



Addressing the climate change sustainable development nexus: the role of multi-stakeholder partnerships

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**ADDRESSING THE CLIMATE CHANGE–SUSTAINABLE DEVELOPMENT
NEXUS: THE ROLE OF MULTI-STAKEHOLDER PARTNERSHIPS**

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ABSTRACT

While calls are being made to deal with the linkages between climate change and sustainable development to arrive at an integrated policy, concrete steps in this direction have been very limited so far. One of the possible instruments through which both issues may be approached

simultaneously is a multi-stakeholder partnership, a form of governance with the potential to address existing regulatory, participation, resource and learning gaps as it harnesses the strengths of private, public and nonprofit partners. There is some insight into partnerships for climate change, but largely limited to developed countries, and those in developing countries most often do not involve companies. To help fill this gap, this paper explores the role of multi-stakeholder partnerships in addressing climate change and sustainable development in developing-country settings. It elaborates on the governance function of partnerships, on actor involvement, the gaps addressed as well as synergies and trade-offs in the climate change-sustainable development nexus and how partnerships may help address them. As the number of such partnerships is still limited, we discuss seven illustrative partnerships, and draw conclusions as to further conceptualizations, and implications for research and practice.

KEY WORDS

Climate change; developing countries; sustainable development; partnerships; adaptation; mitigation

ADDRESSING THE CLIMATE CHANGE—SUSTAINABLE DEVELOPMENT

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INTRODUCTION

In recent years, there has been widespread attention to climate change, most notably linked to ongoing attempts to realise a successor to the 1997 Kyoto Protocol. Developments at the Copenhagen and Cancun summits have once again shown the complexity and multi-faceted nature of the issue. They exemplified that the governance of climate change involves a wide variety of actors (Andonova, Betsill & Bulkeley, 2009; Okereke, Bulkeley & Schroeder, 2009; Pattberg & Stripple, 2008), including nongovernmental organizations (NGOs), industry associations and companies, and different levels of government (regional, subnational, national and supranational). The debate has focused on specific emissions targetsetting, this time both for industrialized and developing countries. It has also dealt with the transfer of funds from industrialized to developing countries to alleviate the financial and technological burden of addressing climate change and moving to a lower-carbon development path. Hence, considering climate change as one issue in isolation is impossible in view of its inextricable linkages to sustainable development more widely, including poverty and equity concerns (Eriksen & O'Brien, 2007; Forsyth, 2007; Michaelowa & Michaelowa, 2007; Newell, Jenner & Baker, 2009; Olsen, 2007; Swart, Robinson & Cohen, 2003).

In the global climate negotiations, developing countries have consistently stressed their 'right to development'¹ and the unfairness of having to carry the same economic burden as industrialized countries in responding to climate change (Grubb, Vrolijk & Brack, 1999); a position often justified by the fact that the latter have historically emitted most greenhouse gases (Stern, 2006; IPCC, 2007). In view of these interrelationships, calls have been made to

explicitly address the linkages between climate change and sustainable development in order to arrive at an integrated policy (Beg et al., 2003; Eriksen & O'Brien, 2007; Swart et al., 2003). Consequently, some have explored what climate policy brings to bear in achieving the 'Millennium Development Goals', the main multilateral framework to halve poverty by 2015 (Michaelowa & Michaelowa, 2007). Overall, however, viewing climate change as a sustainable development issue (rather than an environmental issue) is still in its infancy and leads to the question of how to effectively deal with both simultaneously.

One of the problems in this regard is that sustainable development is at least as difficult an issue as climate change, so adding development concerns to the climate equation appears to make matters more complex. For example, there has been an ongoing discussion about the lack of success of 'traditional' Official Development Assistance, accompanied by calls for a 'new development paradigm' that incorporates social and environmental goals, and integrates private, non-state actors (and thus their expertise and skills) (Dunning, 2006; Dunning & Fortanier, 2007). However, the trend towards solutions that involve public and private actors may also provide opportunities for linkages between climate change and sustainable development goals. Collaborative activities between companies and other stakeholders such as NGOs and/or government partners that aim to address broader societal issues (Kolk, Van Tulder & Westdijk, 2006; Kolk, Van Tulder & Kostwinder, 2008; Van Tulder & Fortanier, 2009) can include or target climate change as well.

The notion of partnerships has been embraced rather widely, for example, in the 'global partnership for development', which was introduced as the eighth Millennium Development Goal, but it has also become part of official development policy in some countries. Multi-stakeholder partnerships have been designated as the "collaboration paradigm of the 21st century", needed to solve the "increasingly complex challenges" that "exceed the capabilities of any single sector" (Austin, 2000a, p. 44; see also Warner &

Sullivan, 2004).

While partnerships have started to play a role in development policy (Kolk, Van Tulder & Kostwinder, 2008), they have also emerged in the area of climate change, where we see a range of voluntary collaborative arrangements across sectors between companies and other actors in government and society (Andonova et al., 2009; Bäckstrand, 2008; Kolk, Pinkse & Hull, 2010; Pattberg & Stripple, 2008; Pinkse & Kolk, 2009). However, climate partnerships have so far not focused on developing-country settings, and, if they have, these mainly involved partnerships without corporate involvement, thus diverging somewhat from the multi-stakeholder partnership trend in the sustainable development debate. Still, for companies multi-stakeholder partnerships hold much promise, because they provide a way of approaching both issues via a comparable instrument and a way to effectively cross-leverage their resources, knowledge and expertise. In this paper we descriptively explore the role of multi-stakeholder partnerships in addressing climate change in developing-country settings. We elaborate on the synergies and trade-offs in the climate change-sustainable development nexus, as well as how partnerships help address them. We present some illustrative cases of partnerships with corporate involvement that address this nexus, and conclude with a preliminary discussion of implications for research and policy.

The paper is structured as follows. First we briefly consider the linkages between climate change and sustainable development in more detail. We follow this with a discussion on the meaning of two basic options for climate policy - mitigation and adaptation - and how these relate to developing countries and corporate actors. Next we discuss the role of partnerships as a form of governance with the potential to address regulatory, participation, resource and learning gaps in the climate change-sustainable development nexus. Subsequently, we present the illustrative cases, followed by an exploration of how multi-stakeholder partnerships 'perform' in their attempt to combine climate and development. The

paper ends with some concluding thoughts on next steps.

THE CLIMATE CHANGE-SUSTAINABLE DEVELOPMENT NEXUS: SYNERGY AND TRADE-OFFS

It is widely recognized that there are linkages between climate change and sustainable development. Policy in both areas has converged over the past years in terms of both content and approach (Beg et al., 2003; Eriksen & O'Brien, 2007; Michaelowa & Michaelowa, 2007; Swart et al., 2003). Since sustainable development can be understood as 'attempts to combine concerns with the environment and socio-economic issues' (Hopwood, Mellor & O'Brien, 2005, p. 40), the linkages with climate change are obvious. In a developing country context, this issue combines environmental concerns with social equity and the economic issue of poverty. Accordingly, climate change is related to a large number of other environmental and socio-economic issues, which include biodiversity, deforestation, rural electrification, desertification, resource availability (e.g. water), income generation capacity, security, and health. Regarding these linkages, there can be a negative interaction between climate change and sustainable development. For example, climate change causes severe droughts, leading to increased shortage of water resources, which in turn might intensify conflicts and security problems in developing countries (Eriksen et al., 2007; Swart et al., 2003). From a policy perspective, there is also potential for a positive interaction. While developing countries tend to be more vulnerable to climate change – their economies often depend on agriculture, which is highly susceptible to weather conditions, and they lack the means to cope with variable and quickly changing weather conditions – raising the level of development may reduce this vulnerability (Eriksen and O'Brien, 2007; Tol, 2005). It is not surprising, then, that calls have been made to deal with both issues simultaneously and arrive at an integrated policy (Beg et al., 2003; Swart et al., 2003).

Although there might be important synergies in addressing climate change and sustainable development simultaneously, there is no guarantee that these synergies will indeed materialize in all cases (Eriksen & O'Brien, 2007). There might even be trade-offs between the two issues (Michaelowa & Michaelowa, 2007). One source of trade-offs in the climate change- sustainable development nexus is that advocates of one issue will tend to see the other issue as a way of furthering their own main goals. To illustrate, the launch of the Millennium Development Goals at the 2002 World Summit on Sustainable Development (WSSD) in Johannesburg has been an important force for further integrating environmental issues like climate change in the development debate (Klein et al., 2005; Michaelowa & Michaelowa, 2007). This process, which has been referred to as 'mainstreaming', means that climate change becomes an integral part of development policy (Eriksen et al., 2007; Klein et al., 2005). The risk of mainstreaming is that it will redirect funds to projects that might see an optimal overlap between both issues, but do not have the highest potential impact on either the development issue at stake, such as poverty reduction or universal primary education (Michaelowa & Michaelowa, 2007) or the climate change issue, such as mitigation or adaptation (Klein et al., 2005).

Likewise, in climate change negotiations, the term 'development dividend' has been employed to refer to climate policies that have clear development benefits (Forsyth, 2007). The development dividend has been debated mainly in the context of the Clean Development Mechanism² (CDM). Here, trade-offs have emerged as well. The goal of the CDM is achieving emissions reductions in developing countries, while enhancing technology transfer from industrialized to developing countries and contributing to sustainable development (Lecocq & Ambrosi, 2007; Streck, 2004). However, the CDM works as a market mechanism and participants have predominantly focused on achieving efficiency gains and capturing economic value from reducing emissions. As a consequence, the main outcome of the CDM

has been projects that involve low-cost emissions reductions rather than sustainable development benefits, due to the fact that contributions to sustainable development were not valued the same as emissions reductions which created additional tradable credits (Olsen, 2007; Sterk&Wittneben, 2006). Furthermore, most CDM projects have so far taken place in emerging economies with stronger institutions, such as China and India, where the risk that CDM credit delivery would fail were deemed lower than in much poorer developing countries in sub-Saharan Africa (Lecocq & Ambrosi, 2007;Michaelowa & Michaelowa, 2007).

Hence, questions can be raised whether the integration of the climate change and sustainable development agendas is indeed a fruitful one. Moreover, the climate change-sustainable development nexus takes on a different meaning when a clear distinction is made between climate change mitigation and adaptation (Burton et al., 2002; Klein, Schipper & Desai, 2005); an important divide that has come to the fore in climate policy over the past decade, particularly in a developing-country context.

ADDRESSING CLIMATE CHANGE: MITIGATION AND ADAPTATION

Climate policy, by and large, comprises two basic options: mitigation and adaptation. *Mitigation* refers to all human activities to reduce or stabilize greenhouse gas (GHG) emissions to prevent (further) climate change. *Adaptation*, on the other hand, denotes ‘any adjustment that takes place in natural or human systems in response to actual or expected impacts of climate change, aimed at moderating harm or exploiting beneficial opportunities’ (Klein et al., 2005, p. 580). Adaptation is particularly pertinent to developing countries, because, as noted above, even though climate change is a global problem these countries are relatively more vulnerable to its (potential) consequences. Not only are they, due to their geographical location, hit much harder by physical impacts than industrialized

countries, the low level of development and lack of funds also makes adaptation more challenging (Beg, et al., 2002; IPCC, 2007; Shalizi & Lecocq, 2010; Swart et al., 2003; Tol, 2005).

Although mitigation and adaptation are two distinctive policy options for climate change, both are linked to sustainable development, but in different ways. Mitigation and adaptation are markedly different because their impact refers to different temporal and spatial scales as well as involve different actors in the process of policy formulation and implementation (Klein et al., 2005). Their distinctiveness has consequences for how they are linked to sustainable development, and particularly for the types of issues within the broad realm of sustainable development.

The effect of *mitigation* will only be noticeable in the long run, but it operates on a global scale. As a result, a broad range of public and private actors from industrialized and increasingly also developing countries feel a responsibility for, and are involved in, mitigation (Klein et al., 2005). What is more, as a result of the CDM, actors from industrialized countries have a financial incentive to invest in mitigation options in developing countries, such as avoiding deforestation, transferring energy-efficient technologies and investing in renewables (Beg et al., 2003). The potential development impact of mitigation is therefore linked to issues such as biodiversity, deforestation, and rural electrification.

In contrast, the effect of *adaptation* essentially operates on a local level. Adaptation is a local collective good that relates to, inter alia, land use, agriculture, urban planning, water supply, coastal vulnerability, desertification, health and ecosystem integrity. It is the local nature of these development issues that causes difficulties in engaging actors from industrialized countries, because the responsibility to take action is not that apparent (Klein et al., 2005; Swart et al., 2005).

Most corporate responses to climate change have so far focused on mitigation, with most efforts directed at the reduction of GHGs, particularly carbon dioxide. In the past few years, there has been great development in the implementation of a whole set of business practices such as emissions inventories, emissions reduction targets and carbon accounting for tracking and disclosing climate change-related information. However, due to a lack of standardisation of these practices and the many options that companies have in choosing an approach that best fits their situation, it is unclear to what extent this leads to reliable and comparable information about the corporate impact on climate change (Kolk, Levy & Pinkse, 2008; Pinkse & Kolk, 2009). As a result, it remains a challenge to assess whether business is making progress in cutting emissions over and above what would have been achieved under a business-as-usual scenario, and thus to what extent mitigation has actually taken place.

By contrast, business interest in adaptation has only begun recently as companies are now realizing that they will have to build capacity to effectively respond to extreme weather events (Linnenluecke, Griffiths & Winn, 2011; Winn, Kirchgeorg, Griffiths, Linnenluecke & Günther, 2011). Nevertheless, it has been argued that the role of business is pivotal: not only are companies affected by the physical impacts of climate change, but this is also where most adaptation activities will (have to) take place or originate from (Berkhout, Hertin & Gann, 2006). One reason why the uptake of adaptation as a corporate response to climate change has been limited so far is that there is no common definition of what adaptation means for business, and both theory and empirical evidence in this area are very limited (Nitkin, Foster & Medalye, 2009). The usual policy definition of adjusting to physical impacts is not yet the main way in which the concept is being understood and/or adopted in companies (Kolk, Pinkse & Hull, 2010; Nitkin et al, 2009). Still, there are examples of corporate initiatives aimed at adapting to physical impacts such as drought and extreme weather events by those companies active in insurance, agriculture and food, and oil and gas

(Linnenluecke et al., 2011; Sussman & Freed, 2008).

In the remainder of the paper we will descriptively explore multi-stakeholder partnerships for climate change in developing countries. We will distinguish between adaptation and mitigation by examining how both policy approaches are being targeted by partnerships, a phenomenon that we will explain more generally first.

THE ROLE OF PARTNERSHIPS

One of the more recent definitions of partnerships is “collaborative arrangements in which actors from two or more spheres of society (state, market and civil society) are involved in a non-hierarchical process, and through which these actors strive for a sustainability goal” (Van Huijstee et al., 2007, p. 77). The notion is older though; by the 1990s, partnerships were conceptualized more broadly as “the voluntary collaborative efforts of actors from organizations in two or more economic sectors in a forum in which they cooperatively attempt to solve a problem or issue of mutual concern that is in some way identified with a public policy agenda item” (Waddock, 1999, pp. 481-482). Both definitions highlight the fact that partnerships cut across sectors and involve non-hierarchical processes, which means that partnerships are based on the idea of shared responsibility (Mazurkiewicz, 2005) in which no single actor – for example, the government – regulates behaviour of other actors; instead cooperation is required as one actor cannot solve it alone (Selsky & Parker, 2005; Witte et al., 2003). Another notable characteristic of a partnership is the aim of providing a collective good and the link to a public policy objective such as climate change and/or development (Schäferhoff, Campe & Kaan, 2009; Waddock, 1991).

Partnerships have received particular attention with regard to sustainable development as a result of a global partnership for development being listed as the eighth Millennium Development Goal. At the 2002 WSSD, so called “Type II partnerships” between

state and non-state actors were recognised as a crucial implementation mechanism for sustainable development, in order to make progress on the many ideas launched a decade earlier at the Rio conference. In general, however, forms of partnerships have been around for a longer time and are certainly not new (see Selsky & Parker, 2005, for an overview). Cooperation with NGOs has become part and parcel of approaches adopted by governments and international organizations, and also been studied for their role in sustainable development (Vargas, 2002). Partnerships between NGOs and companies have received attention in the management literature, where they are frequently designated social alliances (as parallel to strategic alliances amongst companies) (Austin, 2000b; Berger, Cunningham, & Drumwright, 2004; Rondinelli & London, 2003). There has also been interest in collaboration between public and private parties, as an innovative instrument for an international organization (Samii, Van Wassenhove, & Bhattacharya, 2002) or in a broader development context targeted at a product/technology public-private partnership, for example (Chataway & Smith, 2006). The final form, and the one on which this paper focuses, involves multi-stakeholder partnerships, frequently seen as the best way to deal with multifaceted problems in the current epoch (Austin, 2000a; Selsky & Parker, 2005). Such complex issues, including the ones dealt with in this paper, seem to require cooperation across sectors (and countries) with involvement of all partners as they share a common goal of resolving them.

Multi-stakeholder partnerships have the potential to address a number of gaps in the development context. Within the governance literature multi-stakeholder partnerships are mainly seen as sources for new global rulesetting involving non-state actors where ‘old’ public governance is falling short and *regulatory gaps* need to be filled (Braithwaite & Drahos, 2000; Dahan, Doh & Teegeen, 2010). They aim to address different forms of ‘governance’ failure in a situation where governments, companies and NGOs are unable to unilaterally achieve desired public objectives, especially when it comes to complex meta-

problems (Selsky & Parker, 2005; Trist, 1983), such as development, poverty and protection of the environment (Bäckstrand, 2008; Biermann et al., 2007). It has even been suggested that this not only involves governance failure, but also ‘market failure’ and ‘good intentions failure’, thus targeting the limitations of all three individual sectors (respectively government, business and NGOs) (Kolk, Van Tulder & Kostwinder, 2008; OECD, 2006).

The broad participation of multi-stakeholder partnerships across sectors form the basis of inclusiveness and thus the possibility of overcoming a *participation gap*, meaning that all parties relevant to a specific issue have a say in matters (Bäckstrand & Lövbrand, 2006; Boström, 2006; Forsyth, 2007; Schäferhoff et al., 2009). This also ensures that ‘dissident’, more critical voices about different approaches are being heard and can be taken into account, which increases credibility and quality (Fransen & Kolk, 2007). Within the management literature there is more emphasis on multi-stakeholder partnerships as a way of including competing stakeholder demands; the partnership serves as a platform to visibly set priorities between these demands (Pelozo & Falkenberg, 2009). Involving groups of various backgrounds in partnerships enables knowledge transfer between different actors: they all bring in different sorts of expertise, which could lead to synergies and further the issue at hand in the best way possible (London & Rondinelli, 2003; Selsky & Parker, 2005).

Management scholars, drawing on the strategic alliance literature in analyzing partnerships (Hardy, Phillips & Lawrence, 2003; London, Rondinelli & O’Neill, 2006), mainly accentuate the role of partnerships as conduits for overcoming *resource gaps*, that is, different actors ‘collaborate because they lack critical competencies they cannot develop on their own or in a timely fashion’ (Selsky & Parker, 2005, p. 851). While a resource gap can refer to tangible resources, whereby companies or governments transfer capital to NGOs dealing with social issues, more often it relates to intangible resources such as knowledge, skills and expertise (Googins & Rochlin, 2000; Selsky & Parker, 2005). To illustrate, multi-

stakeholder partnerships for development have demonstrated a clear division of roles between the partners: companies bring specific knowledge and expertise; NGOs provide local embeddedness and contacts, and supporting activities such as training and capacity building; and governments supply funding, usually to reduce risks, and facilitate the activities (Kolk, Van Tulder & Kostwinder, 2008).

However, besides learning *from* each other, partnerships ‘can also create *new* knowledge that neither of the collaborators previously possessed’ (Hardy et al., 2003, p. 325). In other words, a fourth role of multi-stakeholder partnerships is overcoming a *learning gap*: by interacting socially, actors from different sectors can create new practices, rules or technologies together (Lawrence, Hardy & Phillips, 2002). In the context of two colliding meta-problems – climate change and sustainable development – overcoming this learning gap is particularly pertinent, because it requires a steep learning curve (Berger et al., 2004) as all actors involved move into uncharted territory and pooling resources and transferring existing knowledge alone will not suffice. However, the extent to which a partnership succeeds in achieving knowledge transfer or collaborative learning depends on the level of commitment of companies involved and whether the nature of the partnership is philanthropic (one-way charitable giving), transactional (two-way exchange of resources), or integrative (collective action and learning, Austin, 2000b).

Addressing the four gaps – regulatory, participation, resource and learning – is likely to be more complex in developing countries than it already is in industrialized countries. Moreover, although it has been widely argued that the involvement of companies is key as they bring in resources, knowledge and expertise (London & Rondinelli, 2003; Selsky & Parker, 2005), company involvement may be inhibited in a developing-country setting. Context does matter, especially given the institutional setting and the degree to which an institutional void is present (Reficco&Márquez, 2009). Partnerships that are implemented in

(and thus need to be designed for) developing countries need to reckon with the frequent absence of ‘good governance’, and the presence of a larger variety of ‘failures’ than can be found in industrialized countries (Kolk, Van Tulder & Kostwinder, 2008). For (business) partners from industrialized countries, the activities take place in a distant and uncertain local context, with often different socio-cultural, political and economic peculiarities. This requires a greater degree of trust or understanding of the specific backgrounds of each partner, and perceptions and expectations may diverge as well, and need to be taken into account. It is therefore vital that we understand how multi-stakeholder partnerships are structured so as to address synergies and trade-offs in the climate change – sustainable development context.

EXPLORING MULTI-STAKEHOLDER PARTNERSHIPS FOR CLIMATE CHANGE IN DEVELOPING COUNTRIES

In this section we descriptively explore how both climate policy approaches – mitigation and adaptation – are being targeted by multi-stakeholder partnerships in developing countries. The complexity of dealing with climate change in a developing-country setting, characterized by regulatory, participation, resource, and learning gaps, has raised expectations as to the contribution of multi-stakeholder partnerships as a form of governance which can harness the strengths of different parties (Andonova et al., 2009; Forsyth, 2007). Insight into how a multi-stakeholder setting might help address climate policy in developing countries has been limited, and represents an emerging and novel field. This complicates assessments, as it is unclear to what extent existing frameworks can be applied. Therefore, we followed a largely descriptive approach to map developments in this nascent field and look at a few illustrative multi-stakeholder partnerships for adaptation and mitigation in developing countries that have emerged in recent years.

To this end, we first performed an extensive web search, analysed responses to the Carbon Disclosure Project³ and carried out a literature review to identify a broad set of climate change partnerships in 2007 (for more details, see Kolk, Pinkse & Hull, 2010). In addition, we identified illustrative cases in a climate governance database of the Transnational Climate Change Governance network, which was compiled from 2008 to 2010. This initial exploration led to the conclusion that climate change-sustainable development partnerships are still in their infancy, as we were only able to identify 23 partnerships that touch upon climate change and sustainable development simultaneously and have some form of corporate involvement. Of these 23 partnerships, we only found seven partnerships explicitly addressing synergies between both issues as well as having a clear role for business. Partnerships such as the Clinton Climate Initiative, HSBC Climate Partnerships, and the Methane to Markets Partnership have developmental components to them, but creating linkages was not the main aim. Others were neither focused on climate change (e.g. the United Nations Partnership for Clean Fuels and Vehicles), nor had a clear role for business (e.g. EMBARQ and Asia-Pacific Partnership on Climate Change). Therefore, rather than being able to present a comprehensive set of climate change-sustainable development partnerships, we focus on a limited number of seven illustrative ones, which most clearly reflected the complexities of dealing with the linkages between climate change and sustainable development.

To gain insight into the selected multi-stakeholder partnerships for climate change and sustainable development, we consider the main aim of the partnership and how it addresses issue linkages; the mode of involvement and contribution of each stakeholder; the (potential) impact and geographical coverage; and the (potential) pitfalls of this form of climate change-sustainable development governance (for an overview of the selected partnerships see Tables 1, 2 and 3). We start with mitigation as this has received most

attention over the years, then move to partnerships oriented towards adaptation, and end with partnerships that seem to be ‘hybrids’ somewhere in between mitigation and adaptation.

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Partnerships for mitigation in developing countries

The mitigation partnerships that we found tend to be linked to the global carbon market(either the regulatory or voluntary carbon market), which creates a financial incentive for participation. This is mostly attributable to the fact that the Clean Development Mechanism has emerged as the main instrument for addressing climate mitigation activities in developing countries (Newell et al., 2009).

One of the most frequently mentioned mitigation partnerships is the Renewable Energy and Energy Efficiency Partnership (REEEP). The UK government initiated REEEP during the 2002 WSSD in Johannesburg as a Type II partnership and it has expanded since, including 246 partners with around €16 million in resources in 2009. The mission of REEEP is threefold: to increase investments in renewable energy, to promote energy efficiency measures, and to facilitate access to sustainable energy services for the poor (REEEP, 2009). It therefore aims to establish supportive policies and regulations for renewables and energy efficiency, and to remove market and institutional barriers. Moreover, REEEP tries to create ‘business and finance solutions’ to overcome financial barriers and lack of investments in such technologies, particularly in developing countries. The partnership leverages funding from CDM and advocates using the CDM Gold Standard⁴ to implement the projects (REEEP, 2009).

REEEP has been characterized as ‘public governance of private finance’ (Newell et al., 2009), as national governments from OECD countries (most notably the UK and Norway)

are dominant stakeholders providing most of the funding (REEEP, 2009). Nevertheless, REEEP has a broad representation of stakeholders including governments, business, NGOs, international organizations and academia. The governance structure enhances the inclusiveness of local stakeholders and decision-making is a bottom-up process (REEEP, 2009). Yet, the projects that REEEP undertakes mainly reflect the goal of transforming markets by removing regulatory and financial obstacles, while the goals of climate mitigation and poverty alleviation are considered secondary goals at best (Pattberg, Szulecki, Chan & Mert, 2008). In other words, REEEP particularly aims at using public funds to stimulate business participation in the investment of renewables and energy efficiency. In addition, while the more than 100 projects have a global coverage, priority seems to lie in large emerging economies such as China, India and Brazil, as it is here that market transformation has the highest potential. Still, REEEP seems quite successful in achieving the goals it set itself and has grown to an unprecedented size, being much larger than other partnerships in this area (Pattberg et al., 2008).

While the goals and potential impact of REEEP are quite broadly defined, a rather different mitigation partnership, Energy Poverty Action (EPA), is more focused in its aim, as it specifically targets rural electrification. Three firms – BritishColumbia Hydro (Canada), Eskom (South Africa) and Vattenfall (Sweden) – set up EPA at the World Economic Forum and were later joined by the World Energy Council (WEC), the Development Bank of Southern Africa (DBSA), and the World Business Council for Sustainable Development (WBCSD). The main function of EPA is the implementation of rural energy services in developing countries, focusing initially on sub-Saharan Africa. However, so far the partnership has not reached much further than setting up two pilot projects in Lesotho and Democratic Republic of Congo with the aid of the Asian Development Bank and the World Bank. The main mode of involvement of the corporate partners is to leverage business

expertise and best practices, rather than funding (EPA, 2009). The potential impact of this partnership on climate mitigation or rural electrification is still rather unclear as the information provided is minimal.

A mitigation partnership of a different kind is the Partnership on Sustainable Low Carbon Transport (SloCat), which was launched in September 2009. It addresses the carbon impact of transportation with a focus on developing countries. SloCat strives for integration of low-carbon transport in multilateral negotiations on climate change, in regional, national and local transport policies, and aims to put it on the agenda of international development agencies as well. Although this partnership is still quite novel, it has already achieved a broad membership of 50 organizations from different sectors (SloCat, 2009), although mostly comprising policy and research institutes and only minimal corporate participation. SloCat appears to function as a coordinating body to help all partners in their activities in low-carbon transport. One of its members, for example, is the World Resources Institute (WRI) Center for Sustainable Transport EMBARQ, which has already successfully implemented sustainable transport solutions in several cities, also by forming multi-stakeholder partnerships. SloCat can be seen as a ‘nested partnership’, made up of other entities sometimes also organized as partnership. We identified a number of other nested partnerships, including the Energy Poverty Action partnership mentioned above, and Energy for All, which has the REEEP and WBCSD as member.

Partnerships for adaptation in developing countries

We found fewer multi-stakeholder partnerships with corporate involvement aimed at adaptation. This is not that surprising given that adaptation has only become an integral part of global climate policy since the publication of the Third Assessment Report of the Intergovernmental Panel on Climate Change in 2001. Adaptation is multi-faceted and can

take on many different meanings (Nitkin et al., 2009), and as we mentioned above, there are no clear financial incentives for most businesses to engage (Klein et al., 2005). Nevertheless, a quick overview of the limited number of adaptation partnerships that we identified shows that they are unequivocally linked to poverty issues, thus reflecting the view that adaptation is as much a development as an environmental issue (Eriksen & O'Brien, 2007).

Multi-stakeholder partnerships for adaptation can be divided into three types, concentrating on different dimensions of building resilience to climate change: (1) physical and institutional infrastructure investments (e.g. coastal protection, flood defense and disaster relief), (2) insurance schemes, and (3) research and development (e.g. health and agricultural research) (Fankhauser et al., 2008). The third type, R&D partnerships, can be difficult to identify, because these are not necessarily linked to the issue of climate change adaptation explicitly. For example, the International Maize and Wheat Improvement Center (CIMMYT) is involved in several partnerships for improving agricultural methods, such as the Drought Tolerant Maize for Africa Initiative, which are instrumental for adaptation strategies. The same holds for partnerships for medical research that help tackle tropical diseases that are assumed to spread more widely due to climate change (Fankhauser et al., 2008). We found examples of the first two types of multi-stakeholder partnerships, infrastructural investments and insurance schemes, specifically designed for furthering climate change adaptation.

An adaptation partnership concentrating on physical and institutional infrastructure investments is the Asian Cities Climate Change Resilience Network (ACCCRN). ACCCRN, set up in early 2009 by the Rockefeller Foundation, works with several consulting firms, NGOs and local governments to develop climate resilience strategies for cities in Vietnam, Indonesia, India and Thailand. It addresses the direct effects of climate change, such as vulnerability of ecosystems that provide cities with food and water, and also the indirect

effects of city infrastructures, such as sewage and transportation, which are impacted by these direct effects (ISET, 2009). Currently, ACCCRN is still only engaged in formulating resilience strategies for pilot projects in 10 cities, but it aspires to start implementing them as well as replicating this process in more cities in this region. Internationally operating for-profit consultant companies and non-profit groups coordinate and facilitate the project. They work with local-level governmental bodies and NGOs, who are seen as experts and key stakeholders and purposively made part of the project (ISET, 2009). On the face of it, ACCCRN concentrates on reducing vulnerability of urban areas to climate change by creating local networks with the aim of sharing knowledge. The main question is whether it will, over time, achieve its objective of moving beyond policy formulation towards implementing concrete measures.

Another recent form of multi-stakeholder adaptation partnership is insurance schemes to help developing countries cope with climate change risks (Burton & Dickinson, 2009; Nelson, 2009). The Munich Climate Insurance Initiative (MCII) is an example of such a multi-stakeholder partnership, set up by German reinsurer Munich Re in 2005. The initiative is hosted by the United Nations University Institute for Environment and Human Security (UNU-EHS), which now comprises insurers, climate research institutes, NGOs and international organizations. MCII has predominantly advocated the inclusion of insurance mechanisms in a post-Kyoto framework. It has, for example, submitted proposals at several UNFCCC conferences to emphasize that insurance activities form part of a broader adaptation strategy: only short-term disaster type of events can be insured, not long-term phenomena such as sea-level rise and desertification. They argue that a climate risk management mechanism should include prevention measures to reduce climate risk as well as insurance (MCII, 2009).

In essence, such a proposal entails a public-private insurance scheme with multiple

objectives (Burton & Dickinson, 2009). It aims to be a mechanism that balances out the global injustice that industrialized countries have caused the problem from which developing countries suffer most, it promotes adaptation by stimulating risk reduction, and it increases the scope of the insurance market to developing countries. In other words, besides dealing with the resource gap – as public actors are unlikely to come up with sufficient funding for adaptation without corporate involvement – such partnerships might also help to create new insurance products (e.g. micro-insurance) to open up new markets, a solution subject to criticism (Burton & Dickinson, 2009). Akin to ACCCRN, MCII also has aspirations to move beyond advocacy and become involved in the implementation of concrete policy measures. What both examples illustrate as well is the relative novelty of climate change adaptation in the policy debate, in which discussions about appropriate mechanisms to deal with this problem are just materializing.

Creating mitigation-adaptation linkages in partnerships

The examples of mitigation partnerships presented above all entail mitigation by reducing energy-related emissions such as providing access to renewable energy, energy efficiency and sustainable transport solutions. Recently, however, the debate on mitigation through land use, land use change and forestry (LULUCF) has received a new impetus, when efforts to reduce emissions from tropical deforestation and forest degradation (REDD) were included in the 2007 Bali Action Plan. Emissions from land use change make up a significant portion of global emissions and REDD is considered a way of including developing countries in a post-Kyoto framework (Evidente, Logan-Hines & Goers, 2009). It is here that the linkages between climate change and sustainable development are most apparent, because land use and forestry are linked to issues such as biodiversity and desertification (Swart et al., 2003), and could have an impact on the adaptive capacity of developing countries (Fankhauser et al.,

2008; Nelson, 2009). We could therefore identify several hybrid multi-stakeholder partnerships that appear to create linkages between mitigation and adaptation.

For years, the debate on carbon sequestration from afforestation and reforestation and specifically avoided deforestation has been a contentious one (Bäckstrand & Lövbrand, 2006; Boyd, Corbera & Estrada, 2008). While national governments were allowed to use carbon 'sinks' to comply with the Kyoto targets, the inclusion in CDM has taken much longer, resulting in the final inclusion in CDM in 2003. Due to all the complexities and delays to approve afforestation and reforestation projects, the number of CDM projects in this area has been extremely low, comprising only 6 out of the total of 2148 registered CDM projects in 2009 (Evidente et al., 2009). There have been significant regulatory and resource gaps in dealing with mitigation through carbon sequestration in developing countries, in part due to a lack of financial incentive to engage in such projects.

Multi-stakeholder partnerships have emerged to fill these gaps. The World Bank has been most active in this regard by launching the BioCarbon Fund⁵ in 2004, which focuses on investing in projects that sequester or conserve carbon. Since 2004, the BioCarbon Fund has financed 29 projects, most of which are related to afforestation and reforestation (with the aim to create CDM credits), and piloting REDD with the aim of developing methodologies (World Bank, 2008). Besides creating carbon sinks, the projects financed by this fund also enhance adaptation – many projects reduce soil erosion and create watershed and biodiversity protection – and stimulate local employment. One of the main aims of the fund is to extend the (regulatory and voluntary) carbon market to the poorest areas in the world and advocate the inclusion of forestry projects in the post-Kyoto carbon market. Although the main function of the BioCarbon Fund is providing financial resources for carbon sinks, it is a multi-stakeholder partnership because it draws on OECD country governments and (mostly Japanese) companies (e.g. Tokyo Electric Power, Sumitomo Chemical and Suntory) for

financial contributions, and uses local NGOs to implement the projects. In terms of geographical coverage, the BioCarbon Fund has an even distribution across developing countries, with sub-Saharan Africa receiving 32% of the funding (World Bank, 2008).

One of the earliest partnerships in the area of carbon mitigation through forestry and one that has been very well documented is the Noel Kempff Climate Action Project (NKCAP). NKCAP was one of the first large-scale REDD projects which was set up in 1996 in the context of Activities Implemented Jointly (AIJ), a pilot program for CDM. Projects are developed by two NGOs – the Nature Conservancy and Fundación Amigos de la Naturaleza (FAN Bolivia) – and are funded by three companies – American Electric Power, BP America and PacificCorp – as well as the Bolivian government. In this project existing logging concessions in the Bolivian tropical forest were indemnified to prevent timber harvesting and slash-and-burn agriculture, and thus reduce carbon emissions. From the onset it had multiple goals of reducing emissions, enhancing biodiversity, decreasing soil erosion, and creating sustainable benefits for local communities (Virgilio, 2009). Therefore, NKCAP is a good example of a project that developed synergies in the implementation of mitigation and adaption policies, and between climate change measures and other global environmental agreements (Klein et al., 2005).

Views on whether NKCAP has been successful in creating such synergies have been mixed at best. On the one hand, NKCAP has been used as a showcase example for the inclusion of forestry projects in the global carbon market to help develop know-how and enable learning-by-doing (May, Boyd, Veiga & Chang, 2004). On the other hand, and even though the project was verified independently, NKCAP has received much criticism for the lack of inclusiveness of local stakeholders, its carbon accounting and treatment of so-called ‘leakage’. It has, for example, been said to exemplify the top-down nature of forestry projects and the problems of engaging local indigenous population resulting from lack of local

representation as well as poor communication between project developers and local communities (May et al., 2004). A recent Greenpeace report argued that the project has not delivered the amount of emissions reductions announced at its start by far, falling by as much as 90% from 1997 to 2009. The project was also blamed for insufficiently dealing with the problem of leakage, that is, preventing indemnified loggers from moving to a forest adjacent to the one being protected (Densham, Czebiniak, Kessler & Skar, 2009). Greenpeace's assertions were countered by The Nature Conservancy which stated that 'the Noel Kempff Climate Action Project was a pioneer project that tested and refined the science of forest carbon accounting and monitoring' and that 'projects like these are critical stepping stones that can help inform development of national-level programs and build up the capacity and expertise that countries will need to protect their forests on a national scale' (Hoekstra, 2009). The contested nature of forestry projects do challenge whether 'maximizing synergies' between climate change and sustainable development goals is realistic, as many trade-offs are observable (Bäckstrand & Lövbrand, 2006).

DISCUSSION AND CONCLUSION

Our descriptive exploration of multi-stakeholder partnerships for climate change in developing countries shows that the number of initiatives is still fairly limited. Most focus on mitigation, targeting aspects such as rural electrification, sustainable transport and transfer of best practices in energy efficiency. Some mitigation projects in the area of carbon sequestration through afforestation, reforestation and avoided deforestation also benefit adaptation, although not always explicitly. Identifying climate adaptation partnerships in which companies were involved was much more difficult. This seems to be just emerging as part of the overall shift in policy attention towards adaptation. The financial incentives for corporate engagement in adaptation appear to be very limited, in contrast to mitigation where

a clear linkage to the global carbon market can be seen.

In addition to the adaptation-mitigation dimension, we can also consider the governance function(s) that partnerships fulfill. The global environmental governance literature identifies various functions of climate partnerships. For example, Schäferhoff et al. (2009) discerned two broad functions that correspond to two main phases in the policy-making process: policy formulation and policy implementation. Policy formulation refers to the development of rules and standards and the role of advocacy, while implementation focuses on how they are put into practice, and how and in what way resources and services are being provided. We see both adaptation-mitigation and formulation-implementation as continua, with the possibility that a partnership, for example, exhibits traits of adaptation and mitigation (as in the case of forestry) or involves both formulation and implementation. The illustrative partnerships analyzed in this paper are positioned in Figure 1; this is provisional in a sense as they are still in development and may evolve further. A partnership may change over time: the mission may change, as can the composition of its membership and the respective roles of the partners in the partnership.

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Insert Figure 1

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By distinguishing between the two phases of the policy-making process, the formulation-implementation division gives a first indication of the governance function partnerships fulfill. However, this division neither provides much insight into *how* this function is fulfilled, nor specifies the role of different types of actors. Two related typologies of climate partnerships with their origin in the environmental governance literature are more helpful in this regard (Bäckstrand, 2008; Andonova et al., 2009). Both Bäckstrand's (2008) and Andonova et al.'s (2009) typologies map partnerships along the dimensions of

governance function and actor type, making a distinction between public actors and private actors, where the latter comprises NGOs and for-profit companies.

In terms of governance function, Bäckstrand (2008) distinguishes advocacy, standard setting and rule making, rule implementation, and service provision as different functions of partnerships in the policy-making process. Andonova et al. (2009), on the other hand, identify which resources create the leverage, steering members to contribute to the mission of the partnership. Accordingly, their typology sets apart information sharing, capacity building and implementation, and rulesetting; respectively referring to ‘the diffusion of information, knowledge and norms; the pooling and distribution of financial, managerial and technical resources; and [...] the negotiation and establishment of a set of norms, rules, and standards’, as main steering mechanisms (Andonova et al., 2009, p. 63). While rulesetting mainly equates to the policy formulation phase and capacity building and implementation to the policy implementation phase, information sharing can play a role in both phases. Identifying the different ways of steering, Andonova et al.’s (2009) typology fits the purpose of mapping different climate change-sustainable development partnerships more accurately than Bäckstrand’s, because it provides more insight into the way in which different actors contribute to filling the regulatory, participatory, resource and learning gaps. Accordingly, we made an attempt to classify each partnership, following the governance functions of Andonova et al. (2009) and identified which actors were the main (often initiating) partners (see Table 1). What must be noted though is that the boundaries between them are not always clearly delineated, and partnerships often have more than one function at the same time.

The climate mitigation partnerships that we found showed a considerable diversity across all three governance functions – information sharing, capacity building and implementation, and rulesetting – thus reflecting policy formulation and implementation functions to realize energy efficiency, renewable energy, transport and carbon sequestration

and deforestation projects in developing countries. For example, while the largest partnership, REEEP, combines the rule-setting and implementation functions, SloCat has so far mainly focused on advocacy to put low-carbon transportation for developing countries on the political agenda. As to the emerging adaptation partnerships, the ones that we identified have been predominantly targeted towards information sharing as both the ACCCRN and MCII partnerships aim for knowledge diffusion to develop novel strategies and products. This is not surprising given the fact that adaptation has been lagging behind as a policy and business issue (Nitkin et al., 2009), but implementation appears to be a likely next stage if these partnerships proceed. Finally, the forestry mitigation partnerships that benefit adaptation as well – BioCarbon Fund and NKCAP – have been mostly oriented towards capacity building and implementation, although some have also been used as showcases to some extent, to illustrate how forestry can be included in global agreements and carbon markets, and may be seen to have some advocacy components in that way.

Regarding the involvement of different types of actors, there seems no clear relation between main (initiating or operating) actor and governance function. Nevertheless, we could discern various roles for companies. In most partnerships, corporate involvement seems rather passive, that is to say, companies can be found in the list of members, but looking at specific projects (non)governmental partners are more highly involved. Nevertheless, in some partnerships companies do seem to play a key role. Corporate involvement can be best understood when the function of a partnership is viewed in terms of the gap it is attempting to fill, i.e. regulatory, participation, resource or learning gap. Not surprisingly, in those partnerships that aim for filling a regulatory gap – REEEP, SloCat & MCII – on the whole companies have a relatively passive role; rule setting is still more in the domain of governmental actors (see Table 2). In these ‘regulatory gap-filling’ partnerships, the specific purpose of the companies involved is more geared towards providing specialized knowledge

(e.g. Munich RE in MCII) or performing a knowledge brokerage function (e.g. Gesellschaft für Technische Zusammenarbeit in SloCat).

More generally, as the management literature on partnerships affirms (Hardy et al., 2003; Rondinelli & London, 2003; Selsky & Parker, 2005), companies' main role in partnerships is directed towards resource and learning gaps, that is, providing financial resources (e.g. REEEP; BioCarbon Fund; NKCAP), skills (e.g. EPA), or specialized knowledge (e.g. ACCCRN, MCII). Nevertheless, the corporate input into a process of collaborative learning was fairly modest. Although the identified partnerships were not of a philanthropic nature, most were transactional, not integrative (Austin, 2000b). For example, companies funding forestry projects through NKCAP or the BioCarbon Fund gained carbon credits in exchange, while companies engaged in REEEP could profit from the removal of market barriers and publicity (Pattberg et al., 2009). Corporate involvement for the sake of filling a participation gap is largely absent in all partnerships except for the EPA. The companies involved in the partnerships we identified are relatively large companies from industrialized countries. There is hardly any inclusion of local companies in developing countries, as most local partners are local governments and NGOs.

Most partnerships, even the ones initiated by corporate actors, operate within the framework of a separate organizational entity managing the partnership, e.g. the United Nations (e.g. MCII), World Bank (e.g. BioCarbon Fund) or a specifically set up non-profit organization (e.g. EPA) or secretariat (e.g. REEEP). This has been referred to in the literature as 'referent organizations' (Trist, 1983), which are established to 'regulate activity around [an] issue, and to mobilize resources and action to address it', and[...] 'are often structured as nonprofit organizations' (Selsky, 1998, p. 284). Partnerships are often placed under the umbrella of existing organizational entities or ones specifically set up for the purpose, and such referent organizations enable companies to decouple their engagement in the public

domain from their for-profit activities (Meyer and Rowan, 1977).

Finally, a closer look at the multi-stakeholder partnerships explored in this paper indicates that the complexities and trade-offs in creating linkages between climate change and sustainable development as well as mitigation and adaptation are more apparent than the potential synergies. All partnerships intend to create linkages between climate change and other sustainable development issues (see Table 3). For example, the mitigation partnerships particularly intend to combine climate change with poverty alleviation in the form of improving access to electricity in remote locations (e.g. REEEP and EPA) or transport policies in urban areas (e.g. SloCat). In adaptation partnerships, on the other hand, the fact that they mainly have an information sharing function implies that the synergy is predominantly sought in combining different sources of knowledge to create resilience strategies (e.g. ACCCRN) or insurance products (e.g. MCII). The hybrid partnerships, with their focus on forestry projects, more specifically aim at combining climate change with biodiversity and benefits for local communities. However, many multi-stakeholder partnerships with high corporate participation do not only try to create synergies on an issue level, but our illustrative cases seem to suggest that another important goal is to tap new markets, either for renewable energy and energy efficiency (e.g. REEEP and EPA), insurance (e.g. MCII) or the carbon market (BioCarbon Fund and NKCAP). As a consequence, these partnerships face potential trade-offs between maximizing market potential and creating issue linkages, the latter of which may be regarded as secondary co-benefits only. How this works out at the level of specific companies beyond the realm of broad referent organizations deserves in-depth investigation.

Our cases suggest that some issues are included in the mission of a multi-stakeholder partnership retrospectively. For example, there is the impression that adaptation benefits of forestry projects have only started to get noticed quite recently, when the global policy debate

started moving in this direction. There seems to be tension between the stated objectives and the activities carried out as part of the partnership. REEEP is a case in point; although it has a broad objective including implementation, information sharing and rule setting, in practice the main activity carried out is knowledge dissemination (Pattberg et al., 2009). There are clear trade-offs between different governance functions: it is unclear whether some partnerships that currently focus on formulating policy will be able to move to the next phase of implementing these policies. For genuine adaptation partnerships, such as ACCCRN and MCII, the biggest challenge may be to attract attention from corporate actors. It is therefore somewhat doubtful whether these partnerships will be able to move beyond the formulation phase and carry on into the implementation phase, if this requires much higher levels of (start-up) funding.

Obviously our cases have been very exploratory, reflecting the nascent nature of multi-stakeholder partnerships in this context, with all the limitations that are part and parcel of such an approach. Since we relied on secondary data, our implications need to be taken with much caution and are of a highly preliminary nature. Nevertheless, we think that the climate change-sustainable development nexus is topical and highly relevant and deserves further attention when it evolves. It seems inevitable that the climate change and sustainable development debates are increasingly considered as strongly overlapping fields and there is great promise in finding synergies between both. In addition, business involvement also has the potential to aid in addressing regulatory, participation, resource and learning gaps as well as development and climate problems simultaneously. Multi-stakeholder partnerships could be an important conduit in achieving this. However, there seem to be a considerable number of trade-offs in dealing with climate change and sustainable development simultaneously. Companies involved in the partnerships might not always look for furthering the official mission of a partnership but focus more on maximizing market potential of developing

countries instead. Therefore, while looking for synergies seems warranted, there will also be cases where it appears more fruitful that each issue will be dealt with separately.

The extent to which multi-stakeholder partnerships will be able to address all four identified gaps, and thus contribute to true sustainable development, is difficult to assess at this stage. Future management research should focus on mitigation within the climate change-sustainable development nexus as it is in this context that corporate interests may merge best with those of public and nonprofit partners (see for example REEEP's focus on improving access to electricity in remote areas). The current stalemate in the climate negotiations also means that those areas where most activities can be found are likely to be in fairly 'straightforward' projects on energy efficiency, renewable energy and – particularly relevant for developing countries – (rural) electrification. While the more visible global partnerships that we examined in this paper often also aimed to link up with CDM funding, this is much less the case for smaller-scale initiatives. This means that we could learn from (renewable) energy-related partnerships without being hampered that much by the difficulties at the intergovernmental level. Interest in realizing progress 'on the ground' may even belarger because of frustration about climate policy development post-Copenhagen.

The extent to which the provision of funding (e.g. by corporate partners, international organizations, or industrialized donor countries) also shapes the type of participation and inclusiveness of partnerships deserves further attention. This also applies to a more fine-grained examination of adaptation and mitigation partnerships, by focusing not just on the more general 'global' (or industry) initiatives, but also the more specific ones implemented by companies in developing countries together with governmental and non-governmental partners. These may be less dependent on the existence of an encompassing global framework, and a successor to the Kyoto Protocol, as they might be seen as means to develop new markets, combine strategic and corporate social responsibility strategies, or tap funding

to support developing countries in relation to development and/or climate.

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FIGURE & TABLES

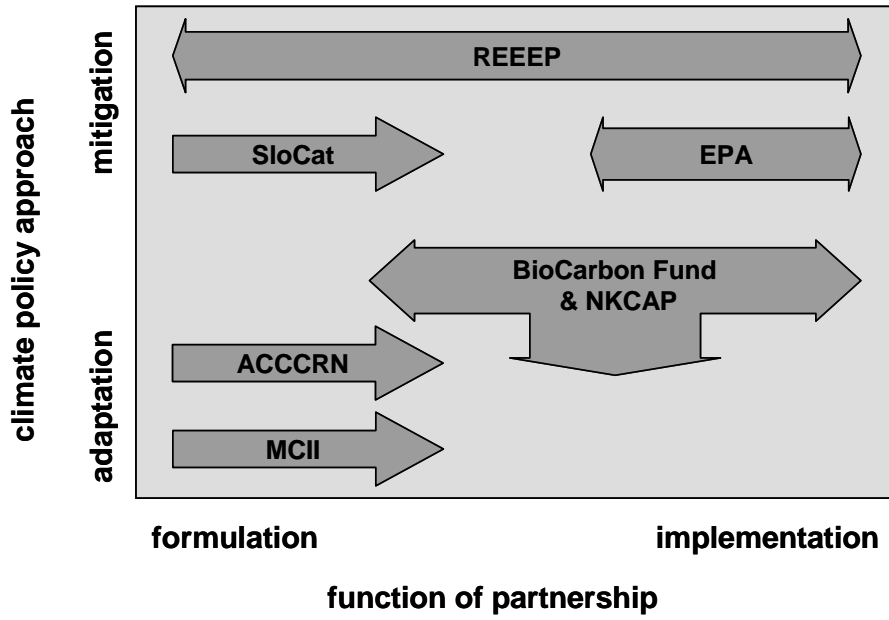


Figure 1 Framework for multi-stakeholder climate partnerships (with initiatives discussed in this paper included)

Table 1 Climate change-sustainable development partnerships’ governance function and actor involvement

	Mitigation			Adaptation		Hybrid	
	<i>Renewable Energy and Energy Efficiency Partnership</i>	<i>Energy Poverty Action</i>	<i>Partnership on Sustainable Low Carbon Transport</i>	<i>Asian Cities Climate Change Resilience Network</i>	<i>Munich Climate Insurance Initiative</i>	<i>BioCarbon Fund</i>	<i>Noel Kempff Climate Action Project</i>
Governance function & involvement	<ul style="list-style-type: none"> • Information sharing • Capacity building & implementation • Rule setting 	<ul style="list-style-type: none"> • Capacity building & implementation 	<ul style="list-style-type: none"> • Information sharing 	<ul style="list-style-type: none"> • Information sharing 	<ul style="list-style-type: none"> • Information sharing • Rule setting 	<ul style="list-style-type: none"> • Capacity building & implementation 	<ul style="list-style-type: none"> • Capacity building & implementation
<i>Main actors</i>	<ul style="list-style-type: none"> • OECD country governments, i.e. UK/Norway 	<ul style="list-style-type: none"> • British Columbia Hydro, Eskom & Vattenfall • World Energy Council, Development Bank of Southern Africa&World Business Council for Sustainable Development 	<ul style="list-style-type: none"> • United Nations Department of Economic and Social Affairs; Asian/InterAmerican/African Development Bank • Deutsche Gesellschaft für Technische Zusammenarbeit 	<ul style="list-style-type: none"> • Rockefeller Foundation • Institute for Social Environmental Transition; Arup; ProVention;ICLEI - Local Governments for Sustainability 	<ul style="list-style-type: none"> • Munich RE • United Nations University Institute for Environment and Human Security 	<ul style="list-style-type: none"> • World bank • OECD country governments • Tokyo Electric Power; Sumitomo Chemical; Suntory 	<ul style="list-style-type: none"> • Nature Conservancy; Fundación Amigos de la Naturaleza Bolivia • American Electric Power; British Petroleum America; PacificCorp • Bolivian government

Table 2 Climate change-sustainable development partnerships' gaps

	Mitigation			Adaptation		Hybrid	
	<i>Renewable Energy and Energy Efficiency Partnership</i>	<i>Energy Poverty Action</i>	<i>Partnership on Sustainable Low Carbon Transport</i>	<i>Asian Cities Climate Change Resilience Network</i>	<i>Munich Climate Insurance Initiative</i>	<i>BioCarbon Fund</i>	<i>Noel Kempff Climate Action Project</i>
Gaps							
<i>Regulatory gap</i>	<ul style="list-style-type: none"> • Establish supportive regulations for renewables & energy efficiency • Remove market & institutional barriers 		<ul style="list-style-type: none"> • Policy framework to support sustainable, low carbon transport in developing countries 		<ul style="list-style-type: none"> • Inclusion of insurance mechanisms in a post-Kyoto framework 		
<i>Participation gap</i>	<ul style="list-style-type: none"> • Inclusiveness of local stakeholders • Focus on emerging economies 	<ul style="list-style-type: none"> • Cooperation with local companies & governments 		<ul style="list-style-type: none"> • Engagement of community-based organizations, vulnerable stakeholder groups & local governments 			
<i>Resource gap</i>	<ul style="list-style-type: none"> • Use public funds to stimulate business participation 	<ul style="list-style-type: none"> • Funding by the African Development Bank • Seconding staff by corporate partners 	<ul style="list-style-type: none"> • Coordination of data collection and knowledge transfer on transport & climate change 		<ul style="list-style-type: none"> • Knowledge transfer between insurers, climate experts, economists & independent organizations 	<ul style="list-style-type: none"> • Funding projects that sequester or conserve carbon in developing countries 	<ul style="list-style-type: none"> • Funding forestry project to create carbon credits
<i>Learning gap</i>	<ul style="list-style-type: none"> • Innovative finance mechanisms & business models 			<ul style="list-style-type: none"> • Development of resilience strategies for cities in developing countries 	<ul style="list-style-type: none"> • Development of insurance-related products to help adapt to climate change 		<ul style="list-style-type: none"> • Development of carbon accounting & monitoring methodologies for forestry projects

Table 3 Climate change-sustainable development partnerships' linkages

	Mitigation			Adaptation		Hybrid	
	<i>Renewable Energy and Energy Efficiency Partnership</i>	<i>Energy Poverty Action</i>	<i>Partnership on Sustainable Low Carbon Transport</i>	<i>Asian Cities Climate Change Resilience Network</i>	<i>Munich Climate Insurance Initiative</i>	<i>BioCarbon Fund</i>	<i>Noel Kempff Climate Action Project</i>
Linkages							
<i>Potential synergies</i>	<ul style="list-style-type: none"> Combining climate change, energy security & sustainable energy access for the poor 	<ul style="list-style-type: none"> Combining public & private funding to accelerate rural access to energy 	<ul style="list-style-type: none"> Integration of climate in regional, national & local transport policies, and vice versa 	<ul style="list-style-type: none"> Combining knowledge on climate change, urban systems, and vulnerability to test resilience strategies 	<ul style="list-style-type: none"> Promoting adaptation while increasing the scope of the insurance market to developing countries 	<ul style="list-style-type: none"> Combining the creation of carbon sinks with biodiversity protection & climate adaptation 	<ul style="list-style-type: none"> Combining emissions reduction, biodiversity, soil erosion & sustainable benefits for local communities
<i>Potential trade-offs</i>	<ul style="list-style-type: none"> Market transformation at the cost of climate mitigation & poverty alleviation 	<ul style="list-style-type: none"> Energy access more prevalent than climate mitigation 	<ul style="list-style-type: none"> Focus on policy formulation in the short run might be at the cost of implementation in the longer run 	<ul style="list-style-type: none"> Challenge to replicate pilot projects and achieve large-scale implementation in the longer run 	<ul style="list-style-type: none"> Climate change adaptation might be exploited as a way to open up new markets for insurance 	<ul style="list-style-type: none"> Carbon finance activities minor part of World bank's full, fossil fuel-based energy finance portfolio 	<ul style="list-style-type: none"> Creating carbon credits prevailing over local community inclusion, carbon accounting precision & leakage

NOTES

¹This right to development has also been explicitly incorporated as principle 3 of the 1992 Rio Declaration on Environment and Development: ‘The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations’ (United Nations, 1992).

² The Clean Development Mechanism was set up as part of the Kyoto Protocol to allow countries with a binding target to carry out emissions-reducing projects in developing countries to stimulate technology transfer and sustainable development (Grubb et al., 1999).

³ The Carbon Disclosure Project is ‘an international collaboration of institutional investors concerned about the business implications of climate change’ (Kolk et al., 2008, p. 724).

⁴ The CDM Gold Standard is ‘a best practice methodology and a high quality carbon credit label for both Kyoto and voluntary markets’ (<http://www.cdmgoldstandard.org>).

⁵ In addition the World Bank launched the Community Development Carbon Fund (CDCF) in 2003, which together with the BioCarbon Fund form the two main ways in which the World Bank provides carbon finance for developing countries. The CDCF has an energy focus and aims to provide clean energy to rural communities in the poorest developing countries (World Bank, 2008).