

## Appendix

### APPENDIX I (Survey results)

In the following, the survey will be introduced. Therefore, the questions (Q) will be briefly explained, the results will be shown and short explanations for the intention of the question will be made. In order to comply with confidentiality, names of institutions will be made unrecognisable or changed according to the type of entity (e.g. *hosting country* instead “Energy Conservation Project in Brazil”).

#### A. General project information:

##### Question 1: Organisation

##### Question 2: NAMA country

	Name of institution <sup>1</sup>	NAMA role	Country
1	Cooperación Nacional Forestal	Hosting country	Chile
2	Electro Power Industry of Republic Serbia	Hosting country	Serbia
3	NAMA Facility - Technical Support Unit	Implementing agency, international funder	Germany, United Kingdom
4	National Energy Conservation Center, Energy Conservation Fund	Hosting Country	Pakistan
5	National Energy Directorate	Hosting country	Uruguay
6	National Forestry Agency	Hosting country	Georgia
7	PEMEX (Petróleos Mexicanos)	Hosting country	Mexico
8	UNDP	Implementing agency	Arabic States
9	UNEP Risø Centre	Implementing agency	Denmark
10	UNFCCC	Implementing agency	Germany

Table a1: Survey participants who provided answers.

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<sup>1</sup> As stated by the survey participant in Question 1.

**Question 3: Project sector**

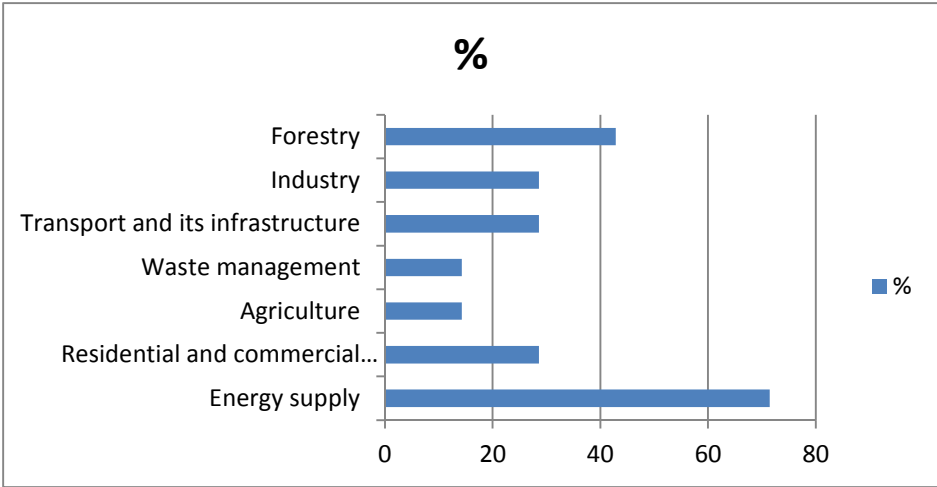


Figure a1: NAMA project sectors of survey participants (own figure based on survey).

➤ **Questions 1-3** ask for the participating organisation, the NAMA country, where the organization is involved and the project sector. These questions aim at gaining general information about the NAMA stakeholder. The questions are open (Q1 and Q2) or single choice and thus nominal and categorical data, if not *other* (Q3).

**Question 4: Technology**

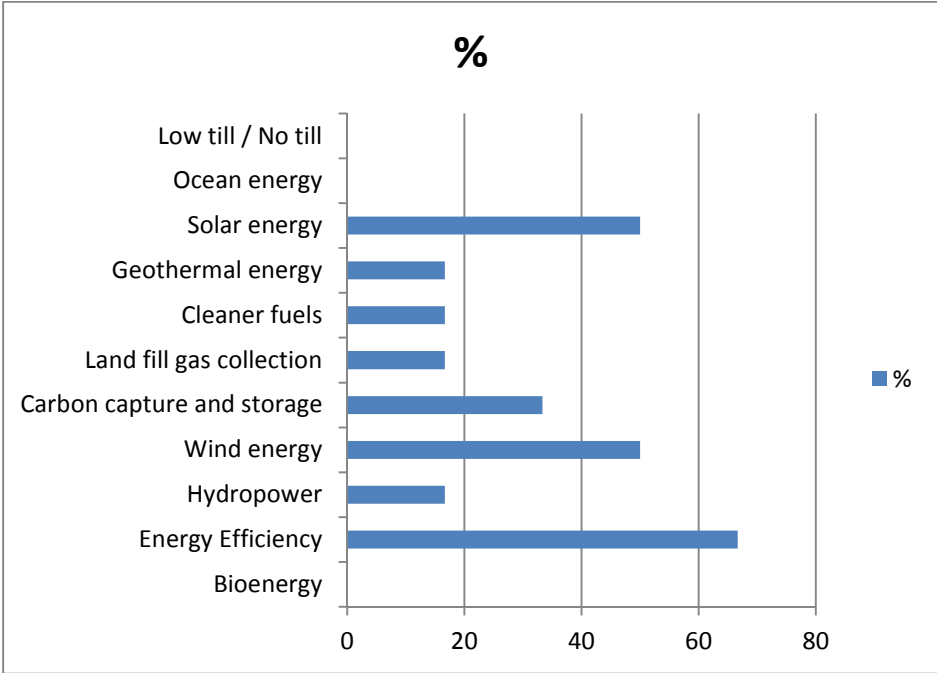


Figure a2: NAMA project technologies of survey participants (own figure based on survey).

**Question 5: Type of action**

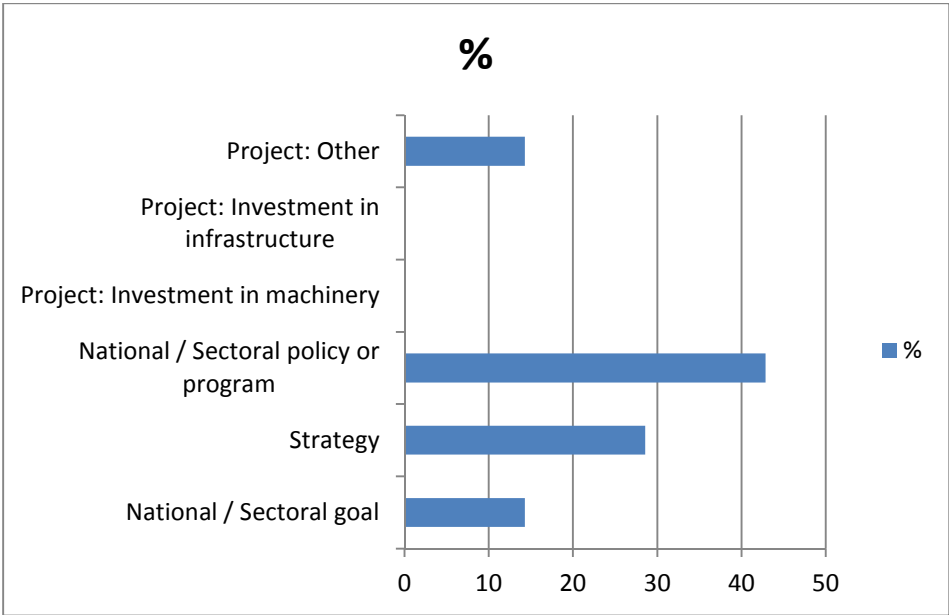


Figure a3: Type of NAMA action of survey participants (own figure based on survey).

**Question 6: Source of support**

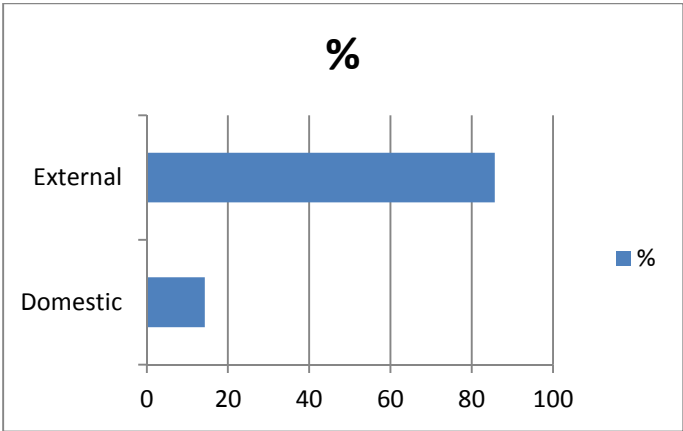


Figure a4: Type of NAMA support of survey participants (own figure based on survey).

➤ **Questions 4-6** seek for further information about the NAMA project. The participants do not need any clarification for the terms technology, type of action and source of support, as those categories are taken from the NAMA registry<sup>2</sup>, and the NAMA stakeholders are regarded as familiar with this type of categorization. It is a single choice option and hence nominal data in a categorical scale.

<sup>2</sup> See details here: UNFCCC (2014, b).

**Question 7: Which type of external support is provided?**

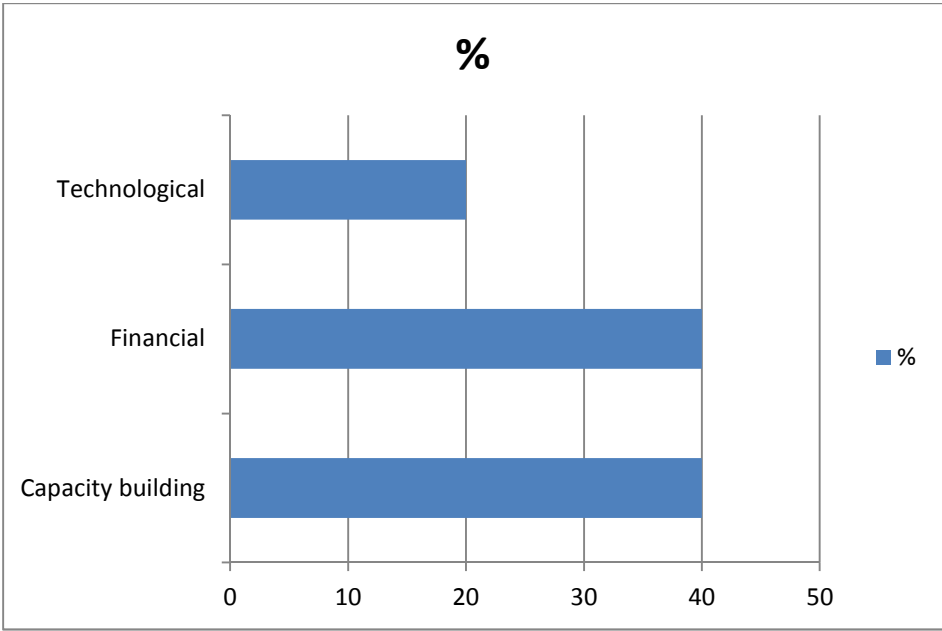


Figure a5: Type of NAMA external support of survey participants (own figure based on survey).

➤ **Question 7** asks for clarification on the external support, in case it has been chosen in question 6. It is again single choice, if not *other* has been chosen.

**Question 8: Status of activity**

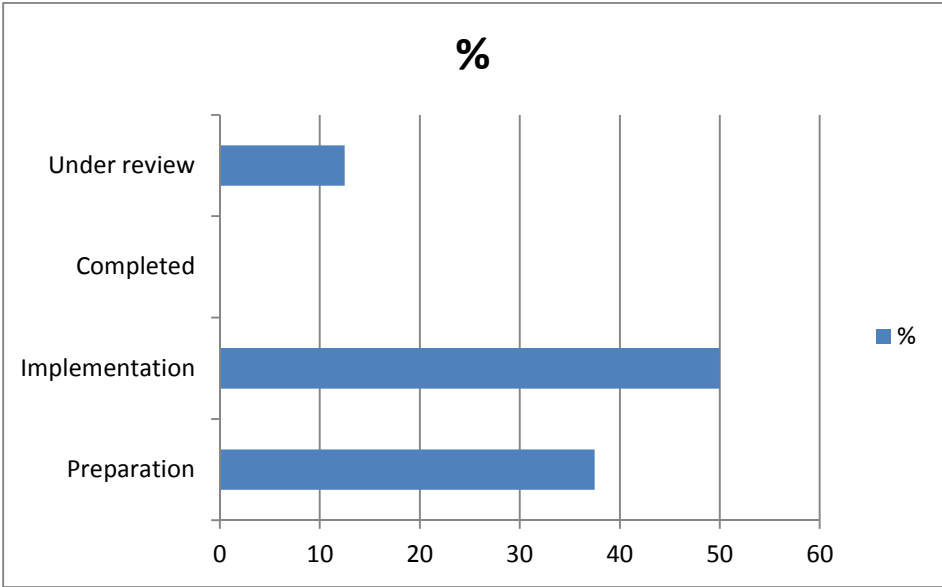


Figure a6: Status of NAMA activity of survey participants (own figure based on survey).

➤ **Question 8** asks for information regarding the status of activity of the NAMA project. Again, a single choice option is given and thus results in nominal data.

## B. First section “Awareness”:

**Question 9: Which is the primary reason of pursuing SD through the implementation of NAMAs?**

- 1) “Achieving multiple benefits in parallel through mainstreaming of LCD into national and sectoral development planning.”
- 2) “*Implementing agency* is a development agency - development is our mandate.”
- 3) “The concerning departments in *hosting country* are looking towards NAMA as a very good opportunity **to streamline and review policies** for each respective sector leading towards **identification of barriers and exploration of solutions** to find them.”
- 4) “*Hosting country* is member of Energy Community Treaty-ECT and active member of UN Framework Climate Change Convention and its Protocols. Within our obligations as a member of ECT we have target to reach 27 % of final energy production from renewables. It is in **compliance with our obligations within UNFCCC** to reduce our CO<sub>2</sub> emissions. Moreover, our Energy Strategy is calling for diversification of our energy sources. All above said **fits in NAMA concept**.”
- 5) “Improve the state of the country's forests and increase its surface; channel international **benefits from the sale of forest carbon bonds** through sustainable forest management.”
- 6) “Access **funding**.”
- 7) “**Common objectives**.”

**Question 10: Taking into account previous experience of tools aimed to achieve SD while promoting mitigation actions (e.g. CDM, JI,...), which might be the main challenges of pursuing SD through the implementation of NAMAs?**

- 1) “NAMAs are governed at domestic level, bottom-up as opposed to CDM being ruled top-down by the EB. **NAMAs may be implemented a multiple levels, typically at sector or sub-sector level** which raises new challenges as to the scale of monitoring SD benefits and negative impacts compared to CDM being at project and programme level.”
- 2) “**Greater diversity of NAMAs** (not necessarily site-specific, in contrast to the CDM) and blending of different types of interventions (investments, policy, capacity building, technical assistance, etc.) **makes MRV of the SD impacts more**

**challenging.** There are also greater risks associated with negative impacts, ripple effects, etc.”

- 3) “In case of *hosting country*, CDM has not captured the market effectively due to its administrative and operational issues, its staff faced within different periods. Now it is settled a bit and promoting the NAMAs in an effective way to Provinces and especially the planning departments.”
- 4) “Due to fact that our list of NAMA projects is composed of number of large and small projects our preference is implementation of large projects. Implementation of those projects is based on external support, financial and technical. In view of that fact we are of the opinion that a **critical issue will be financial support.**”
- 5) “Implement technically and financially generation of carbon credits and constitute the national institutions for this purpose.”
- 6) “**Funding**“
- 7) “Fragmented policy, CD principles should be important for all policies of country development.”

➤ **Questions 9 and 10** introduce the next part of the survey: Sustainable Development Performance. Question 9 seeks to find the reason for pursuing SD through NAMAs. Question 10 asks for possible challenges when pursuing SD through NAMAs. Both questions are open because of the intention to learn about the perception of SD of NAMA stakeholders, which is needed in order to answer sub question 1 as part of the research within this thesis.

**Question11: Which are the pursued economic outcomes of the NAMA/NAMAs you are involved with? (e.g. job creation, income increase, further investments,...)**

- 1) “GHG reduction, **employment** creation, national **energy security** - these are the main ones”
- 2) “**Business stability, job** creation.”
- 3) “We expect that outcome of realization of those projects will have economic and social impact to the country and local communities, such as **job** creation, **income increase, further investments, diversification of local activities** and so on.”
- 4) “Leverage international funding institutions to improve forest institutions and knowledge of forests and as an opportunity for **more income** to forest owners.”

- 5) “**Income increase.**”
- 6) “**Further investments.**”

**Question 12: Which are the pursued environmental outcomes of the NAMA/NAMAs you are involved with? (e.g. CO<sub>2</sub> emissions savings, pollution reduction, contribution to resource sustainability, other impacts on noise, landscape,...)**

- 1) “Mainly the **GHG** impacts.”
- 2) “**CO<sub>2</sub> emission savings.**”
- 3) “Being environmental and climate friendly NAMA projects will have multifold positive effects suchs as mitigation i.e., **CO<sub>2</sub> reduction, pollution reduction** (less NO<sub>x</sub>, PM, SO<sub>x</sub>), sustainability of **resources**, diversification of **energy** resources, improved **security of supply**, and so on.”
- 4) “**Avoiding deforestation** and forest **degradation** and increase the **carbon stock** in it through sustainable forest management.”
- 5) “**Methane emission reductions.**”
- 6) “**Resource sustainability, CO<sub>2</sub> emission saving.**”

**Question 13: Which are the pursued social outcomes of the NAMA/NAMAs you are involved with? (e.g. allocation of income, better living conditions, poverty reduction, impact on human health, increase in access to public services,...)**

- 1) “I help to design GEF projects, some of which contain NAMA components. In that sense, I am involved in all of the design elements of NAMAs, to a greater or lesser degree. As above, my expertise is in the climate change mitigation aspects.”
- 2) “Better know-how of efficient lighting technology and **better quality of life** in brighter word.”
- 3) “As already mentioned in 11. above implementation of NAMAs we are involved in will have additional benefits at the socio economic situation, as it will help to improve social conditions of local communities allowing **improved living conditions**, more **funds to be invested in education**, new **employments** will help in poverty eradication, less pollution will have positive impact on **human health** of local communities but in case of thermo power plants even in regional context, **better public services** and so on.”

- 4) “Allocation of income through a system of benefit sharing, leverage product benefits selling carbon credits, another **business opportunity for sustainable use.**”
- 5) “**better living conditions.**”
- 6) “**better living conditions.**”

➤ **Question 11-13** intend to find answers on the pursued economic, environmental and social outcomes of the respected NAMA project. This is necessary in order to later make a linkage between the pursued outcomes and actual assessment of SD. Again, the questions are open.

**Question 14: How do you weight the importance of the three dimensions of SD in respect to the NAMA/NAMAs you are involved with or in respect to the common understanding of NAMAs?**

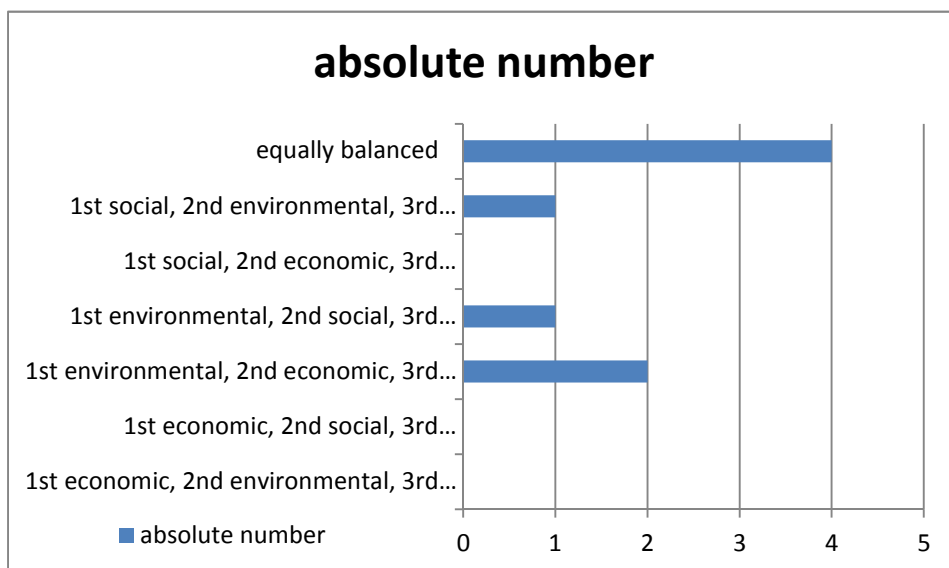


Figure a7: Weighting of SD dimensions in absolutes number related to each survey participant (own figure based on survey).

➤ **Question 14** asks to balance the three dimensions of SD. The outcome is regarded as interesting as it might conflict or correspond with questions 9 and 10. It is a single choice question and nominal data.



### C. Second section “Methods”:

**Question 15: Which indicators would be useful to evaluate the economic outcomes of the NAMA/NAMAs you are involved with or of a generic NAMA according to the common understanding of the tool?**

- 1) “Creation of an economic alternative for owners of degraded land (SDD); lowering financial barriers to those who wish to participate in the forestry business and in carbon markets (SDD) lowered electricity tariffs (SDD); avoided diesel purchase with the commensurate reduction in foreign transfers and balance of trade deficit (SDD); increased investment that may stem from this increased confidence (SDD).”
- 2) “Difficult to say as **NAMAs** (and the rationales for NAMAs) **vary so widely.**”
- 3) “**Import Statistics** of inefficient lighting technologies, Government Procurement Record.”
- 4) “**Unit price** 1 MWh produced with and without NAMA instruments.”
- 5) “**Increase in income** and reduction of operation costs.”
- 6) “**GDP growth** from sector.”

**Question 16: Which indicators would be useful to evaluate the environmental outcomes of the NAMA/NAMAs you are involved with or of a generic NAMA according to the common understanding of the tool?**

- 1) “Identification and implementation of more appropriate forest management techniques; **MRV system including indicators related to biodiversity; increasing rates of afforestation and restoration** of natural forests (SDD).”
- 2) “Again, difficult to say. But, above all, NAMAs are a mitigation instrument, so good **MRV of GHG emission reductions** is vital.”
- 3) “**Quantity of CO<sub>2</sub>** produced with and without NAMA instruments.”
- 4) “Each has a different MRV.”
- 5) “**GHG emission reduction.**”

**Question 17: Which indicators would be useful to evaluate the social outcomes of the NAMA/NAMAs you are involved with or of a generic NAMA according to the common understanding of the tool?**

- 1) “MRV system including indicators related to **gender equality**; Creation of testing laboratories; **Training** professionals in the areas of engineering and architecture as well as technicians.”
- 2) “Several indicators could be involved, **number of respiratory diseases** with and without NAMA instruments; annual **increment of budget** at local level.”
- 3) “Better and **healthier environment** for the surrounding communities.”
- 4) “**Livelihood improvement.**”

➤ **Questions 15-17** seek for useful indicators in order to evaluate the economic, environmental and social outcomes of NAMAs. These questions are open and of interest in order to answer sub question 2 within the thesis.

**Question 18: Which methodology would be applicable in order to evaluate the SD performance given your listed indicators (Q15 to Q17)?**

- 1) “A mix of qualitative and quantitative indicators. Possibly **tracking SD goals** in percentages.”
- 2) “Global Reporting Initiative (**GRI**).”
- 3) “Not decided.”

➤ **Question 18** is an open question and asks for a concrete methodology regarding SD and NAMAs.

**Question 19: Who should evaluate the SD outcomes of the NAMA/NAMAs you are involved with or of a generic NAMA according to the common understanding of the tool?**

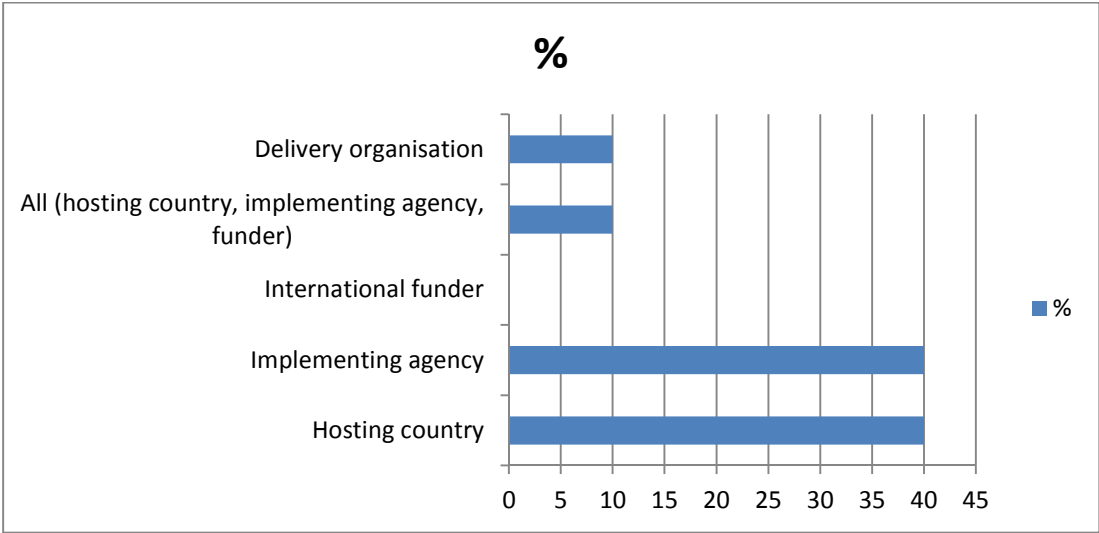


Figure a8: Preferences of entities for SD evaluation by survey participants (own figure based on survey).

➤ **Question 19** seeks for information on who should evaluate SD outcomes of NAMAs. The question is single choice (if not *other* has been chosen) nominal data and categorical. The question helps to answer sub question 1 and 2.

**D Third section “Implementation”:**

**Question 20: Has any evaluation of SD performance regarding any NAMA you are involved with (or you have knowledge about) already been undertaken?**

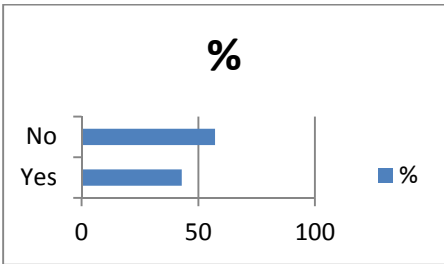


Figure a9: Existence of evaluations of NAMA SD performance of survey participants (own figure based on survey).

➤ **Question 20** seeks for information if any evaluation regarding SD outcomes of NAMAs has been undertaken, yet. The question is single choice (if not *other* has been chosen) nominal data and categorical. The question helps to answer sub question 1 and 2.

**Question 21: If existing, briefly outline the evaluation process (who, how,...), if different from answers of questions from Q5 to Q9.**

- 1) “In cooperation with Japan International Cooperation Agency (JICA) we developed our NAMA Programme. Within this activity it has been done **partial evaluation of SD** of those projects.”
- 2) “Through **international standards**, mechanisms for donors, the **World Bank operational policies** and **national legislation**.”

**Question 22: Did the evaluation bring any result yet?**

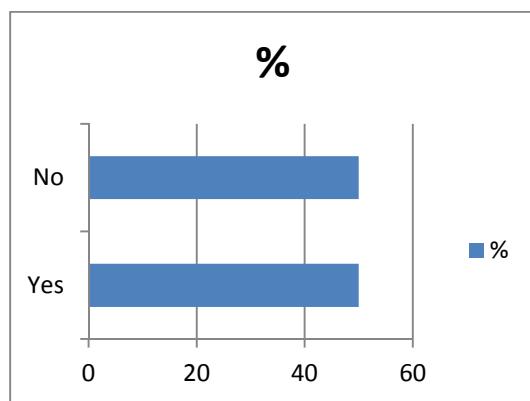


Figure a10: Existence of results of NAMA SD performance of survey participants (own figure based on survey).

➤ **Question 21 and 22** ask for further information regarding the evaluation of SD outcomes regarding NAMA projects. It also serves for the research within this thesis to answer sub question 1 and 2. Q21 is an open question, Q22 a single choice option.

**Question 23: Is this data available? Please indicate there (link or institution).**

- 1) “Go to the site of the Ministry of Energy, Development and Environment protection. However we'll have a new Government in few weeks and you should check if this Ministry will stay in same format. Existing Ministry has Department of Climate Change which is in charge of preparation of Country NAMA. Electro

Power Industry of *hosting country* is one of the partners, but major one, in preparation and its implementation.”

2) “A link is provided.”

➤ **Question 23** simply asks for details on the evaluation performances, if available.

**Question 24: Would you be available for further consultations regarding this investigation?**

1) “Yes.” (mentioned five times)

2) “Please check the website of the *implementing agency* for further information on the selection criteria etc. It might be helpful to take a look at the guiding questions provided in the template for the submission of NAMA Support Project outlines.”

➤ **Question 24** is the last question of the survey and asks for the availability of the survey participant for further consultation.

**APPENDIX II (NAMA case – sustainable housing in Mexico)**

**Figure a11:**

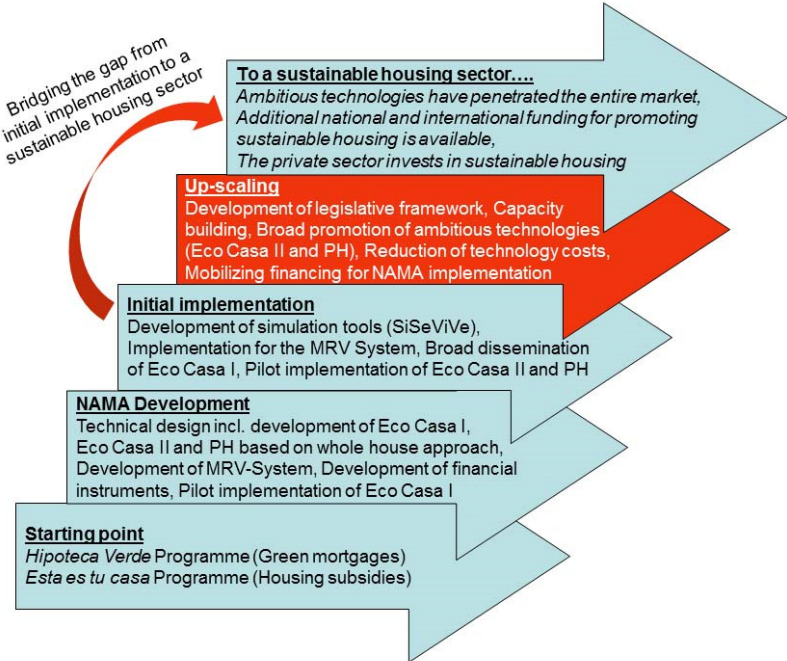


Figure a11: steps from starting, via NAMA implementation towards a sustainable housing sector (International Partnership on Mitigation and MRV, 2014 [online]).

**Table a2:**

		Main beneficiary categories			
Category	Sub-category	Users / houses owners	The society	The government	Energetic company
<b>Social and political co-benefits</b>	Increase in the comfort of houses	•			
	Benefits for the most social vulnerable categories (e.g. gender equality)		•		
	“community” creation		•		
	Reduction in the import of energy		•		
	climate change adaptation		•		
	Housing protection from power cuts				•
	Increase in the durability of the energy distribution grid				•
	Increase in political consensus			•	
	Fulfillment of the international regulations			•	
<b>Health co-benefits</b>	Reduction of indoor pollution	•			
	Reduction of outdoor pollution		•		
	Mortality reduction	•			
	Morbidity reduction	•			
	Reduction of physiological effects	•			
<b>Co-benefits in the provision of energetic services</b>	Less power cuts and reconnection of the provisions interrupted by payments negligence				•
	Cost reduction in notifications, billing and customer calls				•
	Low unpayable debt cancellation				•
	Reduction of transmission and distribution losses				•
<b>Economic co-benefits</b>	Reduction in bills	•			
	Higher lifetime earnings	•			
	Lower energy price	•			
	Longer service life of buildings, longer lower wear rates and cycles of refurbishment and repair	•			

Elimination of power cuts and service disconnections	•			
Further room for rent or sell energy efficient spaces, higher property price	•			
Positive impacts on research, innovation and business development		•		
Job creation and improvement in the ability to learn and earn income		•		
More money flows within the community		•		
New business opportunities		•		
Improvement in the aesthetic quality of buildings and communities		•		
Increase in productivity		•		
Reduction in the costs of tariff subsidies			•	
Savings from water and sewer			•	
Increases in revenue			•	
Elimination of costs for reducing air pollution				•

Table a2: Social, health, energetic and economic co-benefits for housing NAMA in Mexico (Navarro *et al.*, 2013, p. 30 ff).



## APPENDIX III (Interviews)

### Transcript of interview with Karen Olsen from UNEP RISØ Center (URC), 13.05.2014

Q = Question

A = Answer

**Q: Which is the interest of URC and its actual role in undertaking researches on SD assessment of NAMAs?**

A: We have a number of initiatives at the concept stage. There are researches undertaken within the NAMA partnership and under the specific Working Group on Sustainable Development which aim to develop criteria to assess NAMA contributions to SD and also looking at the possibilities to quantify or value the benefits, in terms of sustainable development, coming from NAMAs. But there are no research results available yet. It is at the concept stage. It is about ideas on how to assess the impacts and benefits coming from NAMAs both ex ante at the design stage informing decision making processes, but also ex post when actions are being implemented to evaluate not only GHGs emissions reductions but also outcomes in terms of SD. There is a need of leveraging domestic actions and the co-benefits are seen as a way of mobilizing domestic mitigation actions. Depending on the sector, mitigation actions are unlikely to be the main driver of activities like e.g. investment in the transport sector to make it more low carbon, the value of emissions reductions cannot be the driver. Others are the drivers like co-benefits which can also be considered main benefits and when emission reductions are taken as co benefits. This is the rationale behind the need for evaluation tools of SD benefits of NAMAs.

**Q: Which is the reason of comparing CDMs and NAMAs?**

A: It seemed like an obvious thing to do for us since URC has been working for a long time in the area of CDMs, but more important we see that the NAMA approvals in host countries are the same people that are also the DNAs (Designated National Authorities) approving CDM projects' contribution to SD. We see examples of countries that have SD criteria for CDM that have decided to, at least begin, using the same criteria also to assess SD in NAMAs. But NAMAs are very different from CDMs, they are not project based (they can be but most are not) they are more policy based targeting a sector or a sub sector so the scale is very different. They are also different in the way that NAMAs are driven by the public sector where CDMs were private sector driven. Anyway, CDM seems to be an obvious way to start because it is with CDMs that countries have already started to point out which are their priority in terms of SD.

**Q: It seems that even if there are differences between CDMs and NAMAs, the institutional and infrastructural sphere that the tools have in common is a good element for the comparison.**

A: The institutional and infrastructural context for screening CDM projects or NAMAs ideas at national level seems to be very similar. It looks like that for NAMAs is moving from DNAs being located in ministries for environment and perhaps having an environmental expert committee review (that used to evaluate CDMs proposals) to ministries of finance or economic planning. This brings to think us that NAMAs make mitigation actions more integrated, mainstreamed to development planning.

**Q: This can be connected to what you called “development first approach”**

A: Yes, very much.

**Q: Which are the most significant differences between CDMs and NAMAs that make you look at a new, as you called, “integrated’ approach to assess SD in NAMAs?**

A: For CDM the suppliers of data were the project developers, I think for NAMAs the suppliers of data to assess the SD will come from many different sources, perhaps statistical offices in the countries because you are not monitoring project outcomes but you are monitoring impacts of, for instance, policies. I think the stakeholders and the data will be in another scale and the processes around assessment will also be different. What the URC developed for CDM was a tool that only uses indicators to assess ex ante what are the potential benefits in terms of SD for CDMs. URC proposes an integrated approach including stakeholder involvements (also on local base, in order to assess not only positive benefits but also negative SD benefits usually omitted) *own summary*. Stakeholder consultation processes are very important for NAMAs in order to also uncover risks and not only potential benefits.

**Q: The stakeholder involvement that you mentioned, is something required by the nature of the NAMA concept itself or it is a call for a higher level of involvement compared to what is experienced in the CDM context?**

A: NAMAs are, by definition, more nationally appropriate. When for the CDMs procedures modalities and methodologies decided at an international global level and also the requirements for local consultation and rules were set internationally regardless of the specific hosting countries. For NAMAs these elements should be identified at a national level, taking inspiration from REDD (United Nations collaborative initiative on Reducing Emissions from Deforestation and forest Degradation). Stakeholder involvement institutions at national level that are based on specific circumstances are required. There have been guidelines for stakeholder involvement by UNDP for instance. I think guidelines for stakeholder involvement can be created by taking into account different national realities at a subnational level but it cannot be global like it was for CDMs.

**Q: Even if the negotiations on MRV of NAMAs are still open and almost no guidelines have been agreed so far, can you already expect some significant differences from the MRV systems of CDMs for what will be an MRV guideline for NAMAs?**

A: No, I think looking at what CDM was, in terms of the first mitigation mechanism for developing countries makes us realize that it is where all the knowledge about MRV for these kinds of actions is. Also in terms of baselines NAMAs we look at the CDM experience to create something appropriate for NAMAs. It is all about trying to find out how much can we learn from CDM, like what happened when we looked at the CDM SD tool and applied it to NAMAs recorded in the registry: we noticed that there were aspects such as institutional and transformational elements that are important for NAMAs but was not possible to cover with the CDM experience. A need to invent new dimensions for assessing SD of NAMAs goes along with the possibility of using some of the existing criteria for CDMs. Elements from the National SD criteria or from the guidance with voluntary tool at international level could be still relevant for NAMAs, in particular around the indicators. And the thing is that the technologies are the same in NAMAs and CDMs, but the scale is different. But the co-benefits in terms of SD that you can obtain from these technologies are the same from CDM and NAMA.

**Q: Can it be considered premature to investigate SD assessment tool of NAMAs when the concept itself suffers from lack of common understanding or, from the opposite perspective, this discussion can contribute in the understanding of the concept of NAMAs?**

A: It is definitely a challenge, but we cannot wait NAMA to be a fully understood concept because this would take years. I think we have to do it in parallel. The need of SD assessment is there already when countries first started to develop NAMAs. The demand for assessment tool is here now.

Thank you very much.

**Transcript of interview with Professional Officer from UNFCCC, SDM Programme, Bonn, 14.5.2014**

Due to the high degree of confidentiality demanded by the interviewee, only general topics discussed are here reported.

Q = Question

A = Answer

**Q: What is the role of the SDM programme of the UNFCCC secretariat in relation to SD assessment of NAMAs?**

A: SDM and MDA (the programme that hosts a dedicated unit focused on NAMAs) started a joint project in order to explore the possibility to apply CDM assessment structures to NAMAs.

**Q: Which is the contribution of SDM within the join project with MDA?**

A: SDM has a long experience with CDMs and also with their MRV practices. The programme can offer its technical capacity for exploring MRV guidelines for NAMAs.

**Q: How the project is conducted?**

A: MRV pilot studies are undertaken within SDM in several sectors of NAMA implementation. The studies aim at presenting guidelines to assess SD outcomes of NAMAs in relation to specific sectors.

**Q: Did some of these studies already brought some results?**

A: Yes

**Q: Are these results available?**

A: The results are strict confidential, they are going to be published further on.