for Development*. Climate Policy. Vol.1, No.2, pp251-268. Earthscan

Matthews, K. & Paterson, M. (2005) *Boom or Bust? The Economic Engine Behind the Drive for Climate Change Policy*. Global Change, Peace & Security. Vol.17, No.1, Feb. Routledge. Ottawa

Metz, B. (2000) *International equity in climate change policy*. Integrated Assessment 1. pp11-126. Baltzer Science Publishers BV

Murphy, D. et.al. (2009) *Encouraging Developing Country Participation in a Future Climate Change Regime.* International Institute for Sustainable Development. March

Najam, A., et.al. (2003) *Climate negotiations beyond Kyoto: developing countries concerns and interests*. Climate Policy. Vol.3, pp221-231. Elsevier

NationMaster (2010) *Statistics on Trinidad and Tobago.* http://www.nationmaster.com/country/td-trinidad-and-tobago. Accessed online: July 2010

Newell, P. (2000) *Climate for change: non-state actors and the global politics of greenhouse*. Cambridge University Press.

Newell, P. & Paterson, M. (1998) *A Climate for Business: global warming, the state and capital*. Review of International Political Economy. Vol.5, No.4, pp679-703. Winter. Routledge

Newton, T. (2002) *Creating the New Ecological Order? Elias and Actor-Network Theory*. School of Business and Economics.

Okereke, C. (2007) Global Justice and Neoliberal Environmental Governance. Routledge Research in Environmental Politics. Oxon.

Ott, H., et.al. (2005) *It Takes Two to Tango – Climate Policy at COP 10 in Buenos Aires and Beyond*. JEEPL. Vol.2

Paavola, J. & Adger, N. (2006) *Fair adaptation to climate change*. Ecological Economics. Vol.56, pp594-609. Elsevier

Pattberg, P. (2004) *The Institutionalisation of Private Governance: conceptualising an emerging trend in global environmental politics*. Global Governance Working Paper. No.9. May.

Pardy, B. (2004) *The Kyoto Protocol: Bad News for the Global Environment*. Journal of Environmental Law and Practice. Vol. 14, No. 27

Peet, R. & Watts, M. (2003) *Liberation Ecologies: Environment, Development, Social Movements*. Second Edition. Routledge

Rawls, J. (1971) *A Theory of Justice*. Oxford University Press. Oxford. *In*, Chapter 9: Justice, Equity and Efficiency in Climate Change: A Developing Country Perspective. Fairness Concerns in Climate Change. In, Shukla, P. (1999). Edt. Ference Toh: e2 Analytics Energy + Environment. Earthscan Publications. London

Rhodes, R. (2007) *Understanding Governance: Ten Years On*. Peripheral Vision, Organization Studies. Vol.28, No.1243. Sage

Richards, M. (2001) *A Review of the Effectiveness of Developing country Participation in the Climate Change Convention Negotiations*. Forest Policy and Environment Group Overseas Development Institute. London.

Richman, E. (2003) *Emissions Trading and the Development Critique: Exposing the Threat to Developing Countries*. International Law and Politics. Vol.36, No.133. pp133-176. New York

Roberts, J. (2001) *Global Inequality and Climate Change*. Society and Natural Resources. Vol.14, pp501-509. Taylor & Francis

Rose, N. & Miller, P. (1992) *Political power beyond the State: problematic of government*. The British Journal of Sociology. Vol.43, No.2. June. London School of Economics. Wiley Blackwell.

Sachs, W. (2008) *Climate Change and Human Rights*. Thematic Section: Development. Vol. 51, pp332-337. Society for International Development

Shukla, P. (1999) *Chapter 9: Justice, Equity and Efficiency in Climate Change: A Developing Country Perspective.* Fairness Concerns in Climate Change. Edt. Ference Toh: e2 Analytics Energy + Environment. Earthscan Publications. London

Siebenhüner, B. (2003) *The changing role of nation states in international environmental assessments – the case of the IPCC*. Global Environmental Change. Vol.13, pp113-123. Pergamon

Simon, D. (1989) *Sustainable Development: Theoretical Construct or Attainable Goal?* Environmental Conservation. Vol.16, No.1. Spring

Sinden, A. (2007) *Climate Change and Human Rights*. J. Land Resources and Environmental Law. Vol.27, pp255-271

Smythe, E. (2004) *State Authority and investment Security: Non-state actors an the negotiations of Multilateral Agreement on Investment at the OECD*. In, Non-State Actors and Authority in the Global System. Edt. Higgot, R., Underhill, G., Bieler, A. Routledge

Sorensen, E. (2002) *Democratic Theory and Network Governance*. Administrative Theory and Praxis. Vol.24, No.4, pp693-720. Roskilde University. Denmark.

Suchman, M. (1995) *Managing Legitimacy: Strategic and Institutional Approaches*. Academy of Management Review. Vol.20, No.3, pp571-610. July. University of Wisconsin-Madison.

Sutton, P. (1996) *The South in the Global Political Economy*. New Political Economy. Vol.1, No.3

Stephan, B. (2008) *Europe in the International Climate Change Negotiations: Seeking Explanations for the EU's Changing Stance on Emissions Trading*. Institute for European Studies. April. Hamburg

Taylor, P. (2007) *The Business of Climate Change: What's Ethics Got to Do With It?.* Global Business and Development Law Journal. Vol.20.

Thorne, S. & Raubenheimer, S. (2002) *Sustainable Development (SD) appraisal of Clean Development Mechanism (CDM) projects – experiences from the SouthSouthNorth (SSN) project*. Forum for Economics and Environment – First Conference Proceedings

UN (1998) *Kyoto Protocol to the United Nations Framework Convention on Climate Change*. UN

UNEP (2002) Global Environmental outlook 3. London. Earthscan. In, Barnett, J. (2007) *The Geopolitics of Climate Change*. Geography Compass. Vol.1, No.6.

UNEP-Risoe (2010) http://www.cdmpipeline.org/cdm-projects-region.htm. Accessed: March/July/August 2010

Vogler, J. (2003) *Taking Institutions Seriously: How Regime Analysis can be Relevant to Multilevel Environmental Governance*. Global Environmental Politics. May, Vol.3, No.2, pp25-39. Massachusetts Institute of Technology

Vormedal, I. (2008) *The Influence of Business and Industry NGOs in the Negotiation of the Kyoto Mechanisms: the Case of Carbon Capture and Storage in the CDM.* Global Environmental Politics. Vol.8, No.4. November. Massachusetts Institute of Technology

Werksman , J.(2000) *The Clean Development Mechanism: Unwrapping the "Kyoto Surprise"*.. In, Chichilnisky, G. & Heal, G. Environmental Markets: Equity and Efficiency. Columbia University Press.

World Bank (2007) *The little green data book 2007*. Washington DC. World Bank. In, Barnett, J. (2007) *The Geopolitics of Climate Change*. Geography Compass. Vol.1, No.6.

---------- (2008) http://siteresources.worldbank.org/NEWS/Resources/State&Trendsformatted06May10pm.pdf. Accessed: March 2010

Yamin, F. & Depledge, J. (2004) *The International Climate Change Regime: A guide to rules, institutions and procedures*. Chapter 2. Cambridge University Press.

Zamecnik, A. (2009) *From Kyoto to Copenhagen: Breaking down Barriers between the North and the South*. In 'Papers on International Environmental Negotiation', *On the Road to Copenhagen*. Vol.XVII.Edt. Susskind, L. & Moomaw, W. Harward Law School. Cambridge, Masachusetts