

2014-11-20

Objectives for Nationally Appropriate Mitigation Actions (NAMAs): Moving from Mitigation to Sustainable Development for more Ambitious Climate Policy

Mathias Friman*, Björn-Ola Linnér

The Centre for Climate Science and Policy Research (CSPR),
Department of Thematic Studies – Environmental Change, Linköping University, Sweden.

*mathias.friman@liu.se

Abstract

The new global climate agreement due in Paris, late 2015, will most likely be the sum of envisioned, nationally determined, actions. The concept of Nationally Appropriate Mitigation Actions (NAMAs) was agreed in 2007 to incentivise developing countries to enhance the implementation of the Climate Convention. A strategic choice for the international policy makers is whether NAMAs should emphasize mitigation or if emission reductions can be a supplementary benefit of pursuing sustainable development objectives. The International Negotiations Survey at the UN Climate Change Conferences shows critical differences among developing and developed countries’ governmental representatives on the primary goal of NAMAs. Yet substantial overlaps exist, which allows for probing common ground to build agreement. There seems to be support for making mitigation a co-benefit of NAMAs. Doing so would take the negotiations toward a very explicit low-emission development trajectory focus for developing countries, which may result in a more effective treaty. It is imperative to stress that mitigation prospects alone will not sell NAMAs to decision makers in most developing countries; the possibility of attracting international financial support to nationally defined development opportunities, with ancillary mitigation benefits, on the contrary, can be sold politically. Greater adherence to a wider development focus of NAMAs, with sustainable development as primary objective and mitigation as co-benefit, may well stimulate broader participation and spur enhanced national ambitions for Paris.

NOTE TO THE AMSTERDAM WORKSHOP PARTICIPANTS: For this early draft of our paper, we did not find time to expand on the comparison of governmental delegates’ priorities among objectives for NAMAs with those of support providers and NGOs. Such a comparison, and their implications for climate policy, may be something that we’ll explore in the next step of working with the manuscript. In this version, we’ve included the data merely to facilitate discussion.

Moving from mitigation for a more ambitious climate agreement?

The mitigation ambitions of the new climate deal to be struck in Paris, late 2015, will most likely be the sum of nationally determined actions, intended by the parties to the UN Framework Convention on Climate Change. A crucial choice for the upcoming negotiations is whether emission reductions shall be the focus of Nationally Appropriate Mitigation Actions (NAMAs) or if it can be an ancillary benefit of pursuing sustainable development objectives. Developed and developing countries prioritize differently between objectives for NAMAs, there appears to be support for the latter. In this paper we analyse the preferences for NAMA objectives among participants at the United Nations UN Climate Change Conferences and support providers. Based on these results we discuss whether allowing for making mitigation as a co-benefit of NAMAs could take the negotiations toward a low-carbon development trajectory focus, which may make the new treaty more effective.

The concept of NAMAs was agreed in 2007 to incentivise increased mitigation ambitions from developing countries. The International Negotiations Survey (INS) at the UN climate conferences shows essential differences between developing and developed countries on the primary goal of such actions. Developed country delegates emphasise direct mitigation achievement, while developing country participants stress development incentives, with mitigation as an ancillary benefits spurring low-carbon development pathways. Yet substantial overlaps in the priorities exists, which can provide common ground to build the treaty (Figure 2).

Seven years after the establishment of NAMAs, the concept is still imprecise. The developing countries agreed to adopt voluntary mitigation actions in exchange for promises of international support. Both mitigation and support should be measured, reported, and verified (MRV). In principle, the concept encapsulates all mitigation actions that are explicitly labelled as NAMAs by developing country governments (Tyler, Boyd, Coetzee, Gunfaus, & Winkler, 2013). If you call it a NAMA, it is a NAMA. To add to the intricacy, NAMAs can be incentivized either by international recognition of developing countries' domestic actions, international support, or potentially by generating carbon credits.

Current trends indicate that the bulk of NAMAs will spring from initiatives that seek international support. Matching design and support of these NAMAs is crucial to make the instrument effective. A few financial commitments have been put on the table. Despite these pledges, finance will continue to be one of the hot topics in the run up to Paris. Finance is not only about putting pressure on countries to deliver the money. Essential for moving forward on climate finance is the definition of what the money can be spent on and how it shall be controlled. As incentivising developing countries to take on actions will be essential for the overall ambitions set for the Paris agreement, the vague definition of NAMAs and unclear framework for governance of support is a core challenge.

While the vagueness is theoretically speaking very positive in that it does not exclude potential sources of mitigation and development, it leaves NAMA developers as well as funders with a huge scope for carving out their own understandings of NAMAs. If these understandings do not match, it will become an obstacle for the effectiveness of NAMAs. Here we report on survey responses from delegates attending the last three Conferences of the Parties (COPs) to the UNFCCC, from all world regions, showing that views on the primary objectives for NAMAs diverge considerably between developed and developing country delegates, but also that considerable overlaps exists. This data is supplemented with an online

INS probing perspectives on objectives for NAMAs among representatives from support institutions in developed countries that provide support to NAMAs (www.internationalnegotiationsurvey.se). To the extent that these differences create obstacles for matching design and support, challenges for its effectiveness can be expected.

The last decade has seen a growing call for a reframing of UNFCCC activities for developing countries, from a sole mitigation focus to emphasising nationally prioritized sustainable development initiatives with the ancillary benefit of spurring low carbon development pathways (Björn-Ola Linnér, Mickwitz, & Román, 2012; Tyler et al., 2013). For domestically supported NAMAs, the loose definition provides no immediate problems since both design and support are under control by the government. However, for the negotiations toward a 2015 treaty it will be essential to establish what NAMAs goals are recognised as contributions to the UNFCCC.

NAMAs in the treaty design

The UNFCCC agreement on NAMAs builds on the Conventions decision to allow developing countries to propose voluntary actions depending on financial and technological support from developed countries (Article 4 and 12). The Bali Action Plan introduced NAMAs conceptually, but provided a very broad reference point that raised numerous questions (Asselt, Berseus, Gupta, & Haug, 2010; Sterk, 2010). Research initiatives on NAMAs tend to focus on its definitional (e.g. objectives) and design aspects (scope, boundaries, support) (Levina & Helme, 2009; Tyler et al., 2013). No clear consensus has evolved over these aspects, primarily for two reasons. Firstly, NAMAs as a concept is still subject to varying interpretations as what is considered national appropriate varies between countries (Fukuda & Tamura, 2010; Björn-Ola Linnér & Pahuja, 2012). Secondly, the research on NAMAs is still conceptual in nature with very few implementation examples to draw on (Röser & Vit, 2012).

A number of knowledge networks and capacity building initiatives have emerged to support NAMA implementation in developing countries (Tilburg, Bristow, Röser, Escalante, & Fekete, 2013). Some of these initiatives are well coordinated and documented (e.g. the Mitigation Momentum project, the Mitigation Action Plans and Scenarios programme, the Center for Clean Air Policy, the Nordic Environment Finance Corporation, and the NAMA Partnership), whereas others are not so widely known (e.g. the Korean initiatives). There have also been efforts to provide transparency on actual NAMA activities in different countries (e.g. Ecofys' NAMA database) and NAMA submissions to the UNFCCC (e.g. the UNEP DTU Partnership's NAMA Pipeline). Several authors have discussed the design of NAMAs in specific sectors and cases (Bakker & Huizenga, 2010; Burns & Vishan, 2010; Cheng, 2010).

The topic of support for NAMAs has also garnered attention with debates on what is eligible to be counted as support (Friman, Upadhyaya, & Linnér, 2013; Sterk, Luhmann, & Mersmann, 2011), how to link the funding to specific actions and the role of the private sector (Clapp, Ellis, Benn, & Corfee-Morlot, 2012), relations with carbon markets (Röser & Vit, 2012), and in particular its linkages with the Clean Development Mechanism (CDM) (Asselt et al., 2010). Studies have also been carried out to examine how specific projects can benefit from being converted into NAMAs (NOAK-NEFCO, 2011). A key question is whether NAMAs should include such projects, or focus on policies or programs to not only incentivise incremental change but to spur societal transformation.

The literature on treaty design generally distinguishes between a top-down and a bottom-up approach as models for the international climate regime (Todd, Hovi, & McEvoy, 2014). The top-down approach starts in the premises given by earth system models for staying below a

2°C warming and seeks to allocate responsibilities to achieve this goal. The bottom-up approach starts in accepting that there are limits to what is politically feasible at the national levels and highlight the facilitative functions that an international agreement may have to maximize national engagement towards internationally established goals. Although the literature is full of nuances, the principal distinction stays unchallenged, i.e. whether action to address climate change predominantly starts in the international or the national level, including non-state initiatives (Buhr, Roth, & Stigson, 2014; Rayner, 2010).

The NAMA instrument combines what Bodansky and Diringer (2014) label a contractual and a facilitative model. A contractual model is based on a liberal understanding of international relations where international collaboration increases the collective gains, making all contracting parties better off through cooperation than by a unilateral approach. The extent to which a state cooperates depends on if the benefits are greater than the cost of engaging. However, we know that states historically have shown reluctance to agree to compliance mechanisms that give up national sovereignty. Another challenge is that it is hard to share benefits and burdens relatively equally. A facilitative model (bottom-up, pledge and review) underlines that international law can inspire, strengthen, and assist national climate policy initiatives that follow from states' common concern over climate change. International law can, for example, enhance transparency and comparability of efforts, provide knowledge sharing platforms, establish international support functions, and provide expertise and consultation. International climate policy is typically based on hybrids of the above models (Stewart, Oppenheimer, & Rudyk, 2013).

Method for data collection

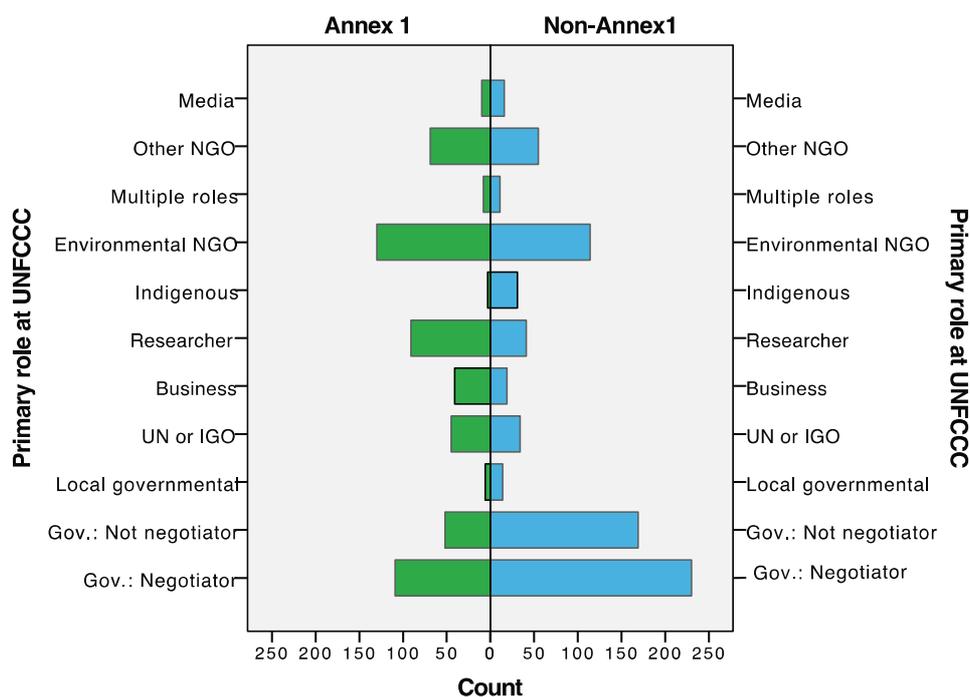
The primary data were obtained through the INS at three consecutive UNFCCC COPs, i.e. at COP-17 in Durban, 2011, COP-18 in Doha, 2012, and COP-19 in Warsaw, 2013. The INS has previously been used to explore, for example, leading actors in climate change negotiations (Christer Karlsson, Hjerpe, Parker, & Linnér, 2012; C Karlsson, Parker, Hjerpe, & Linnér, 2011), roles of non-state actors in climate change governance (Nasiritousi, Hjerpe, & Linnér, 2014), and understandings of historical responsibility (Friman & Hjerpe, 2014). The dataset comprises 404 completed surveys from COP-17, 496 from COP-18, and 565 from COP-19. This article reports findings relating to survey items on delegates prioritizations between objectives for NAMAs. The delegates were asked to rank their agreement or disagreement with six statements on objectives for NAMAs: doing mitigation in developing countries; increase financial support; increase technology transfers; promote nationally defined sustainable development goals; and, promote internationally agreed development goals, such as SDGs. The delegates also had the option to provide other objectives for NAMAs, an option utilized with a very low number of valid responses.

The surveys were distributed in person at the conference venues, an operating environment that hampers random sampling. Quota sampling was instead used to select a strategic sample of the two largest and most important categories of COP participants: members of party delegations, e.g. negotiators and representatives of government agencies (henceforth 'governmental'); and observers, i.e. environmental, development, business and industry, and research and independent NGO representatives (henceforth, 'nongovernmental'). Respondents from the media and from the UN and other intergovernmental organizations (the two smallest participant categories) were not our primary focus.

The sample contains delegates from all world regions; as some geographical categories contain few countries, the final sample includes few government representatives from North

America and Oceania. This means that our data risk missing such views. The analysis subdivided respondents according to their being from Annex I (A1) or non-Annex I (NA1) countries. A1 countries include those that were OECD countries in 1992 as well as so-called economies in transition to market economy. Since 1992, some countries' statuses have been amended to become A1; currently, there are 41 A1 countries. NA1 countries are the 154 other countries that are Parties to the UNFCCC. This enables exploration of whether role (governmental/nongovernmental) or geographical origin (A1/NA1) influenced the response pattern (see Figure 1). Responses from delegates who did not indicate their geographical origin on the survey were put in a separate category. These responses correspond well with NA1 responses but were excluded from the presentation of subdivided results.

Figure 1: INS respondents at COP 17–19



To supplement the data on preferences among UNFCCC delegates to also capture NAMA preferences among support providers, an online survey was conducted from September to October 2013 targeting 71 respondents assumed to be involved in NAMA support activities. As a consequence of a statistically small overall population, the sample is relatively small compared with those of standard online surveys. The small population, in turn, results from the fact that NAMA support is a recent phenomenon that has yet to concern many people. The survey's response rate of 37% is within the average of other online surveys (Fan & Yan, 2010). The small data sample, however, makes each response relatively significant to the overall result. On the positive side, online surveys are not reported to produce sampling biases or distort the quality of responses compared with paper surveys (Hayslett & Wildemuth, 2004). The close proximity between the statistical population and the data sample adds to the representativeness of the data on support providers more generally.

The respondents were associated with support institutions based in UNFCCC Annex II countries, i.e., developed countries with a special responsibility to support developing countries in implementing their commitments under the UNFCCC (UN, 1992: Art. 4, §3). Of the

organizations for which the respondents worked, 93% had already provided support for NAMAs and 4% were planning to provide such support. Altogether, 19 organizations were represented, ranging from government agencies and departments engaged in direct bilateral NAMA activities to multilateral development banks.

Prioritization between objectives for NAMAs

Developing country governmental delegates rank mitigation as the least prioritized objective for NAMAs, whereas developed country delegates indicate that it is the most prioritized objective (Figure 1a). Developing country respondents very clearly single out increased transfer of finance as the single most important objective for NAMAs, closely followed by increased transfer of technology (Figure 1b and c).

There are however some overlaps in priorities and thus room for some common ground in working out definitions. The respondents from both developed and developing countries see mitigation as an important objective for NAMAs, but they vary in how they rank its significance as a goal. Likewise, there are no major differences in seeing development objectives as legitimate goals for NAMAs (Figure 1d and e), in particularly nationally defined sustainable development goals (Figure 1e). The fundamental difference between developed and developing countries is if mitigation or some of the other objectives are seen as primary objective.

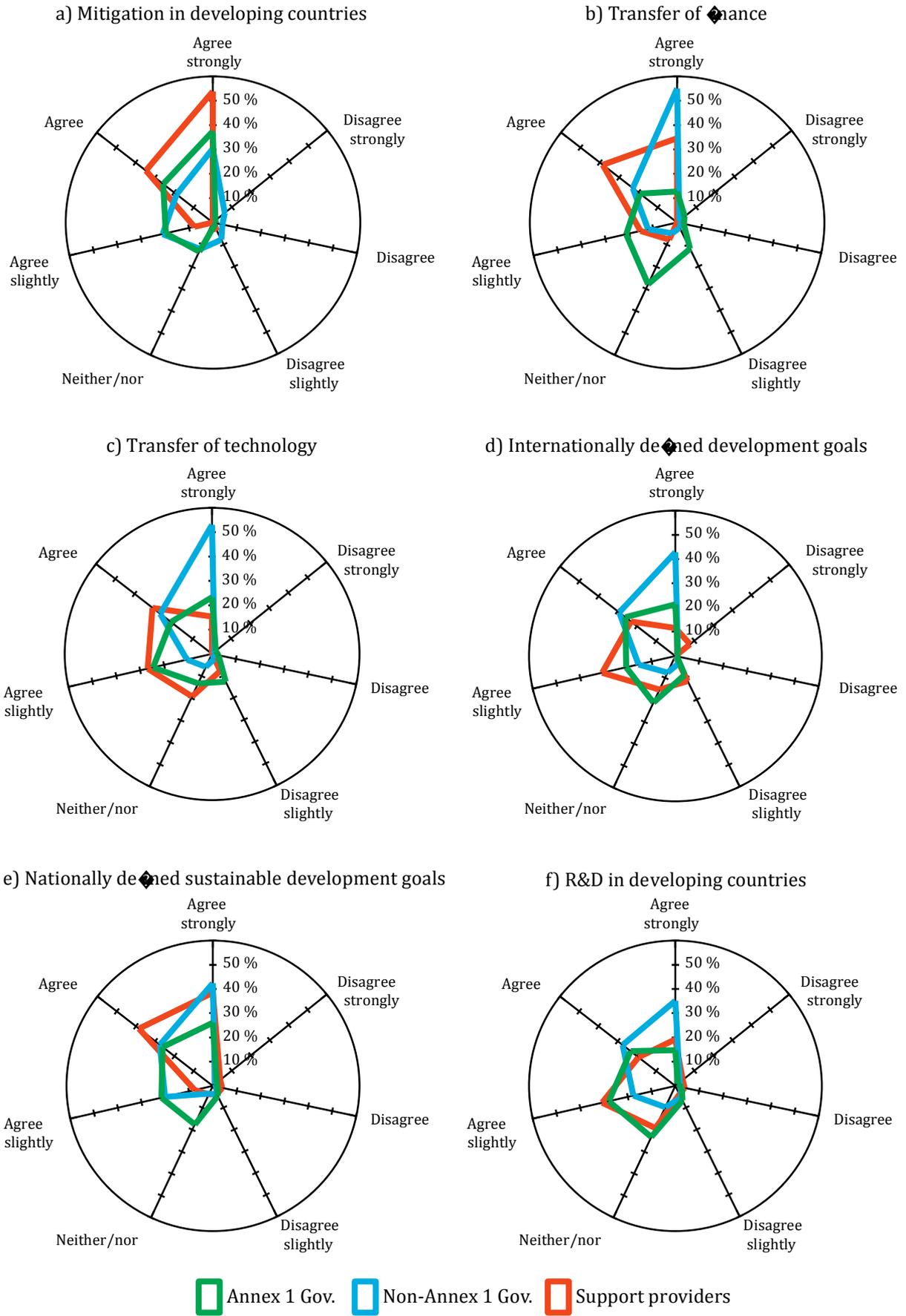
Depending if mitigation is the primary or secondary objective for the NAMA, requirements for measuring, reporting and verification vary substantially. Also the type of funding and funding sources available will be different. When mitigation is the most prioritized objective for NAMAs, demands for stringent reporting of emissions reductions and to set up an associated monitoring framework, will be more important than if mitigation is the least prioritized objective. At the other side of the spectrum: if increased transfers of finance is the most prioritized, then monitoring support becomes more relevant.

The higher mitigation is prioritized, the stronger the requirements for rigid emission reductions monitoring are likely to be. Monitoring frameworks for tracking emissions reductions ranges from using proxies for emission reductions, such as number of installations installed, houses insulated, or share of renewables in energy productions, to direct measurements (Niederberger & Kimble, 2011). Long-term transformation toward low-carbon development may possibly be spurred through research and development (R&D) in developing countries. If R&D in developing countries is to be included as a recognized NAMA objective (Figure 1f), emission reductions cannot be MRV:ed in the short term. Monitoring rather has to focus on whether the promised R&D actions are in place or not.

We can already see that in the official UNFCCC NAMA Registry (UNFCCC, Björn-Ola Linnér & Pahuja, 2012), set up primarily to facilitate matching NAMA proposals with support, the proposals for MRV indicators of sustainable development by far outnumber proposals for indicators for emission reductions. If the choice between a narrow mitigation or broader development definition of NAMAs is not settled, it will prove challenging for international support functions, like the Global Environment Facility (GEF) or the Green Climate Fund (GCF). Not only will it influence what kind of funding sources will be available but also what the funding can be used for.

On the other hand, recent examples from the UNFCCC's thematic bodies show that the GCF, and the GEF, can operate even without further guidance by the COP, and have a much higher capacity to deal with controversies and carve out compromises than the COP has.

Figure 2. Prioritization between objectives for NAMAs



Contribution of NAMAs to low carbon development pathways

The developing country preferences to make mitigation actions the secondary goal of NAMAs reflects a view of moving away from cap focused agreement toward a focus on low-carbon development pathways. Greater adherence to a wider development focus of NAMAs, with sustainable development as primary objective and mitigation as co-benefit, may well stimulate a greater participation and spur enhanced national ambitions for Paris.

One consequence of loose international steering of NAMAs is that certain NAMAs can become prioritized over others. This was precisely one of the problems with the Clean Development Mechanism (CDM). It resulted mainly in projects in the energy supply sector in certain geographical areas, often with actions that have comparably low sustainable development co-benefits (Olsen, 2007). Unlike the CDM, NAMAs are so far generally not driven by market logic seeking revenues from trading carbon offsets. Yet, as NAMAs will be supported by substantial share of private and bi-lateral funding, certain risky, non-commercial or low profile actions run a considerable risk of being neglected.

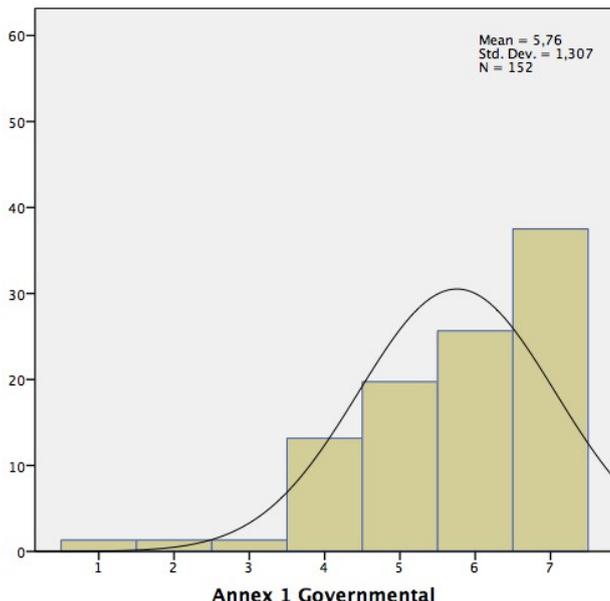
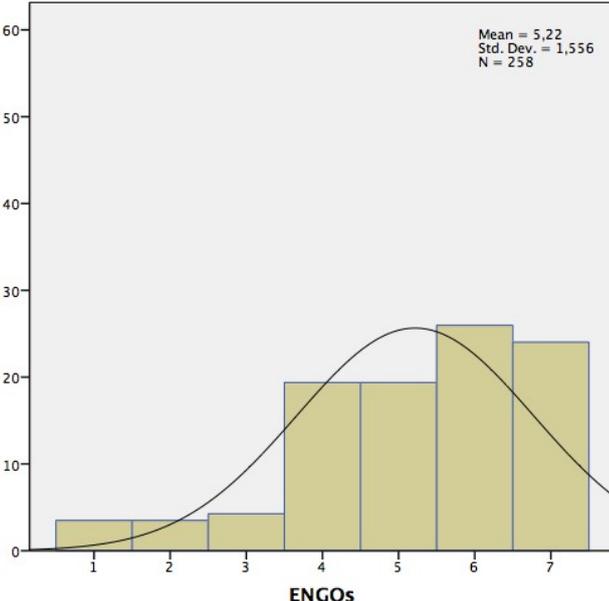
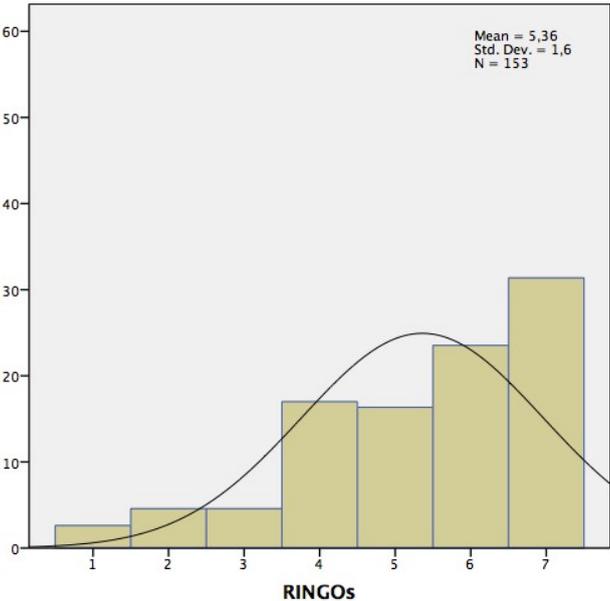
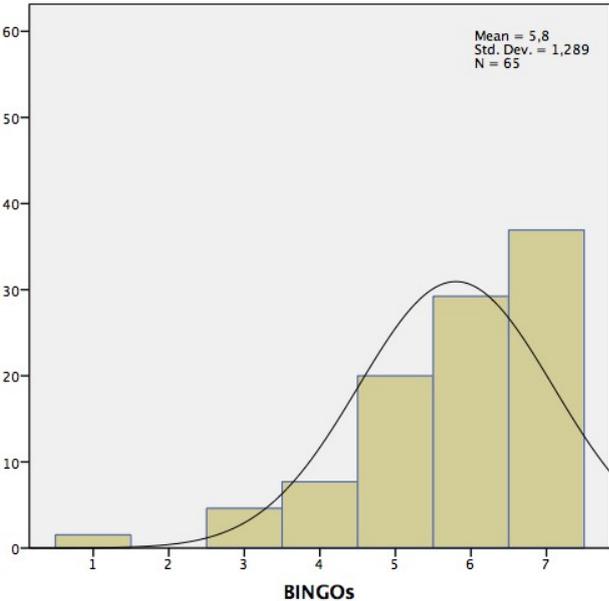
Patterns of exclusion can be mitigated by the UNFCCC COP giving guidance to the GCF and the GEF to design specific funding windows for specific types of mitigation actions. In this way, NAMAs that fall outside the scope driven by market logic or through bilateral funding yet that may contribute substantially to sustainable development or could prove exceptionally significant for spurring transformational change can still be matched with support. This is particularly important for R&D NAMAs with low probability/high impact that is too risky or too long-term in the eyes of bilateral support providers. It is time for the negotiations to settle for an inclusive definition of NAMAs. For the inclusive definition of NAMAs to be effective, the parties to the convention instead need to give greater priority to secure annual, fixed support to the operating agencies of the UNFCCC's financial mechanism.

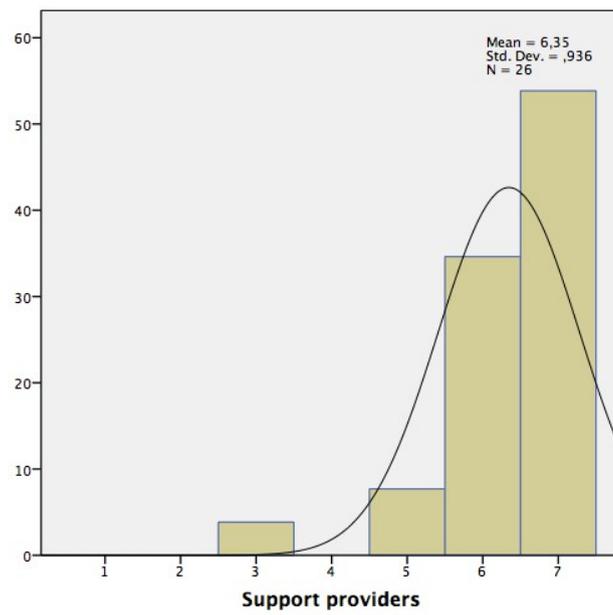
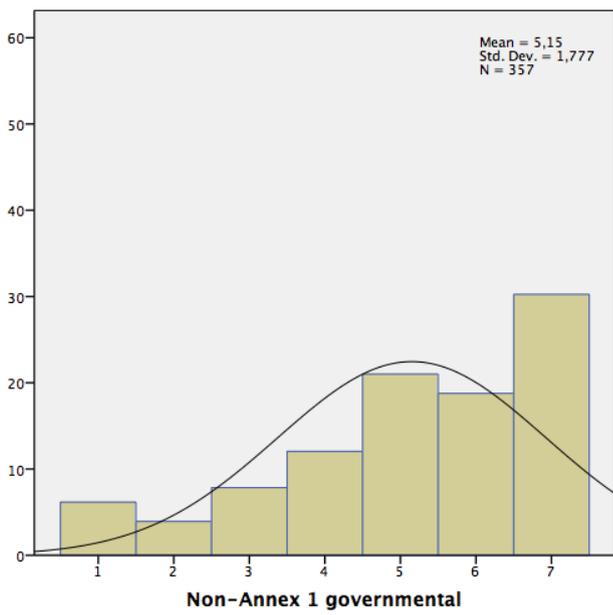
Since a loose definition of NAMAs allows developing countries to explore mitigation options suitable in their specific development context and aligned with their development strategies, it can make the international climate regime more effective. It is particularly important to stress that mitigation opportunities alone will not sell NAMAs to decision makers in most developing countries; the possibility of attracting support to nationally defined development opportunities with ancillary mitigation benefits, on the contrary, will attract support. As such, a loose definition of NAMAs focusing on sustainable development can facilitate a more effective climate regime in which developing countries can engage more ambitiously.

Appendix: Supplementary material

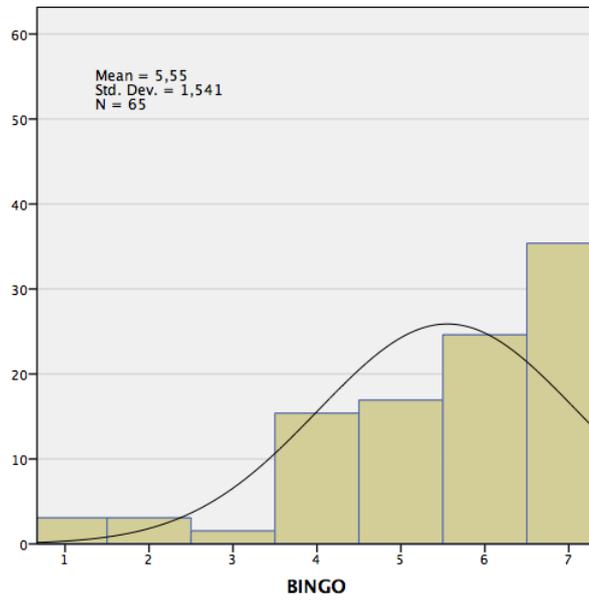
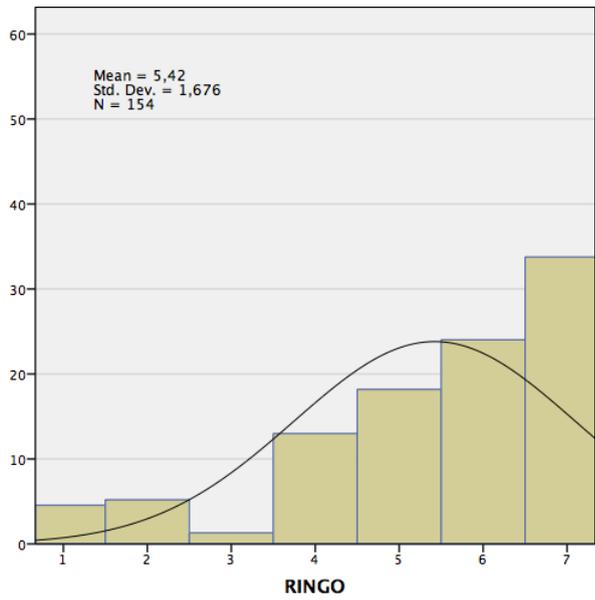
To facilitate discussions of this early draft during the Amsterdam conference, we have included a set of graphs visualising our core data in various ways, attached in this appendix as supplementary material.

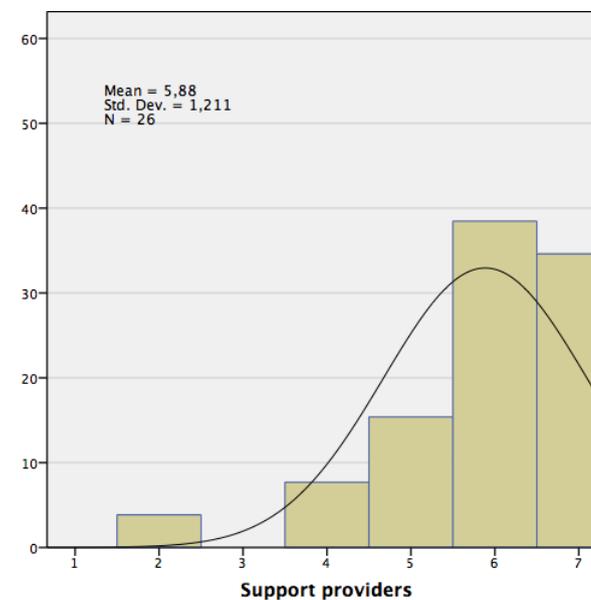
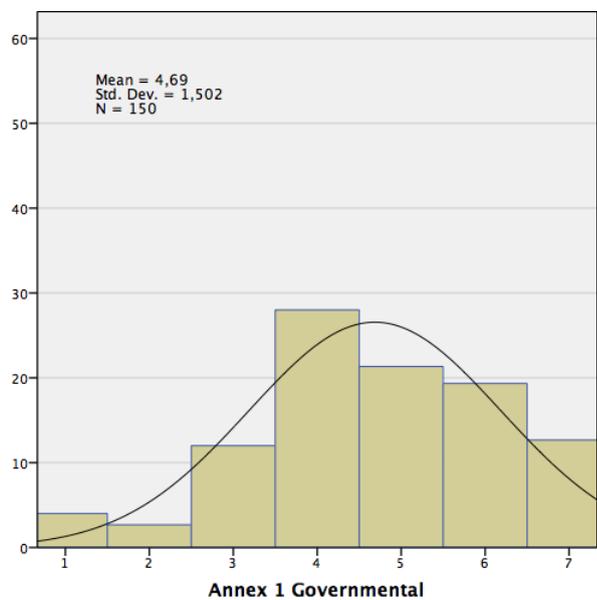
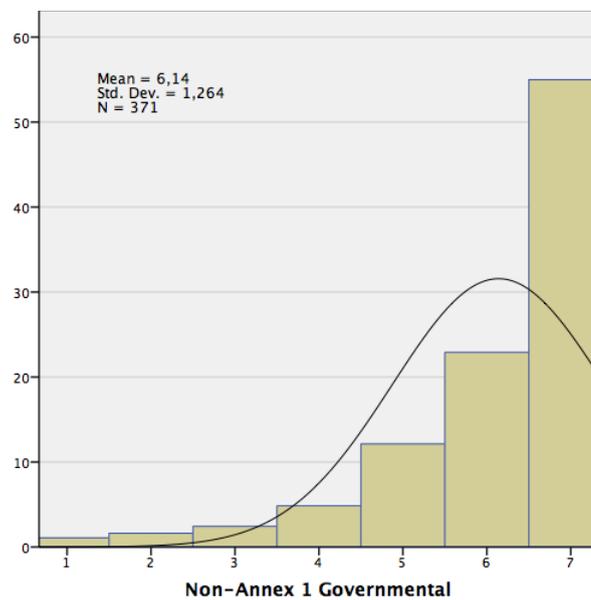
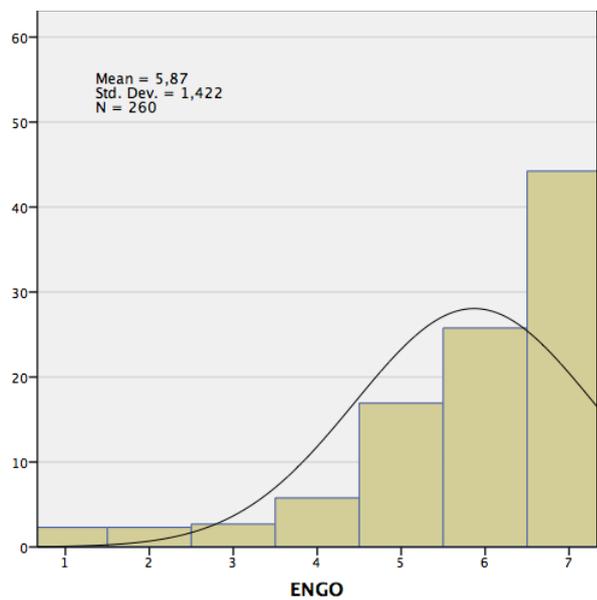
Objective: Increase mitigation in developing countries [1 = disagree strongly and 7 = agree strongly]



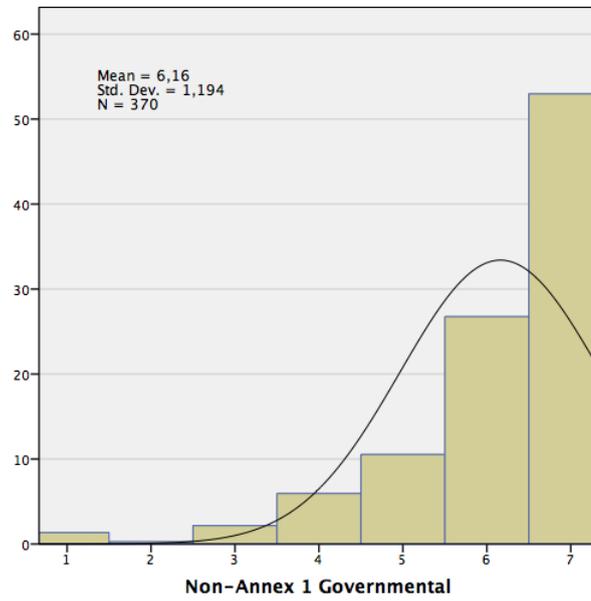
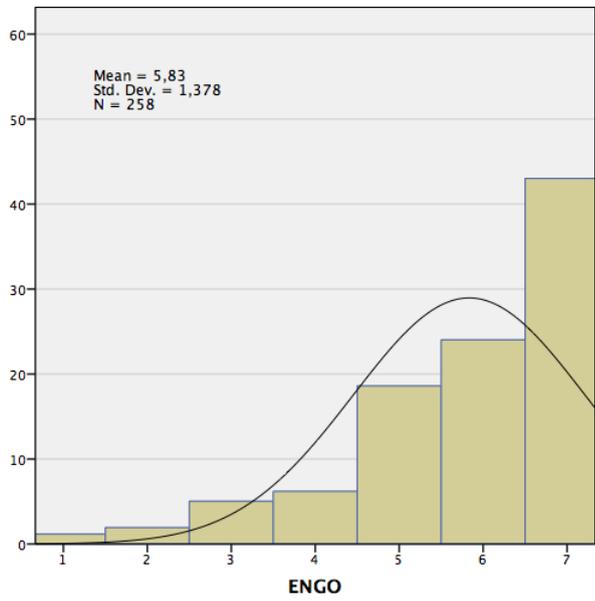
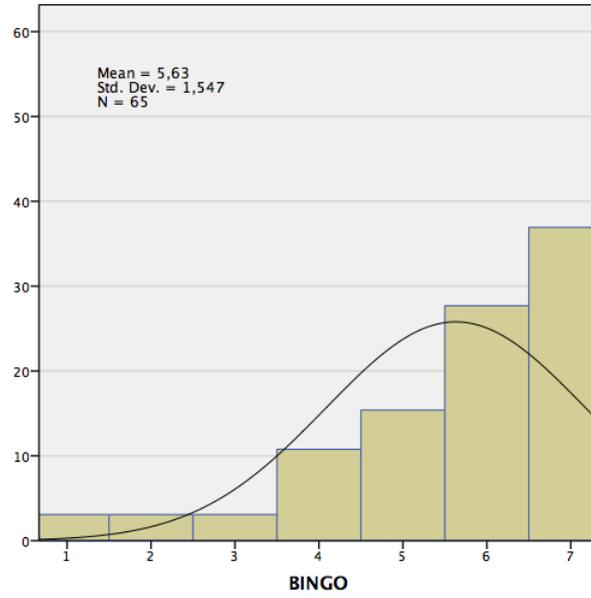
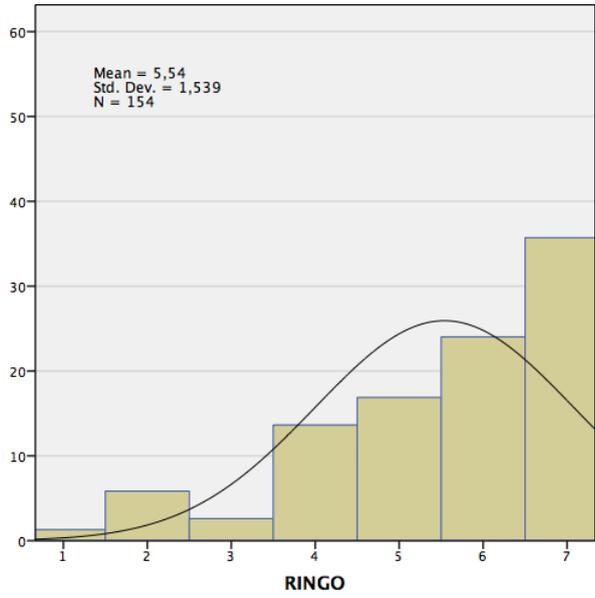


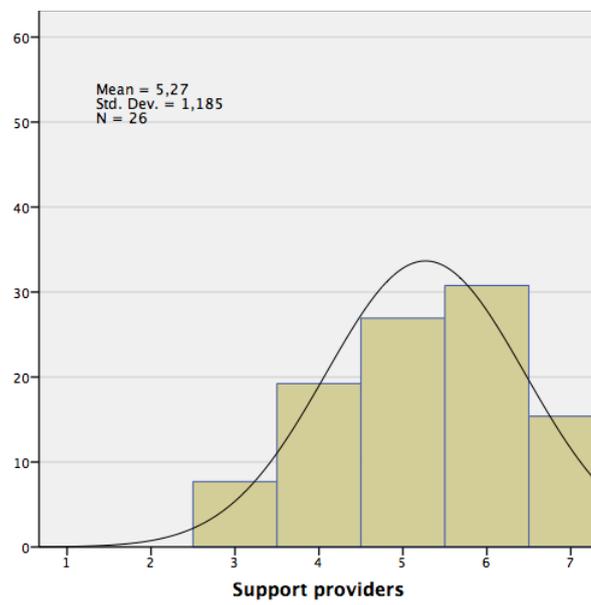
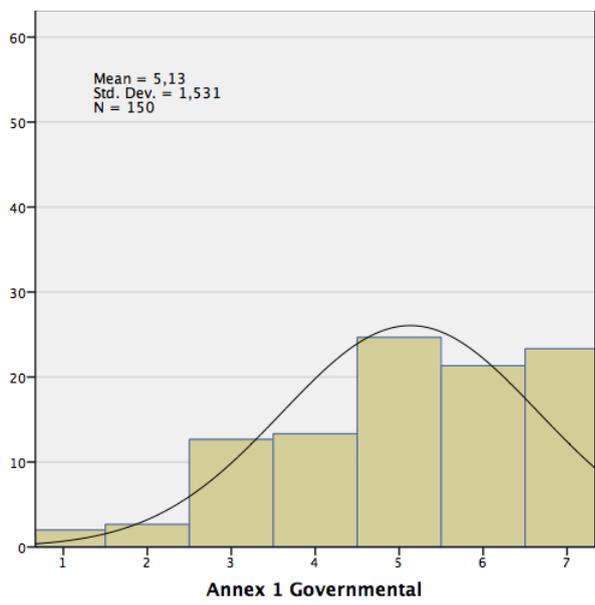
Objective: Increase financial support to developing countries [1 = disagree strongly 7 = agree strongly]



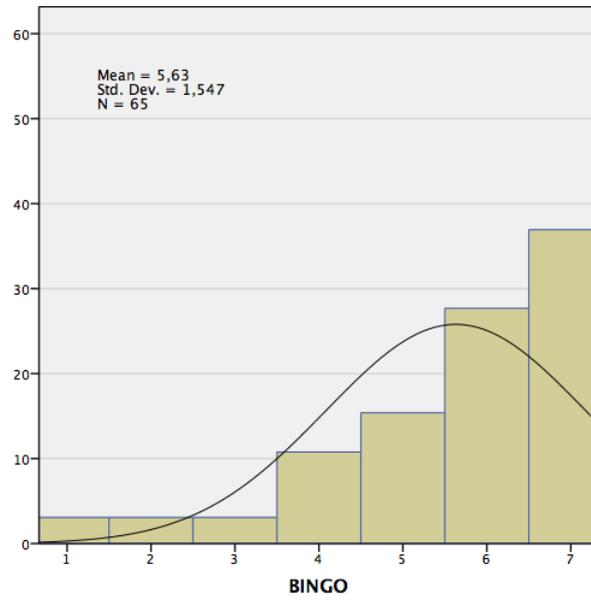
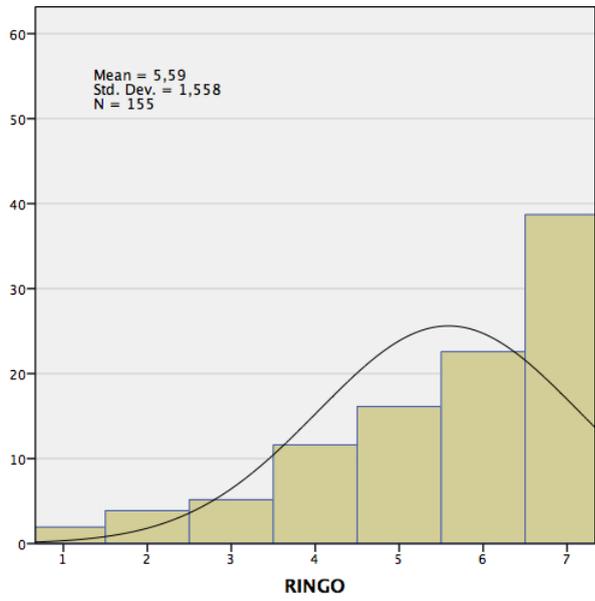


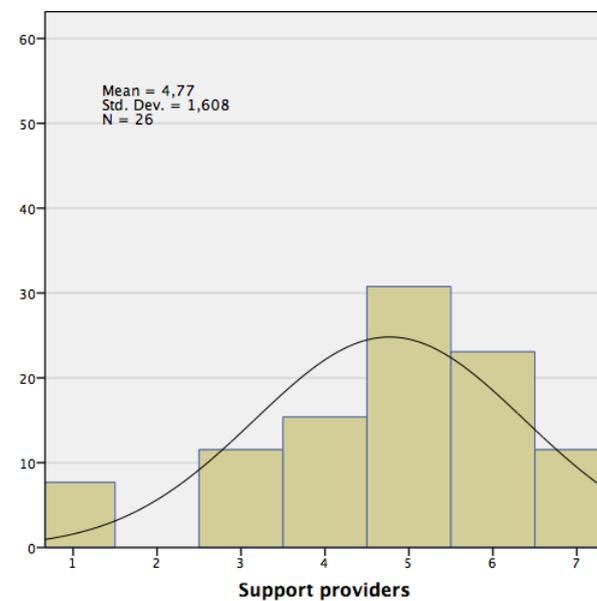
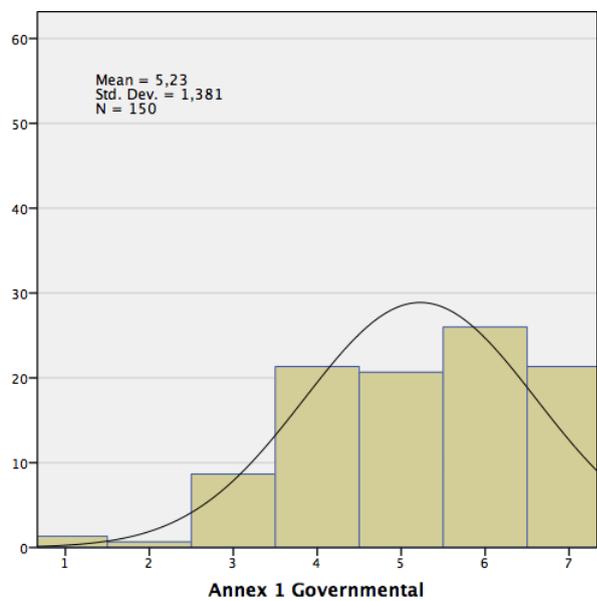
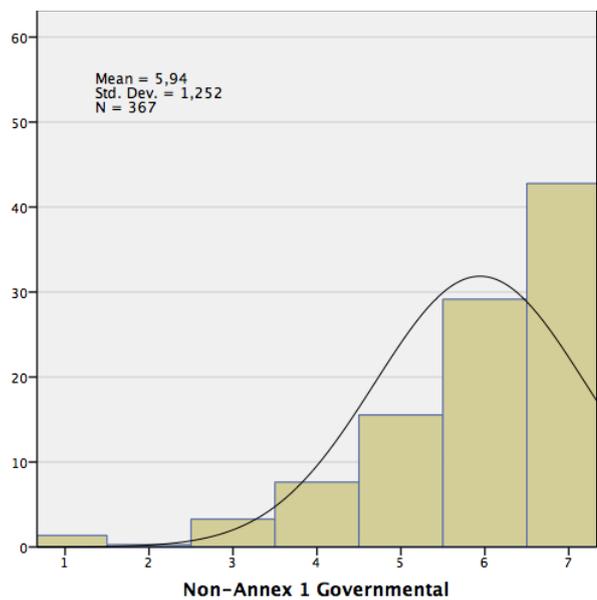
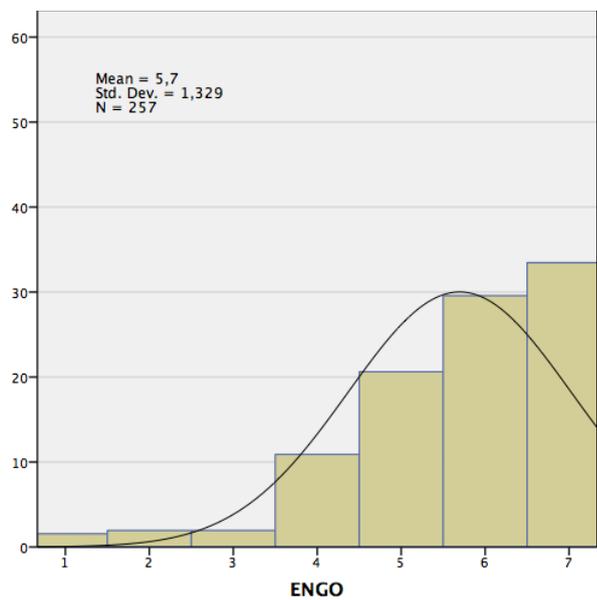
Objective: Increase technology transfer [1 = disagree strongly 7 = agree strongly]



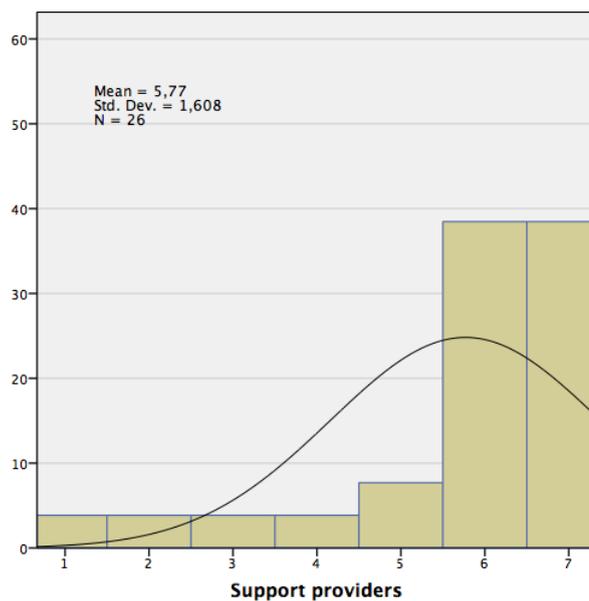
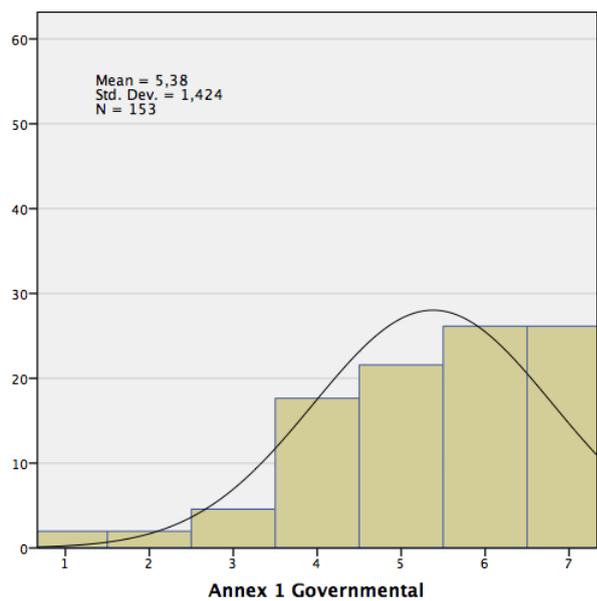
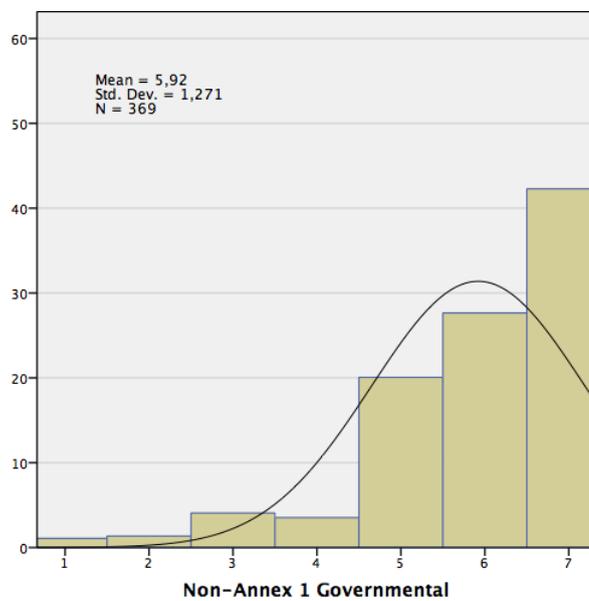
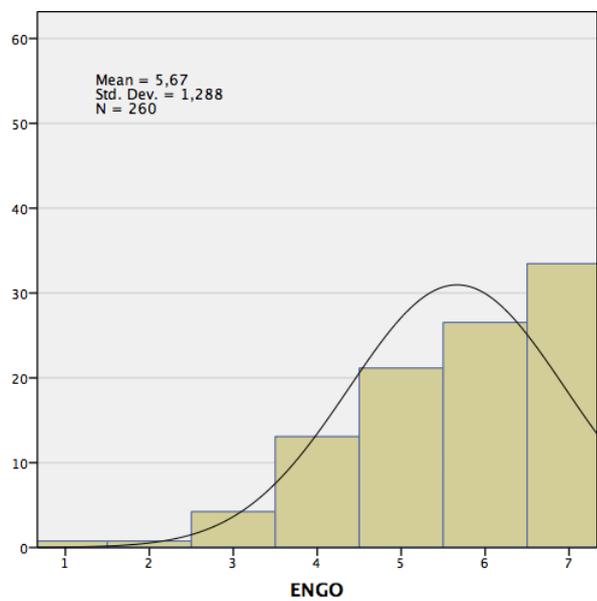
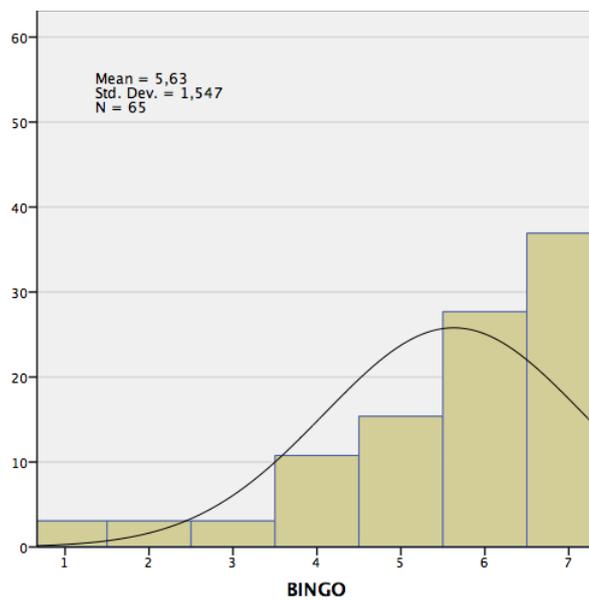
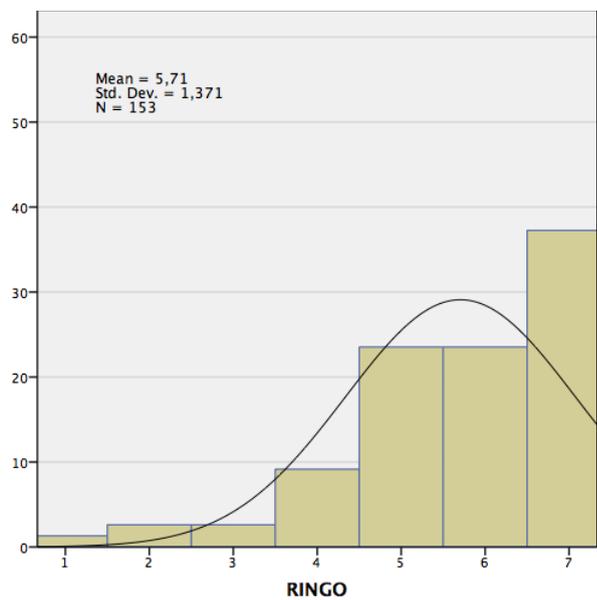


Objective: Promote R&D in developing countries [1 = disagree strongly 7 = agree strongly]

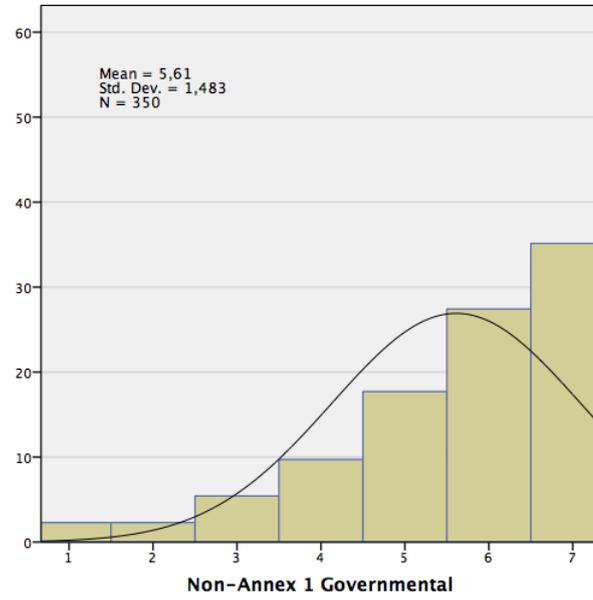
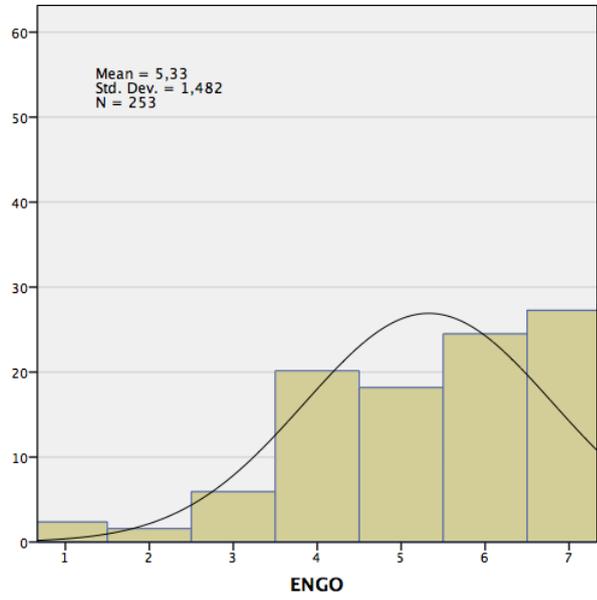
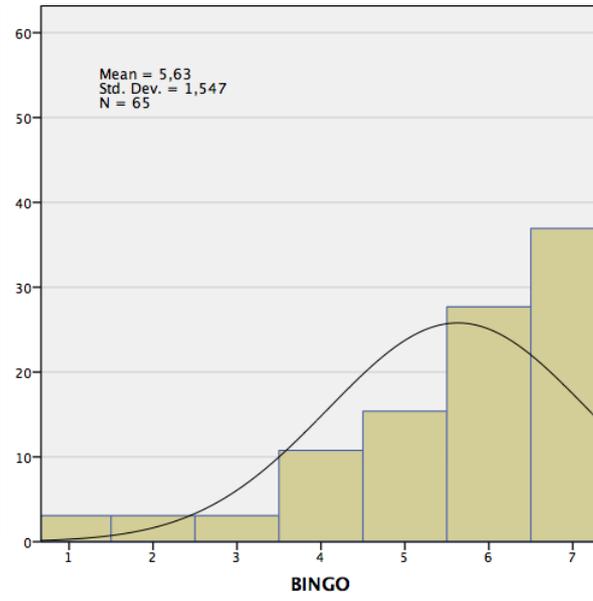
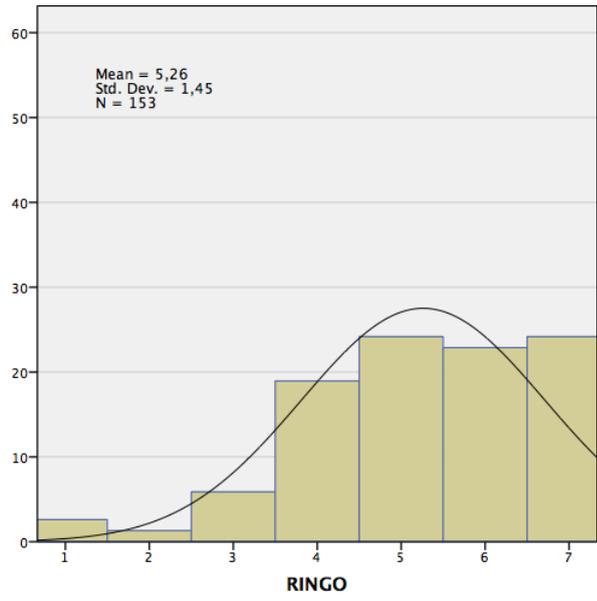


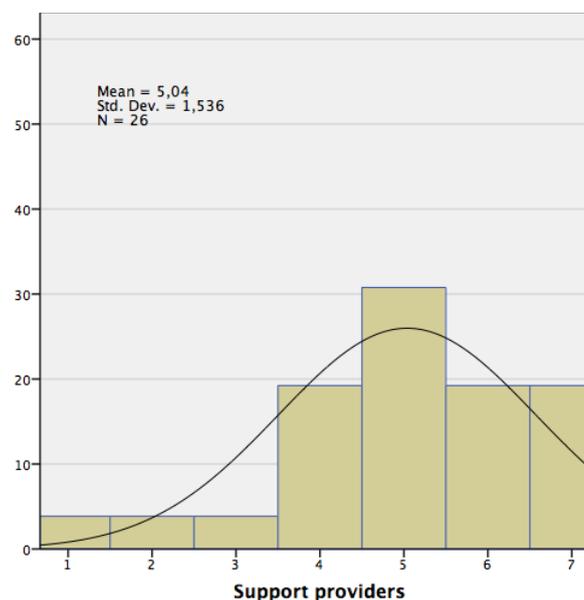
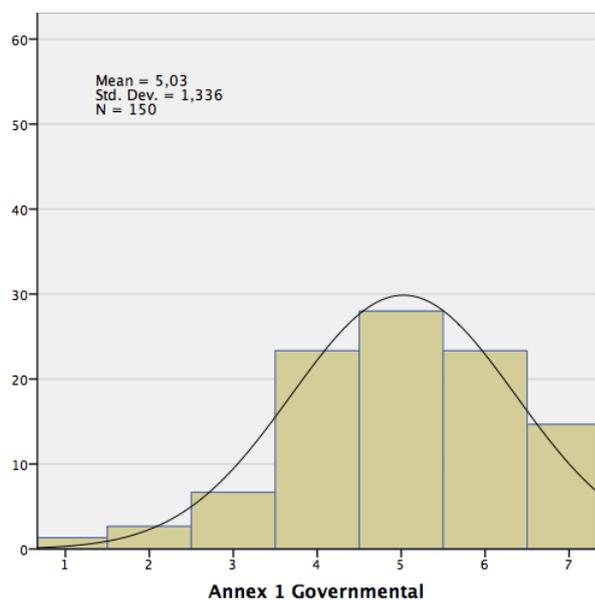


Objective: Promote nationally defined SD goals [1 = disagree strongly 7 = agree strongly]



Objective: Promote internationally agreed development goals [1 = disagree strongly 7 = agree strongly]





References

- Asselt, H. van., Berseus, H. J., Gupta, J., & Haug, C. (2010). Nationally Appropriate Mitigation Actions (NAMAs) in Developing Countries: Challenges and Opportunities. Amsterdam: Vrije Universiteit.
- Bakker, S., & Huizenga, C. (2010). Making Climate Instruments Work for Sustainable Transport in Developing Countries. *Natural Resources Forum*, 34(4), 314-326.
- Bodansky, D., & Diringer, E. (2014). Alternative Models for the 2015 Climate Change Agreement *FNI Climate Policy Perspectives 13*. Lysaker: Fridtjof Nansen Institute.
- Buhr, K., Roth, S., & Stigson, P. (2014). Climate Change Politics through a Global Pledge-and-Review Regime: Positions among Negotiators and Stakeholders. *Sustainability*, 6(2), 794-811. doi: 10.3390/su6020794
- Burns, P. M., & Vishan, I. (2010). The Changing Landscape of Climate Change: NAMAs, SIDS and Tourism. *Tourism and Hospitality Planning & Development*, 7(3), 317-328.
- Cheng, C.-C. (2010). A new NAMA framework for dispersed energy end-use sectors. *Energy Policy*, 38(10), 5614-5624.
- Clapp, C., Ellis, J., Benn, J., & Corfee-Morlot, J. (2012). Tracking Climate Finance: What and How? Paris: Organisation for Economic Co-operation and Development (OECD).

- Fan, W., & Yan, Z. (2010). Factors affecting response rates of the web survey: A systematic review. *Computers in Human Behavior, 26*(2), 132-139.
- Friman, M., & Hjerpe, M. (2014). Agreement, significance, and understandings of historical responsibility in climate change negotiations. *Climate Policy, Accepted for publication*. doi: 10.1080/14693062.2014.916598
- Friman, M., Upadhyaya, P., & Linnér, B. r.-O. (2013). A Phased Approach to Internationally Supported NAMAs. *Mitigation Talks, 4*(1), 5-8.
- Fukuda, K., & Tamura, K. (2010). An Analysis of Non-Annex I Parties NAMAs: Challenges for Designing International Support and Implementing an Effective MRV Framework. Hayama: IGES.
- Hayslett, M. M., & Wildemuth, B. M. (2004). Pixels or pencils? The relative effectiveness of Web-based versus paper surveys. *Library & Information Science Research, 26*(1), 73-93.
- Karlsson, C., Hjerpe, M., Parker, C., & Linnér, B.-O. (2012). The Legitimacy of Leadership in International Climate Change Negotiations. *Ambio, 41*(1), 46-55.
- Karlsson, C., Parker, C., Hjerpe, M., & Linnér, B.-O. (2011). Looking for Leaders: Perceptions of Climate Change Leadership among Climate Change Negotiation Participants. *Global Environmental Politics, 11*(1), 89-107.
- Levina, E., & Helme, N. (2009). Nationally Appropriate Mitigation Actions by Developing Countries: Architecture and Key Issues. Washington: Centre for Clean Air and Policy (CCA).
- Linnér, B.-O., Mickwitz, P., & Román, M. (2012). Reducing greenhouse gas emissions through development policies: a framework for analysing policy interventions. *Climate and Development, 4*(3), 175-186.
- Linnér, B.-O., & Pahuja, N. (2012). A Registry of Nationally Appropriate Mitigation Actions: Goals, Outcomes, and Institutional Requisites. *Ambio, 41*(1S), 56-67.
- Nasiritousi, N., Hjerpe, M., & Linnér, B.-O. (2014). The Role of Non-State Actors in Climate Change Governance: Understanding Agency through Governance Profiles. *Accepted for publication in International Environmental Agreements, Jan 2014*.
- Niederberger, A. A., & Kimble, M. (2011). MRV under the UN climate regime: paper tiger or catalyst for continual improvement? *Greenhouse Gas Measurement and Management, 1*(1), 47-54. doi: 10.3763/ghgmm.2010.0009

- NOAK-NEFCO. (2011). NOAK-NEFCO Partnership Initiative: Feasibility Study on Up-Scaling Mitigation Action in Peru and Vietnam.
- Olsen, K. H. (2007). The clean development mechanism's contribution to sustainable development: a review of the literature. *Climatic Change*, 84(1), 59-73.
- Rayner, S. (2010). How to eat an elephant: a bottom-up approach to climate policy. *Climate Policy*, 10(6), 615-621. doi: 10.3763/cpol.2010.0138
- Röser, F., & Vit, C. D. (2012). Nationally Appropriate Mitigation Actions (NAMAs) and Carbon Markets IV. *Policy Update*. Berlin: Ecofys.
- Sterk, W. (2010). Nationally Appropriate Mitigation Actions: Definitions, Issues and Options *JIKO Policy Paper*. Wuppertal: Wuppertal Institute for Climate, Environment and Energy.
- Sterk, W., Luhmann, H.-J., & Mersmann, F. (2011). How Much Is 100 Billion US Dollars? Climate Finance between Adequacy and Creative Accounting *International Policy Analysis*. Berlin: Friedrich Ebert Stiftung, Global Policy and Development.
- Stewart, R. B., Oppenheimer, M., & Rudyk, B. (2013). A new strategy for global climate protection. *Climatic Change*, 120(1-2), 1-12. doi: 10.1007/s10584-013-0790-8
- Tilburg, X. v., Bristow, S., Röser, F., Escalante, D., & Fekete, H. (2013). Status Report on Nationally Appropriate Mitigation Actions (NAMAs): Mid-year update June 2013. ECN and Ecofys Germany.
- Todd, L. C., Hovi, J., & McEvoy, D. M. (Eds.). (2014). *Toward a New Climate Agreement: Conflict, Resolution and Governance*. London: Routledge.
- Tyler, E., Boyd, A., Coetzee, K., Gunfaus, M. T., & Winkler, H. (2013). Developing country perspectives on 'mitigation actions', 'NAMAs', and 'LCDS'. *Climate Policy*, 13(6), 770-776.
- UN. (1992). The Framework Convention on Climate Change. A/AC.237/18 (Part II)/Add.1.