

Information Matters, Chile

Capacity Building for Enhanced Reporting and Facilitation of International Mutual Learning
through Global Peer-to-Peer Exchange

Second Capacity Building Mission (Santiago de Chile, October 13th to 17th 2014)



Second Capacity Building Mission in Chile

Santiago, Chile, October 13th to 17th 2014

On behalf of:



Federal Ministry for the
Environment, Nature Conservation,
Building and Nuclear Safety

of the Federal Republic of Germany



Published by:

German Society for International Cooperation (GIZ) GmbH

Registered offices

Bonn and Eschborn, Germany

T +49 228 44 60-0 (Bonn)

T +49 61 96 79-0 (Eschborn)

Friedrich-Ebert-Allee 40

53113 Bonn, Germany

T +49 228 44 60-0

F +49 228 44 60-17 66

Dag-Hammarskjöld-Weg 1-5

65760 Eschborn, Germany

T +49 61 96 79-0

F +49 61 96 79-11 15

E info@giz.de

I www.giz.de

<http://mitigationpartnership.net/information-matters-capacity-building-ambitious-reporting-and-facilitation-international-mutual-learn>

Authors:

Paulina González M.

Felipe Huiza C.

Photo credits:

GIZ

Copyright

GIZ

Content

Abbreviations and Acronyms used.....	4
Background.....	7
BMU International Climate Initiative (IKI).....	8
Objectives and Approach of this document.....	9
Second Capacity Building Mission: relation of activities and proposed future activities in Chile of the "Information Matters" project	9
Annex A: List of Activities of the Second Training Mission of the Information Matters Project	15
Annex B: Workshop Agendas of the Second Capacity Building Mission of the Information Matters Project.....	49

Abbreviations and Acronyms used

AFOLU	Agriculture, Forestry and Other Land Uses
-------	---

AGCI	Agencia de Cooperación Internacional de Chile (International Cooperation Agency of Chile)
BAU	Business-as-Usual
BMUB	Bundesministerium für Umwelt, Naturschutz, Bau und Reaktorsicherheit (Federal Ministry for the Environment, Nature Conservation, Building and Nature Safety of Germany)
BUR	Biennial Update Report
CDM	Clean Development Mechanism
CER	Centro de Energías Renovables (Renewable Energy Center); today, Center for the Innovation and Promotion of Sustainable Energies, as unofficial translation
CNE	Comisión Nacional de Energía (National Energy Commission)
COCHILCO	Comisión Chilena del Cobre (Chilean Copper Commission)
CONAF	Corporación Nacional Forestal (National Forestry Corporation)
COP	Conference of the Parties
CORFO	Corporación de Fomento de la Producción (Production Development Corporation)
CPL	Consejo de Producción Limpia (Clean Production Council)
CRF	Common Reporting Format
FIA	Fundación para la Innovación Agraria (Foundation for Agricultural Innovation)
GEF	Global Environment Facility
GHG	Greenhouse Gas
GHGINV	(National) Greenhouse Gases Inventory
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (German Society for International Cooperation)
HFC	Hydrofluorocarbons
ICA	International Consultation and Analysis
IKI	Internationale Klimaschutzinitiative (International Climate Initiative)
IM	Information Matters
IMMA	International Partnership on Mitigation and MRV
INE	Instituto Nacional de Estadísticas (National Statistics Institute)
INFOR	Instituto Forestal (Forestry Institute)
INGEI	Inventario de Gases de Efecto Invernadero (Greenhouse Gases Inventory)
INIA	Instituto de Investigaciones Agropecuarias (Institute for Agricultural Research)
IPCC	Intergovernmental Panel on Climate Change
IPPU	Industrial Processes and Products use
ISGEI	Inventario Sectorial de Gases de Efecto Invernadero (Sectorial Greenhouse Gases Inventory)
LECB	Low Emission Capacity Building
LULUCF	Land Use, Land Use Change and Forestry
MAPS	Mitigation Action Plans and Scenarios
MINAGRI	Ministerio de Agricultura (Ministry of Agriculture)
MINENERGIA	Ministerio de Energía (Ministry of Energy)
MINSAL	Ministerio de Salud (Ministry of Health)
MMA	Ministerio del Medio Ambiente (Ministry of Environment)

MOP	Ministerio de Obras Públicas (Ministry of Public Works)
MRV	Measurement, Reporting and Verification
MSW	Municipal Solid Waste
NAMA	Nationally Appropriated Mitigation Action
NCRE	Non-Conventional Renewable Energy
NCSP	National Communications Support Programme
NIR	National Inventory Report
OCC	Oficina de Cambio Climático (Climate Change Office)
ODEPA	Oficina de Estudios y Políticas Agrarias (Agricultural Studies and Policies Office)
PMR	Partnership for Market Readiness
PRTR	Pollutant Release and Transfer Register
QA/QC	Quality Assurance / Quality Control
REDD+	Reducing Emissions from Deforestation and Forest Degradation
SAG	Servicio Agrícola y Ganadero (Agricultural and Livestock Service)
SEC	Superintendencia de Electricidad y Combustibles (Fuel and Energy Superintendence)
SECTRA	Secretaría de Planificación de Transporte (Transportation Planning Secretariat)
SEIA	Sistema de Evaluación de Impacto Ambiental (Environmental Impact Assessment System)
SERNAGEOMIN	Servicio Nacional de Geología y Minería (Geology and Mining National Service)
SF6	Hexafluoruro de azufre (Sulfur Hexafluoride)
SISS	Superintendencia de Servicios Sanitarios (Superintendence of Health Services)
SNICHILE	Sistema Nacional de Inventarios de Gases de Efecto Invernadero de Chile (National GHG-Inventory System of Chile)
UBA	Umwelt Bundesamt (Federal Environment Agency)
UDOP	Solvent and other product use
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
WRI	World Resources Institute

Background

Since 2013, as commissioned by the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB), the German Society for International Cooperation (GIZ) is executing the “Information Matters” Project, which is providing technical support to four non-Annex I countries (Chile, Ghana, the Philippines and the Dominican Republic) for better compliance with its commitment to report the Secretary of the United Nations Framework Convention on Climate Change (UNFCCC).

The primary goal of this project is to strengthen in-country capacities for ambitious reporting in the four partner countries. After an initial activity together with the national counterpart entities, identifying the specific needs of each country, the project has been directed to satisfy these needs, focused on Measurement - Report - Verification (MRV) systems and greenhouse gas (GHG) monitoring, through trainings and tailored in-country capacity-building workshops.

MRV is supposed to enhance transparency in order to increase ambition at national level by providing the basis information for planning and implementing mitigation action. Additionally, MRV supports transparency in order to track progress and reinforce ambition at global level.

This capacity building process is enhanced by peer-to-peer exchange and generation of lesson learned. Through these trainings and capacity building workshops, the partners are able to define procedures, methodologies and responsibilities in order to institutionalize their reporting system with special focus on the requirements for national-level mitigation-related reporting to the UNFCCC.

The project works closely with the United Nations Development Programme (UNDP), Low Emission Capacity Building Programme (LECB) and the National Communications

Support Programme (NCSP) in each country. The LECB Programme and the NCSP develop technical and institutional capacities of the countries in order to enable them to collect, manage and report the necessary data for planning and implementing mitigation actions, among other results.

The goal of this cooperation is to avoid overlaps and to maximize synergies and benefits from mutually complementary activities. During the project, GIZ will work together with the World Resource Institute (WRI), especially in the field of monitoring and reporting information about reducing emissions of greenhouse gases. Additionally, the project will work together with the “International Partnership on Mitigation and MRV” project, also called IMMA.

GIZ is providing technical support to the partner country’s government’s institution in charge of the national monitoring and reporting of climate-relevant data - in Chile, named as the Climate Change Office of the Ministry of the Environment (OCC-MMA) - and address their specific demands for capacity building support in the process to prepare national reports. For this purpose, GIZ has subcontracted the British consulting firm Ricardo-AEA, which is specialized in monitoring, reporting and verification methodologies.

As initial activity, Ricardo-AEA conducted a gap analysis in each of the four selected countries and organized a kick-off workshop, where the partner country’s institution agreed a capacity building plan for the next two years. In the case of Chile, this plan was concluded a day after the initial workshop.

Overall, the plan includes up to four in-country workshops for the government’s staff involved in monitoring and reporting activities. The content of the workshops depends on the needs of each country. In the case of Chile, it includes

monitoring and reporting of greenhouse gas emissions, mitigation actions (including quantification of the impacts of mitigation and transformational changes), and technical and financial support as well as needs, accounting and preparation for international reporting processes.

To support project implementation, local experts have been incorporated at the local GIZ office to respond flexibly to ad-hoc demands from the partner institutions. Additionally, the German Federal Environment Agency (UBA) is involved in the project and one GIZ staff member has been assigned to the UBA in order to facilitate their contributions to the project and providing technical support to partner countries.

The project will also support the partner countries' institutions in the analysis of their processes to monitoring and reporting, and how to bridge remaining gaps and improve these processes according to international standards and UNFCCC requirements.

Towards the end of the project, GIZ -with the support of Ricardo-AEA- will organize a global workshop for the staff members from the four involved countries' institutions, in order to exchange peer-to-peer their experiences on the technical challenges and potential solutions of

national monitoring and reporting procedures. This exchange shall also allow the involved participants from the four countries to help each other to refine and improve their data collection and data analysis procedures.

The tools developed and tested in the project to incorporate all elements of the existing GHG inventory, to collect data and to install a monitoring and reporting procedure will condense lessons learnt. In order to enable other countries to learn from the four countries involved in the project, which will acquire a certain leadership on the issues of monitoring and reporting, the tools tested and developed shall be provided for other interested countries after project completion. To this end, the partner country's government institution involved in the project should share their experiences and will be invited to give presentations on the lessons learnt in meetings of the International Partnership on Mitigation and MRV.

Until now, the "Information Matters" project has generated the following tools:

- a. Gap Analysis Tool
- b. Potential BUR format
- c. Lessons learnt from project activities prepared as knowledge products.

BMU International Climate Initiative (IKI)

Since 2008, the International Climate Initiative (*IKI*, as German acronym) of the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB) has been financing climate and biodiversity projects in developing and newly industrializing countries, as well as in transition countries. Based on a decision taken by the German Parliament (the Bundestag), a sum of 120 million euros is available for use by the initiative annually. This innovative source makes Germany well-prepared to deliver long-

term financing for climate and biodiversity projects worldwide.

The IKI is active in four areas: a) mitigation of greenhouse gas emissions, b) adaption to the impacts of climate change, c) conservation of natural carbon sink with a focus on reducing emissions from deforestation and forest degradation (REDD+), and d) conservation of biological diversity.

New projects are selected through a two-stage procedure that takes place once a year. Priority is given to activities that support the creation of international climate protection architecture, transparency, and innovative and transferable solutions that have an impact beyond the individual project. The IKI cooperates closely with partner countries and supports consensus building for a comprehensive international

climate agreement. Moreover, it is the goal of the IKI to create as many synergies as possible between climate protection and biodiversity conservation.

Further information can be found at the BMU IKI homepage (<http://www.international-climate-initiative.com/en/>)

Objectives and Approach of this document

The central objective of the present document is a report of the activities carried out in Chile between October 13th and 17th, 2014 as part of the Second Capacity Building Mission of the Information Matters Project.

The global objective of this Second Mission was to advise further the professionals from the Climate Change Office of the Environment Ministry and other public institutions, as well as from the private sector and the academia, on subjects related to MRV-Systems.

The strategic topics addressed during the Second Mission are listed as follows:

- MRV-Systems applied to inventoried GHG emissions and captures,
- MRV-Systems applied to NAMAs (Nationally Appropriated Mitigation Action), and
- MRV-Systems applied to foreign financing on climate change.

An additional issue in this second mission was laid on technical advice, through the provision of templates or facsimiles and chapters review of the 1st Biennial Update Report (BUR), which will be submitted to the United Nations Framework Convention on Climate Change (UNFCCC) by the Chilean Government in December this year.

Second Capacity Building Mission: relation of activities and proposed future activities in Chile of the "Information Matters" project

Between October 13th and October 17th, the "Information Matters" Project developed in Chile his Second Capacity Building Mission, which brought together key stakeholders, mainly from

the public sector institutions that have direct incidence on the implementation of MRV systems. Table 1 presents the general agenda of this mission.

Table 1: Agenda of the Second Capacity Building Mission in Chile of the Information Matters Project.

TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
09:00	Kick-off Coordination Meeting	Workshop on "MRV of Nationally Appropriate Mitigation Action (NAMAs)"	4 th SNICHILE meeting	Workshop on "MRV for financial support"	Workshop on "MRV for financial support"
09:30					
10:00	Coffee break				
10:30	Workshop on "Biennial Update Report and MRV processes"	Coffee break	4 th SNICHILE meeting	Coffee break	Coffee break
11:00		Workshop on "MRV of Nationally Appropriate Mitigation Action (NAMAs)"	Workshop "MRV of GHG inventory"	Workshop on "MRV for financial support"	Workshop on "MRV for financial support"
11:30					
12:00					
12:30					
13:00	Lunch	Lunch	Lunch	Lunch	Lunch
13:30					
14:00					
14:30	Workshop "Biennial Update Report and MRV processes"	Workshop on "MRV of Nationally Appropriate Mitigation Action (NAMAs)"	Workshop on "MRV of GHG inventory"	Workshop on "MRV for financial support"	Final meeting (conclusions and future activities)
15:00					
15:30					
16:00	Coffee break	Coffee break	Coffee break	Coffee break	
16:30	Workshop "Biennial Update Report and MRV processes"	Workshop on "MRV of Nationally Appropriate Mitigation Action (NAMAs)"	Workshop on "MRV of GHG inventory"	Workshop on "MRV for financial support"	
17:00					
17:30					

This report presents a brief summary of the activities executed, along with the main observations and evaluations that resulted from the closing meeting, as well as proposals for future work for the remainder of the Project. See Appendix A for a more detailed description of each activity.

1. Kick-off Coordination Meeting.

The goal of the kick-off meeting was to coordinate the activities scheduled for the rest of the week and served as an opportunity for the Environment Ministry, represented by professionals of the Climate Change Office (CCO), to express their expectations for this Second Capacity Building Mission. The meeting was attended by nine people, i.e. representatives of the Climate Change Office, GIZ and the Ricardo-AEA Consulting Agency.

At the meeting, the results of the revision of the mitigation and support chapters of the Chilean Biennial Update Report were presented by GIZ experts. The objective was to discuss all comments and observations directly with the CCO professionals who elaborated these chapters. Oscar Zarzo, from GIZ-Berlin, presented the observations made by German experts for each chapter, which had been evaluated regarding structure, clarity of information, and completeness of the report.

2. Workshop on Chilean Biennial Update Report (BUR) Analysis.

The second activity was a workshop to analyze the BUR, for the knowledge of the Focal Points from various Ministries. The content of the five chapters comprising the first Chilean BUR that should be submitted to the UNFCCC in

December this year were presented and discussed. The workshop was attended by the 9 professionals attending the previous meeting plus as the Focal Points from the Ministries of Public Works, Agriculture, Transportation and Telecommunications and Energy, making up for a total of 16 participants.

The BUR chapters presented by professionals from the Climate Change Office were “National Circumstances” (Maritza Jadrijevic), “GHG Inventory” (Paulo Cornejo), “Mitigation Actions” (Jenny Mager) and “Financial Support” (Paulo Cornejo y Jenny Mager).

Oscar Zarzo (GIZ-Berlin) presented again the comments made by the GIZ in Germany and Sina Wartmann, from Ricardo-AEA, presented the corresponding comments made by the consulting agency. It should be noted that while some feedback was already received from Ricardo-AEA, they will still provide additional observations, especially for the GHG Inventory chapter.

The workshop was followed by a practical exercise to discuss the improvements made on the BUR mitigation, inventory and financial support chapters, both in the short term (improvements for this issue of the BUR), and for the medium and long term (for coming reports). This practical activity proved to be very useful for setting future priorities.

As a result of these presentations and the following discussion, it was agreed that the BUR meets the requirements set by the guidelines of the UNFCCC, since it provides detailed information on all subjects and also updates and improves the information presented in the Second National Communication. Moreover, all chapters of the BUR are satisfactory in terms of structure, information clarity and completeness, although it is necessary to continuously improve the data, so as to be ready for future report updates. Taking into account the lessons learned so far, there was consensus on the importance of a systematized working protocol for the elaboration of the BUR and also on how critical it is to ensure that the installed capacity is preserved, to improve coordination and

participation between ministries and to bridge the gaps posed by the gathering of official data.

3. Workshop "MRV of Nationally Appropriate Mitigation Action (NAMAs)".

The workshop on MRV of NAMAs was the most attended with around 30 participants. The vast majority of them were officials from public entities, although there also were representatives of the academia, as well as private consultants.

The workshop started with an explanation of key concepts of the MRV of NAMAs and served as a summary of the topics addressed at the workshops carried out at the First Capacity Building Mission, which took place in May this year.

This workshop included some practical exercises that helped to identify the benefits of MRV both at a national level and also for donors and the international community. The exercises also focused on how to avoid double counting of emissions in mitigation actions. A wide array of criteria to determine how certain groups of mitigation measures are related could be identified, which resulted in a variety of conclusions in each of the working groups.

4. Workshop "MRV of GHG inventory".

During the third day of the mission, a workshop on MRV of GHG Inventories was carried out and it was attended by experts from all sectors involved in the inventory elaboration, from which the majority were representatives of the AFOLU sector. An average of 23 people took part in the workshop.

The activity started with the 4th Meeting of the National GHG Inventory System (SNICHILE), during which all comments made by the GIZ and the BUR experts on this chapter were discussed. The second part consisted of a training course followed by practical exercises on the elaboration of a GHG Inventory Manual organized and executed by professionals from the Ricardo-AEA Agency.



Picture 1. Workshop "MRV of GHG inventory".

5. Workshop "MRV for financial support".

The workshop was meant for a smaller number of people, so as to enable a discussion on an issue that has not yet been internalized in the country. This workshop is therefore one of the first steps towards the implementation of an information system regarding the financial support received by the country from abroad. In this case, the primary goal was to define a strategy to institutionalize this matter in the country, starting by getting the Council of Ministers for Sustainability and Climate Change to recognize the need for such a system.

The group was confirmed by no more than 5 representatives of public institutions associated with Climate Change funding; they were joined by Jillian van der Gaag (CCO) and professionals of GIZ and Ricardo-AEA. One of the highlights of the workshop was the participation of the Head of Green Expenses from the Ministry of Finance, given the importance of this institution in relation to funding issues and because his presence was crucial and very helpful when addressing the subjects at hand. After the discussion, it was clear that an information system for climate change funding activities needs to include both national and international investment.

Brainstorming activities were carried out on the first day of the workshop; nevertheless, the second day was focused on some more concrete approaches about implementing an official MRV of Financial Support system in the country.

The elaboration of a strategic document was proposed as a concrete measure, initially called White Paper of MRV of Support, which should

provide the guidelines for an institutional system of MRV of financial support and should describe the strategic benefits of its implementation in the country. Basically, the contents that this document should include are a definition of MRV of financial support, the general context, approach and objectives of the MRV system, the strategic benefits for the country and, finally, a proposal for a potential MRV of Support system for Chile. This document should be elaborated by the Climate Change Office and be finished by late 2014, so that it can be approved in March 2015 by the Council of Ministers for Sustainability and Climate Change and then presented at the COP21 in Paris. For more information, see Appendix A, Presentation number 17 addressing MRV of support approaches.

6. Final meeting.

The closing meeting was attended by professionals of the GIZ, the Climate Change Office of the Ministry of Environment and the Ricardo-AEA Consulting Agency. At the meeting, the activities carried out during the week were summarized, taking into account the attendance and performance of the attendants. Moreover, each activity was briefly evaluated. This analysis served as the basis for a proposal of future activities of the Information Matters Project, scheduled to be developed by September of 2015.

For the remainder of the project, a Third Mission is expected to be carried out in conjunction with GIZ, UBA and WRI, and with technical support provided by Ricardo-AEA Agency. This mission could be launched between March and May of 2015.

In the specific case of the BUR, a training workshop is needed to address the international evaluation process agreed in the International Consultation and Analysis; this evaluation should assess the BURs of non-annex I countries of the CMNUCC, although this proposal would only be possible if the review results were available within the available time of the project.

At the NAMAs workshop, the discussion resulting from the practical exercises about the

MRV benefits, interaction between mitigation activities and implementation of a MRV plan was considered satisfactory. On one hand, a positive aspect is that the agroforestry sector was represented by a considerable number of participants, even though it has not yet registered any NAMAs (although there is one in a primary design stage and therefore the early training should be very beneficial), but on the other hand, the absence or the lack of participation of other sectors with ongoing NAMAs is a negative aspect perceived from the workshop.

Regarding future activities, it was suggested that the MRV of NAMAs once again should be incorporated in the next training mission of the project, although not as extensively. Furthermore, the CCO showed interest in knowing and in evaluating the new standards of the WRI, therefore a workshop addressing this issue was proposed. A good alternative would be to join efforts between the Ricardo-AEA Consulting Agency and the project “Design of Institutional Arrangements to develop a Generic Framework for MRV of Climate Change Mitigation Actions in Chile”, funded by the UK Prosperity Fund-alongside with the Information Matters Project, in order to establish a link between both initiatives around the new standards of the WRI.

According to the attendants to the closing meeting, the focus in the next mission should be laid on the MRV of NAMAs because while there are stakeholders with a vast knowledge on subject, there are others that still are on an early stage of the learning process.

For the theme of the NAMAs, a videoconference with German experts on green taxes was proposed. This idea is the result of the new Chilean normative on CO₂ taxes, which will promote the emergence of potential private initiatives to implement new NAMAs. Support for the definition of an MRV system will be required for this purpose.

Concerning GHG Inventories, the first future activity suggested is a videoconference with UBA experts on waste management, since there still are

some gaps regarding data gathering and processing in this area.

In addition, there is also a need for capacity building on the energy sector, since the experts who elaborated the inventory are no longer working for the Ministry of Energy. The new professionals should receive training on the preparation and elaboration of the next inventory, which could take place in the form of videoconferences with German energy experts.

Given the fact that in March the Coordinator of the National Inventory System (SNICHILE) should present a working plan for the next inventory, it would be advisable that it be evaluated by German experts.

As for the MRV of Financial Support, it is necessary to keep track on its evolution and the decision of having a new workshop focused on it during the next Capacity Building mission should be considered.

Moreover, as a short-term measure, it was suggested that establishing a link with the GIZ training initiative on funding, which will take place in November of 2014, is needed to widen the knowledge available on the MRV of Support.

In general and based on satisfaction surveys answered by those who attended the Second Mission activities, it can be said that the people evaluated positively the activities. It is also important to underline that in the workshops on BUR, Inventories and Financial Support, the participants succeeded in defining concrete future actions, for instance, the future improvements to the BUR (see appendix A, BUR improvement exercise), the proposal of an action plan for the inventory (see appendix A, presentation number 11 about next SNICHILE steps to develop), and a strategic document regarding the financial support (see appendix A, presentation number 17 addressing approaches for the MRV of support).

A very valuable aspect was that, especially in the cases of the BUR and Inventory workshops, there was a higher level of engagement and participation rather than just the presentation of contents to the audience, since the workshop was based not only on a series of lectures with

informative purposes, but more on interactive group discussions.

However, this positive aspect happened was less perceived in the case of NAMAs, since there is a continuous incorporation of new stakeholders and, furthermore, it is mandatory to keep on developing a capacity building process about the implementation of a MRV of NAMAs.

Annex A: List of Activities of the Second Training Mission of the Information Matters Project

1. Kick-off Coordination Meeting

An initial meeting was held to coordinate the activities of the week, and to allow the Ministry of Environment, represented by the professionals of the Office of Climate Change, to express their expectations with respect to the Second Mission of Capacity Building of the Information Matters Project. The Focal Point of the Project in Chile, Sergio González, welcomed the participants and indicated the objectives of this meeting. Then he gave a brief presentation of the agenda planned for the week. The Head of the Office of Climate Change, Fernando Farías, indicated the importance of incorporating the private sector in the NAMAs. During the discussion it was decided that the results of the informal review of the chapters of the BUR of Chile by the GIZ would first be discussed internally with those who wrote the chapters (professionals of the Office of Climate Change and the GIZ). It was agreed to show the comments to the chapters of mitigation and of support in this initial meeting.

Presentation 1: Comments of the GIZ on the Mitigation chapter of the BUR

Oscar Zarzo, GIZ - Germany

In his presentation, Oscar Zarzo detailed the comments received from the professionals of the GIZ in Germany on the Mitigation chapter of the BUR of Chile, in which they evaluated its structure, clarity of the information provided and whether the chapter is complete. This revision indicated that the chapter is very well structured and that the tables and figures are very illustrative, making it easy to read. Their suggestions included presenting the transversal policies first and then the sectorial policies (point 4 of the chapter). Given that the BUR does not need to be as detailed as a National Communication, it was suggested to eliminate information that is not really necessary, such as that given at the beginning of the chapters.

With respect to the clarity of information, it was considered that the text is very well written and is easy to understand, although it was suggested to incorporate more information on some points. In terms of the indicators presented, it was indicated that more information should be included, since more mention is made of the results achieved than on the indicators themselves. In the chapter that deals with Sustainable Construction, the suggestion is to cite some of the actions relevant to the reduction of emissions. The description of sectorial responsibilities of mitigation is indicated as especially useful information.

Finally, it was indicated that the chapter provides information about all the relevant actions in the area of mitigation; however, incorporation of more information on some aspects is suggested. For example, there should be more details on the scope of the 2025 target of renewable energy, the target of energy efficiency should include results on the total of emissions mitigated by CDM (clean development mechanisms) projects, which sectors have achieved the greatest reductions, and the position of Chile on the new market mechanisms that are under discussion in the UNFCCC. Other general suggestions are to provide details on the MRV system for NAMAs that the country has developed so far, to interrelate the MAPS project with mitigation actions, to include more information on PMR (Partnership for Market Readiness) activities at the national level and to include information on the proposals and expectations that Chile has for the future in terms of mitigation.

Presentation 2: Comments of the GIZ on the chapter of Support Received from the BUR

Oscar Zarzo, GIZ - Germany

This presentation reviewed the comments of an expert from GIZ Germany, advisor on reporting on climate financing in Annex I countries, on the chapter of BUR financial support. It was first suggested that, although the chapter is well structured, the order of the topics should be modified, giving the necessities first and then the support received. It was suggested to order the information as follows: 1) to establish the context at the level of the country and the needs for mitigation, adaptation, financing, etc.; 2) to analyze the support received and 3) to discuss the pending challenges, progress achieved and the gaps.

It was indicated that the information presented is clear and concise, with special mention for the description of needs, gaps and barriers. However, in some points there is not sufficient clarity in the differentiation between the elements of financing, creation of capacities and technological transference.

The expert indicated that the report is complete, since all the required elements are covered. However, she suggested to explaining more exhaustively the context of the country and the climatic impacts that affect Chile, to understand better the level of vulnerability and the needs at the country level. She also proposed including in the chapter a review of the first lessons learned and problems encountered in preparing the report, to favor learning together with other countries that are in this report process. Finally, a suggestion for improvement was to include information on the structure of the MRV for Financial Support, even though it is still in the planning phase.

2. Workshop to Discuss the First Biennial Update Report (BUR) of Chile

In this workshop, some focal points from the Ministries conforming the Council of Ministries for the Sustainability and Climate Change attended; their names are included in the attendance roster (see Annex B). The contents were structured in the internal order of the BUR:

- Chapter 1, referring to circumstances in the country,
- Chapter 2, referring to the GHGINV,
- Chapter 3, referring to actions of mitigation, and
- Chapter 4, referring to needs and support.

Presentation 3: Chapter of National Circumstances

Maritza Jadrijevic, Adaptation Area of the Climate Change Office, Ministry of Environment

Maritza Jadrijevic, professional of the OCC-MMA, gave a presentation on the contents of this chapter. She first pointed out that the BUR guidelines indicate that to elaborate this chapter, the guidelines of National Communications should be followed which indicate that there should be a description of the priorities, objectives and circumstances of regional and national development that will serve as a base to face climate change and its adverse effects.

Then she presented the sub-chapters developed for this chapter, which are: 1) geographic profile and social development, consisting in a description of the territory, climate, population, social development, education, science, technology and technological transfer, which was obtained from the 2nd National Communication, complemented with updated information from INE and the Ministry of Social Development; 2) economic profile, based on the priority list of four productive sectors (energy, agriculture, fisheries and mining); to

obtain the information the respective sectors were consulted directly; and 3) institutional arrangements, that include information on environmental institutions, policies and plans for climate change and projection for the future according to the government program. This last sub-chapter was constructed based on the information described in the 2nd National Communication, complemented and updated with the new activities that have been incorporated in recent years.

The difficulties encountered in the development of this chapter were mostly associated with the difficulty of finding current official information. To reduce this gap, the importance of working permanently with the different sectors was identified, along with systemizing the information and constantly updating the table of key indicators.

Presentation 4: Chapter of the Greenhouse Gases Inventory

Paulo Cornejo, SNICHILE Coordinator, Climate Change Office, Ministry of Environment

The presentation on this chapter of the GHG Inventory, given by the Coordinator of SNICHILE, began with an introduction in which he indicated that the report contained in this chapter represents the work performed for the 3rd National Greenhouse Gases Inventory (GHGINV), presented to the United Nations Framework Convention on Climate Change (UNFCCC). One of the topics included in this chapter was on Institutional Arrangements, where reference was made to the international commitments subscribed by the country in terms of the GHG inventory, which made necessary to begin in 2012 with a decentralized structure composed of a number of sectorial teams of different Ministries (MMA, MINAGRI, MINENERGIA). The permanent work areas of SNICHILE are the updating of the GHGINV, the definition of a process of continuous improvement of the GHG inventory, the creation of capacities at the national and sectorial level, the institutionalization of the system and dissemination.

The methodology used for calculating the GHG inventory was the IPCC 2006 guidelines for national inventories of emissions and removals of greenhouse gases (GL2006), along with the software and spreadsheets provided by the IPCC for calculations. There was improvement in the Tier 2 calculations for certain processes. Then the main information sources employed for each of the sectors were presented.

The methodology also included an uncertainty evaluation, incorporated for the first time in a national inventory. It was determined that a large part of the uncertainty is generated by the use of emission factors by default; precisely this issue should be worked on to improve the inventory in the future. In almost all activities, emission factors provided by the IPCC are being used instead of country-specific factors; it is hoped to improve this point in future inventories, in order to better reflect real emission levels of greenhouse gases in the country.

Paulo Cornejo continued by indicating that the sector with most emissions is Energy, followed by Agriculture and Industrial Processes. The LULUCF sector is the only sector which accounts for absorptions and that this flux of GHG predominates over emission. The net balance of absorption and emission in the timeline considered shows stagnation in periods of economic recession and peaks in years with high incidence of forest fires.

Presentation 5: Chapter of Mitigation Actions

Jenny Mager, Mitigation Area, Climate Change Office, Ministry of Environment

This chapter was presented by Jenny Mager, professional in charge of the Mitigation Area of the OCC-MMA, who indicated that the content of the mitigation chapter was structured beginning with a review of the international panorama, the position of Chile in terms of mitigation, the actions and policies associated

with mitigation in Chile (sectorial and transversal review), the efforts made by Chile in terms of Nationally Appropriate Mitigation Actions (NAMAs), other transversal actions to achieve a low-carbon economy, application of market and economic instruments and the efforts achieved with respect to topics of MRV.

With respect to the way Chile is confronting the topic of mitigation, she presented a review of the agreements subscribed in international negotiations and the position of Chile in the international panorama in terms of emissions, emphasizing that Chile is not a relevant emitter in the international context, in relation to GHG emissions. Special mention was done to the topic of the voluntary commitment of Chile, of implementing appropriate NAMAs to reach a decrease of 20% of emissions in the year 2020, under the trajectory of the increase of BAU¹ emissions projected beginning at the year 2007.

In terms of the actions and policies of mitigation developed in Chile, the BUR considers 12 actions for the energy sector, 12 for transport, 3 for LULUCF and 8 for residues; other types of action were also mentioned associated with mitigation, including clean production agreements, strategy of sustainable construction, local efforts such as those performed by cities in terms of climate change and actions performed by the private sector.

The panorama of efforts performed in Chile was described for the NAMAs section, the multi-sectorial work developed in the public session of NAMAs; a description was made of the five NAMAs registered in the UNFCCC (Green Area, CPL, CER, Residues and CONAF) and the four NAMAS in a conceptual stage. This chapter includes other transversal actions in support of a low-carbon economy, associated with international projects such as LECB and MAPS.

In terms of market instruments for environmental externalities, a report was made on the mechanisms of clean development, and a section on green taxes, recently approved in the tax reform that emphasizes specifically the taxes on fixed CO₂ sources, was included. In the final part of the chapter, the developer team focused on explaining the work being done under the coordination of the OCC-MMA with respect to MRV and that they are working on the generation of a generic framework by homogenizing or systematizing of the work developed at the sectional level in terms of MRV for specific NAMAs.

Presentation 6: Chapter on Needs and Support Received

Paulo Cornejo, SNICHILE Coordinator, Climate Change Office, Ministry of Environment

Jenny Mager, Mitigation Area, Climate Change Office, Ministry of Environment

This presentation began with a general overview of the way this chapter was approached, with two main sections: one on support received and the other on the needs for support in terms of climate change. To develop this chapter, a project matrix was constructed with information on the projects currently underway with some type of international cooperation. The scope of the information was defined as the period from 1 January 2011 to 31 June 2014. The information collected corresponds to those initiatives in which the public sector has been involved. Academic and other activities were not considered due to lack of time and information. Five work areas were defined: reports, mitigation, GHG inventory, adaptation and international negotiation. The following types of support were considered: financial support, creation of capacities and technical assistance, and technology transfer.

The work was divided in three stages to collect information: 1) identification of the initiatives and the international support received for climate change in the country, defining if they are coordinated by the MMA or by other public institutions of sectorial Ministries; 2) crosschecking with the sources of support

¹ Business-as-Usual (development strategy without considering GHG emission-mitigating actions)

(donor), implementers and/or administrators of the initiatives in order to compare and analyze the coherence of the reported information; and 3) bilateral meetings with some sources and receptors of the support received, to validate the information compiled and to analyze the additional needs, as well as their gaps, barriers and strengths.

Then, the support received, the financial resources, main financed projects, support in the creation of capabilities and technical assistance, as well as support in technology transference were presented. The needs associated with reports, mitigation, GHGINV, adaptation and international negotiation were also presented.

Evelyne Medel, Ministry of Public Works (MOP) focal point, indicated her interest in what is reflected in this chapter, the existing barrier for the Ministries to receive funds from foreign entities to develop topics of mitigation and climate change; the Finance Ministry does not allow this because it deals with a different item than the items of each Ministry. In answer, Paulo Cornejo indicated that the chapter contains a section on international transference and the limitations and barriers found in this aspect; however, he stated the commitment to review the information to include this difficulty if it is not already in the report. In this aspect, José Antonio Prado, Ministry of Agriculture (MINAGRI) focal point, indicated that his Ministry had the same problem with the Finance Ministry, but solved it by establishing an agreement with the International Cooperation Agency of Chile (AGCI) which can receive these international financial sources, handle them and distribute them to the corresponding institution.

Then, Oscar Zarzo, from GIZ –Germany, repeated briefly the presentation identified as N° 1 in this annex, on the comments of the GIZ on the BUR chapter of Mitigation. He included an additional suggestion not mentioned previously, dealing with the need to mention the methodology that was employed to assess the reduction of emissions by the NAMAs. It is important that this information be stated clearly.

Exercise 1: Lessons learned by the participants

The professional of Ricardo-AEA, Sina Wartmann, developed an exercise that consisted in compiling the lessons learned with respect to the elaboration of the BUR, both in the process of preparation of the report and in the information it contains. The purpose of this activity was to identify challenges and lessons learned in the process. These may be transversal or sectorial (inventory, mitigation and needs and support). The main results of this activity are given here.

The challenges identified for each area were:

- Inventory:
 - The chapter for the next BUR should be a summary of the NIR.
 - The quality and depth of the information should allow identifying where to concentrate efforts.
- Mitigation:
 - To update and improve the information, in terms of mitigation (e.g. advances in NAMAs, PMR, etc.)
- Needs and Support:
 - To support information received from academia and NGOs should be included.
 - A participative process should be developed, to incorporate better quality information.
- Transversal:
 - To increase the technical capacity of the teams and to understand the priority tasks.
 - To involve the sectors so that the BUR will be part of their responsibilities.

- To use the information generated by the BUR for other purposes.
- There is an important gap in the generation of official and current information available online.
- To develop a stable system of compiling information in order to include the sectional counterparts more actively.
- The inter-Ministerial coordination should be improved.
- Templates or facsimiles should be available from the beginning.
- To make a follow-up of the information.
- There should be sufficient human and financial resources.
- To define a protocol to assure maintenance of the current capacity in the next BURs.
- To provide more details on the information.
- To develop a process of continuous improvement of the BUR.

The following points were mentioned in terms of lessons learned:

- Inventory:
 - The products of the sectors must be available in the agreed time; this makes everything easier.
 - To clarify the information and scope of each chapter (content, structure, etc.)
- Transversal:
 - To have committed professional teams.
 - To define the objectives well.
 - To respect delivery times of the inputs for each chapter.
 - Always have a “plan B” for contingencies and unexpected events.
 - There is a lack of clarity of the information to be presented, since the guidelines are very broad and ambiguous.
 - The elaboration of the BUR must be made systematic.
 - Terminology should be standardized and key definitions made clear.
 - There should be a central coordinating entity.
 - The process must be clearly planned from the beginning.
 - The focal persons did not have a consolidated BUR document to review.
 - Active incorporation of the sectors is fundamental.



Photo 2. Results of the Lessons Learned Exercise.

During the discussion there was a critic on the operating time of the GEF funds, which came too late with respect to the delivery time of the BUR. In the case of Chile, who asked these funds to develop the BUR, it was necessary to borrow funds from other international projects, which were paid when the GEF funds were received.

Exercise 2: BUR improvements in the short, medium and long term

A second exercise was a group discussion of how BUR could be improved in the short, medium and long term. The division of groups was based on the chapters of the BUR: mitigation, inventory and support. The results of each group are given below.

- Mitigation:
 - Short term (immediate measures): The most important is to include information to explain those ideas that are not clearly presented; for example, include information on the policies which support reduction of GHG, such as the Law of Energy Efficiency and the Law on the NCRE. It is also relevant to include explanatory paragraphs in order to understand better the relationship of activities linked to sustainable construction and residues sectors with the reduction of GHG. It was also suggested to include information about possible institutional agreements of the MRV defined so far, in a simple manner

since they have not yet been validated. If there is sufficient time, it was suggested to review the report, to eliminate information that is not necessary or does not provide evident input.

- In the long term (next update of BUR): It was suggested to show the results and indicators of progress of the mitigation actions. This requires defining the level of detail of the information that will be reported. Another important aspect is to report the progress of the 20/20 agreement, which requires discussion on the way in which progress will be measured. Information should also be presented on the baselines of mitigation actions, to measure their progress. It is also necessary to define the interrelation that exists with the market instruments and the MAPS project. It is fundamental to define clearly the institutional agreements and procedures (a MRV of the BUR) in order to evaluate the progress with respect to former BURs and systematize the information to be included, to define deadlines for providing information. Finally, it is important to incorporate information on mitigation from the private sector.

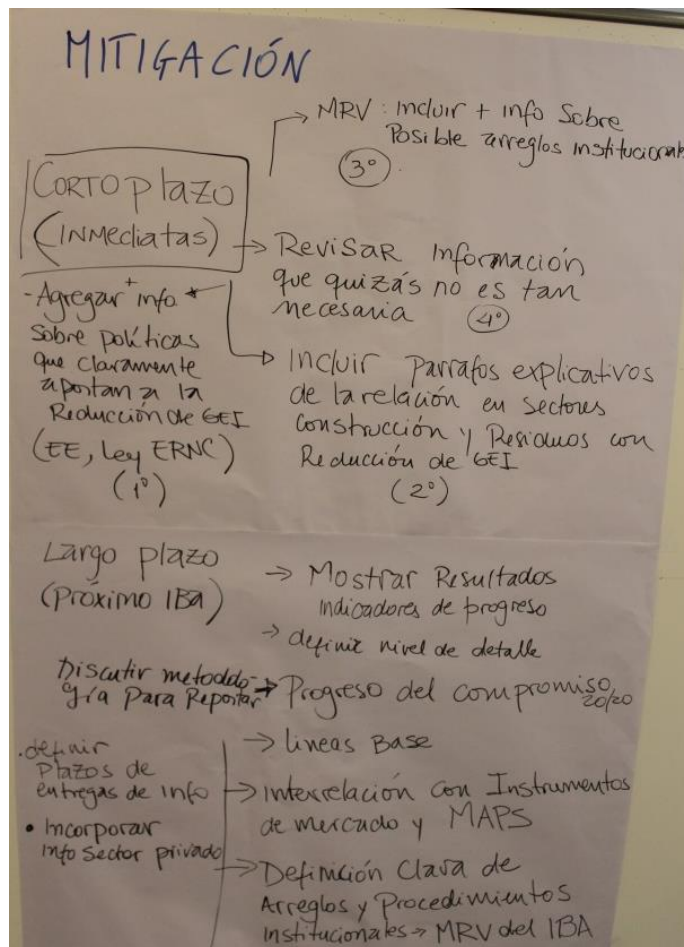


Photo 3. Results of the BUR Improvement Exercise, Mitigation Group.

• Inventory:

- Immediately: It was suggested to incorporate an executive summary to the present BUR, generate a final version in English and include an explanation of the peaks of emissions associated with forest fires. José Antonio Prado indicated that to attenuate these increases in emissions, it is important to do a study on the experiences of other countries with characteristics similar to Chile, such as Portugal and Australia, to establish a norm for accounting emissions generated by these events.
- Short term (next update of BUR): It was suggested to prepare a workplan that defines responsible persons, deadlines, budgets, etc. This workplan should first be global and not by sectors. A plan of continuous improvement was suggested, that includes improvements in the methods of calculation, in

the development of Chilean factors of emission and in the report, so that the next report will be a NIR. Before March, a Web platform is expected to implemented, that will serve for diffusion and as an archive of information of SNICHILE, similar to a tool of the UNFCCC called Locator. It is also important to improve the inter-Ministry coordination and to design a system of institutional arrangements. Finally, it is mentioned the importance of disseminate the inventory through the journalist media.

- Long term: At the end of next update, it is expected to have an update of the manuals of sectorial procedures that will favor the repeatability of the process. Also, work must be done on iterate the cycle of inventory, to consolidate detected improvements and develop the elaboration of the NIR. At any rate, it is possible to perform part of these jobs in the next year.

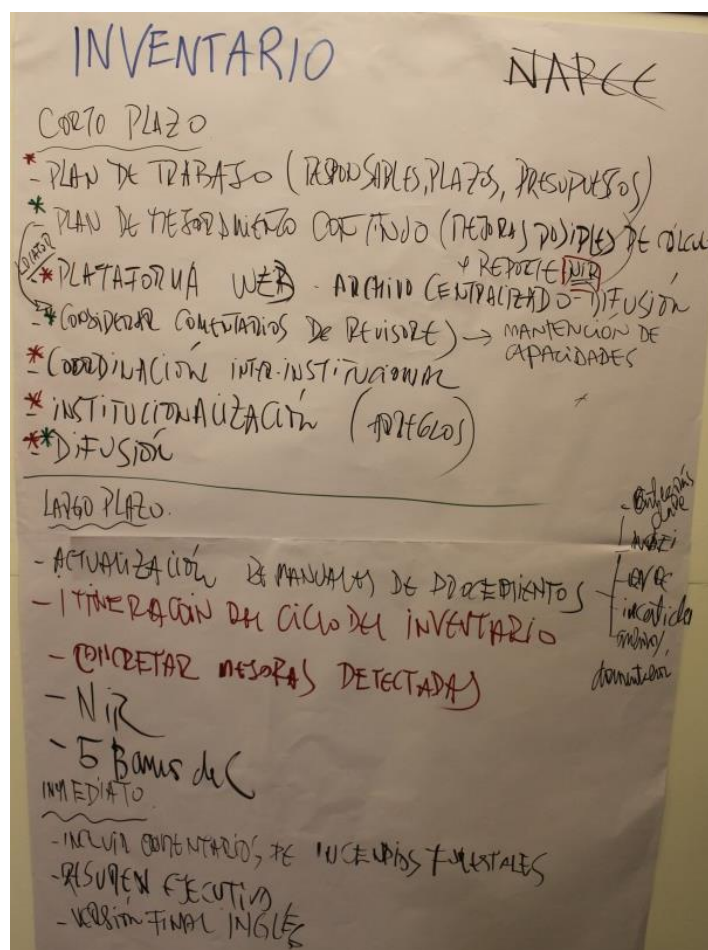


Photo 4. Results of the BUR Improvement Exercise, Inventory Group.

- Needs and Support:
 - Immediate: A restructuring of the chapter and clarification of definitions is required, with the inclusion of a section referring to the adaptation and vulnerability of Chile, in terms of financial support. Also, elaborate a conclusion of the chapter with the key messages (which will also serve to broadcast the financing needs of Chile to international donors), generate a thread that connects the different sections of the chapter, crosscheck the information incorporated with that of Annex I countries, include critical information on GEF funds (mentioned at the end of the lessons learned exercise), include a summary of the needs of the country, check the funds reported to verify that they are in the adequate category, and finally, incorporate the barriers to public services to apply for climate change resources.
 - Medium term: There were no specific suggestions.

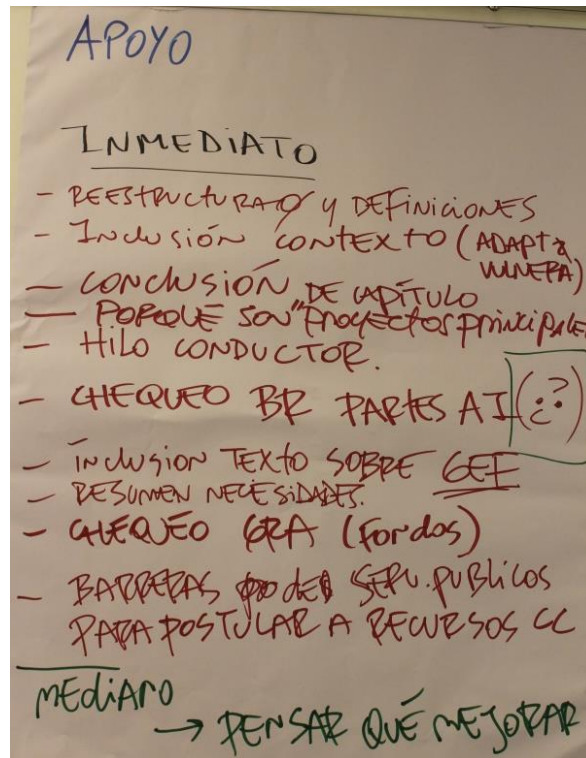


Photo 5. Results of the BUR Improvement Exercise, Support Group.

Once the exercise finished, there was a presentation of the BUR of South Africa, whose main contents are described below.

Presentation 7: Biennial Update Report of South Africa

Sina Wartmann, Consulting Agency Ricardo-AEA

The presentation began with a general overview of the structure of the BUR of South Africa, whose contents were: 1) National Situation, 2) GHG Inventory, 3) Mitigation Activities and their Impacts, 4) Financial Resources, Technology Transfer, Promotion of Capacities and Technological Support Received, 5) Support received for the BUR, 6) Measurement, Reporting and Verification and 7) Additional Information. The BUR was produced by external consultants.

One interesting aspect is that there is a vision of development of mitigation and of long-term adaptation and that the MRV is oriented to these objectives. The GHG inventory presented is brief and was based on the IPCC 2006 guidelines. In spite of being the fourth inventory prepared, there is still no established inventory structure. There is little sectorial information.

The mitigation chapter used a top-down approach; its principles are defined as the base for mitigation activities. They do not use the term “NAMA” but rather the concept “Flagship Programmes”, which does not correspond to individual activities but rather to long-term high-level programs. It is very positive that the report tables of mitigation actions mention the co-beneficiaries associated with each of them. They also incorporate information on mitigation actions of the private sector.

The support received reported in this BUR has a scope of 10 years (2000-2010). The chapter includes detailed information of the support needed, but does not explicitly state the methodology to obtain this information. There is also information about the support needed, in terms of developing capacities and technology. There is still no Support MRV system, but one is being designed. Another important aspect is

that the report contains a paragraph that mentions the barrier associated with the dis-coordination of the deadlines for the delivery of GEF funds and the deadlines for delivering the BUR to the UNFCCC.

3. MRV Workshop on Nationally Appropriate Mitigation Actions (NAMAs)

After the introduction of the participants, the workshop began with an exposition by Oscar Zarzo on the objectives and scope of the Information Matters Project, since many of those attending were first time participants in a workshop on the framework of this project. The contents of this presentation were given in the report of the First Mission of Capacity Building of the project, reason for not repeating them here. Also, since many participants were just starting out in the topic of MRV of NAMAs, Sina Wartmann gave a presentation of the general concept of MRV of NAMAs, making special reference to their objectives, the benefits of their implementation, the mapping of the chain of impacts (also called causal chain), the use of indicators for follow-up of the MRV and the use of baseline projections, that are the most probable scenarios without the application of measures. To access the detailed contents of this presentation please see the report of the First Week of Capacity Building of the Information Matters Project.

Exercise 3: Benefits of MRV of NAMAs

Four working groups were formed. Groups 1 and 4 discussed the benefits of MRV of NAMAs at the national level; group 2 discussed the benefits of MRV of NAMAs for donors and group 3 discussed the benefits of MRV of NAMAs for the international community and for other countries. The results of these discussions are summarized below.

- Group 1: Benefits of the MRV of NAMAs at national level

The group determined that the MRV of NAMAs contribute in various aspects to the national context: it helps to quantify the contribution to the national 20/20 goal, it allows evaluation of the reduction of emissions of the different NAMAs, it gives credibility to the mitigation actions, it contributes to support and give continuity to certain public policies, it avoids generating double counting of emissions, it helps to generate synergy to the developed NAMAs, it helps to generate common criteria in the follow-up of policies and actions of mitigation, it contributes to the different reports which the country must make to the international community and it facilitates the analysis of national and international funds in mitigation topics, as well as favoring the obtaining of donors.

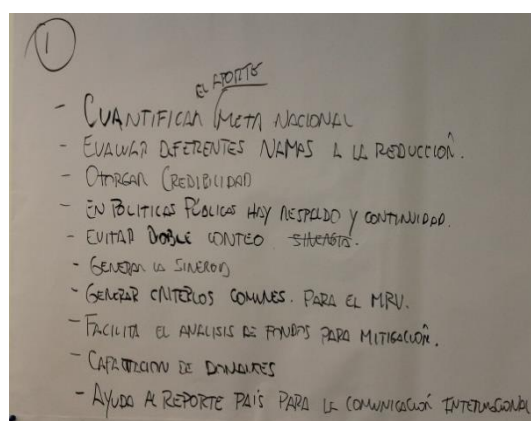


Photo 6. Results of the Benefits of MRV of NAMAs Exercise, Group 1.

- Group 4: Benefits of MRV of NAMAs at the national level

Based on a brainstorming session, this group determined as benefits, to continue complying with Chile's agreements, quantify impacts, concentrate public efforts on the focalization of certain activities (for example in terms of financing), optimization of processes, making both the population and the public and private sectors aware, preparation and prevision for the future time when obligatory reduction goals will be required and establishing institutional agreements.

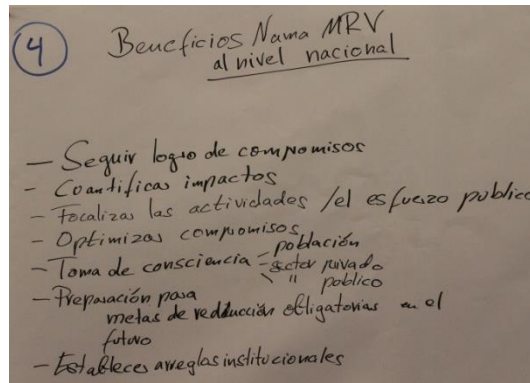


Photo 7. Results of the Benefits of MRV of NAMAs Exercise, Group 4.

- Group 2: Benefits of MRV of NAMAs at the level of donors

The benefits identified by this group are that MRV of NAMAs favor on one hand the transparency in the accountability of the donor countries to their citizens with respect to international cooperation, and on the other hand, the report of each donor country demonstrates to the international community that it is complying with its obligation to provide financing for topics of climate change. The donor may also make decisions and prioritize investment niches through the MRV. The latter point is because the MRV allows donors to follow up the mitigation actions to evaluate the transformational changes in the countries that receive this support, as well as evaluation of the compliance with the reduction objectives of the NAMA.

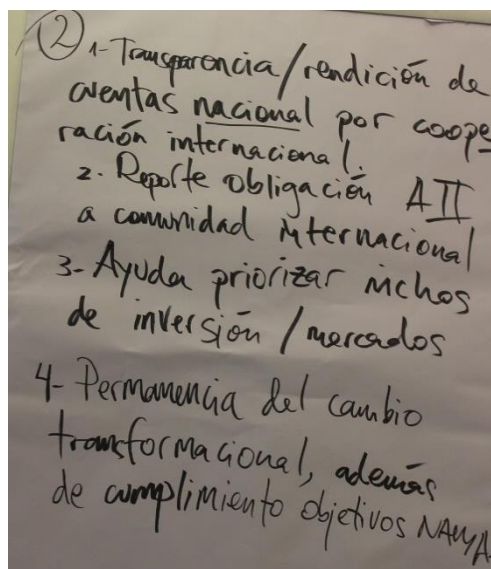


Photo 8. Results of the Benefits of MRV of NAMAs Exercise, Group 2.

- Group 3: Benefits of MRV of NAMAs for the international community and other countries

One of the benefits identified by this group is that MRV of NAMAs allows increasing the access to the best MRV practices and to mitigation actions. An implemented MRV will show if a given action reached its

specific goal or not, and in the negative case, using the indicators one may evaluate why it did not achieve its objective, also serving as an example or experience for other countries.

Thus the MRV system allows the implementing country to be a referent for the international community in mitigation actions. The MRV also allows establishing an international standard, follow up on goals and international liabilities and establish a standard of equality of conditions in terms of complying with goals for the UNFCCC by the countries. Finally, it provides continuity to the proposals generated in the framework of the convention and that all the information generated allows adjusting future goals.

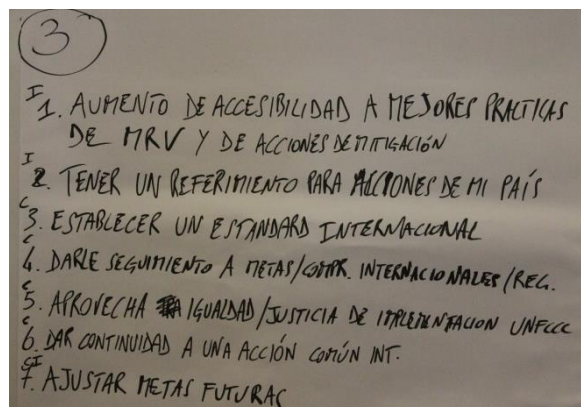


Photo 9. Results of the Benefits of MRV of NAMAs Exercise, Group 3.

Presentation 8: Interactions among mitigation activities

Sina Wartmann, Consulting Agency Ricardo-AEA

This presentation was focused to enable the participants to manage the interactions among mitigation activities and was related to the question: how do we know if a reduction in emission levels is due to one NAMA or another? The presentation talked about a hypothetical situation in which various mitigation activities influence the same changes. An example would be a policy that influences energy efficiency along with another initiative that raises the level of consciousness of energy use in houses. Both initiatives will influence emissions from energy consumption in houses; however, initially we do not know what part of the emission reductions come from one measure and what from the other.



Examples were mentioned on types of interactions on mitigation actions: simultaneous overlap and reinforcing. An ideal situation would be one in which there is no interaction between the activities, which would allow measuring and implementing an individual MRV for each of them; in this case the combined impact could be calculated simply by adding. Another situation is that in which the activities overlap, such as activities of the same sector or that affect the same flows of consumption or materials. When there is overlap it is not possible to measure the impacts individually or to obtain a combined result by summing the individual impacts, since in this case the combined impacts would be less than the sum of the two. There are many other types of interactions that are even more complex.

The interactions that can be produced when there is more than one activity in the same sector or when the activities influence the same parameters of emissions reduction (fuel consumption, flow of residues, production processes and others). To understand the interactions, in first place the causalities must be

evaluated by means of a causal chain to see if it is possible to have interactions between two or more mitigation activities. When the existence of interactions is found, there are two possibilities to manage the situation: make a joint MRV among the activities that interact, measuring the total impact and not considering the individual impacts, or make an individual MRV for each initiative. The first alternative may result in a simpler MRV, but the second one has the advantage of making available information on each individual action, which would be especially useful if in the future it is necessary to adjust the activities of each of the actions to manage the impacts.

To decide whether a joint or individual monitoring should be performed, the WRI standard of actions and policies suggests a two-step focus: 1) identify the type and scope of overlapping, and 2) evaluate if it is more adequate to make a joint or individual MRV based on defined criteria such as the objectives and the use of the results, relevance of the interactions and viability.

Exercise 4: Interaction of mitigation activities

The objective of this exercise was to discuss the types of interactions present in two mitigation sectors in Chile: the energy sector and the transport sector. The mitigation activities selected for each sector are real cases of actions reported in the BUR recently developed.

The mitigation measures that the groups had to evaluate in the energy sector were: 1) Instructions on the application of measures of energy savings in public administration; 2) Net Billing/Net Metering Law (Law 20571); 3) Action Plan of Energy Efficiency (PAEE2020); Law 20698 (20/25 Law); 5) Law Project of Energy Efficiency (included in the Energy Agenda) and 6) the Energy Agenda.

For the transport sector, the measures selected for the exercise were 1) “Change Your Truck” Program; 2) Technical Assistance Program; 3) Efficient Driving Programs; 4) Aerodynamics in Transport Programs; 5) “Change Your Bus” Program; 6) Transantiago; 7) AChEE Initiatives; 8) Labeling of new vehicles, and 9) Platform of Driving Control.

For practical reasons the same groups were used as in the previous sector, two groups for each sector. The results by group are given below.

- Group 1: Energy Sector

The umbrella that contains all the others is measure N° 6 (Energy Agenda). There are relations between measures 3, 5 and 1, all associated with topics of energy efficiency; measure 3 is wider, containing the other two, while measure 5 contains measure 1, which is more specific. Measures 2 and 4 are associated with topics of generation, but it was determined that they do not overlap, since one deals with generation by individuals while the other is defined for generators at the level of the central energy net.

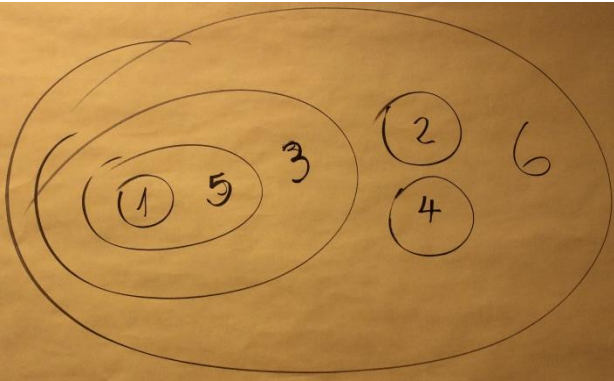


Photo 10. Results of Exercise Interactions of Mitigation Activities, Group 1.

- Group 3: Energy Sector

This group presented two parallel focuses. The first focus was that, given that there are more than two measures involved with overlap and reinforcement that are not simple; a more abstract analysis should be formed, leading graphically to a three-dimensional scheme. This scheme has two general categories to classify the measures, efficiency and production. In the first category, the measures focused on the public sector, measures 1, 5 and 6 are independent of measures 2 and 3 which are aimed at the private sector (measure 3 referring to the seal of energy efficiency, vehicle labeling and system of energy qualification of new houses). These last measures overlap. In the production category, the incentives to inject excesses to the network and the increase of the NCRE will contribute to the improvement of the central network, which will result in an increase of the efficiency. Reinforcement effects are seen between the improvement of the network and the development of projects of sustainable energy. The efficiency and production categories are also related and overlap.

The second focus defined, as did the other group that worked on energy, that measure 6 is the umbrella that contains all the other measures. In contrast to the other group, measures 1, 3 and 5 were not nested, because so far it is not known if measure 5 will contain labelling topics or if the management that will be given to the topic will allow the decrease in the demand of public places. Also, measure 3 has a determined finishing date (2020), while measure 5 will persist for a longer time. For these reasons, it was defined that measure 3 contains measure 1, and both overlap with measure 5. Measures 2 and 4 overlap, but are oriented to topics of self-sufficiency.

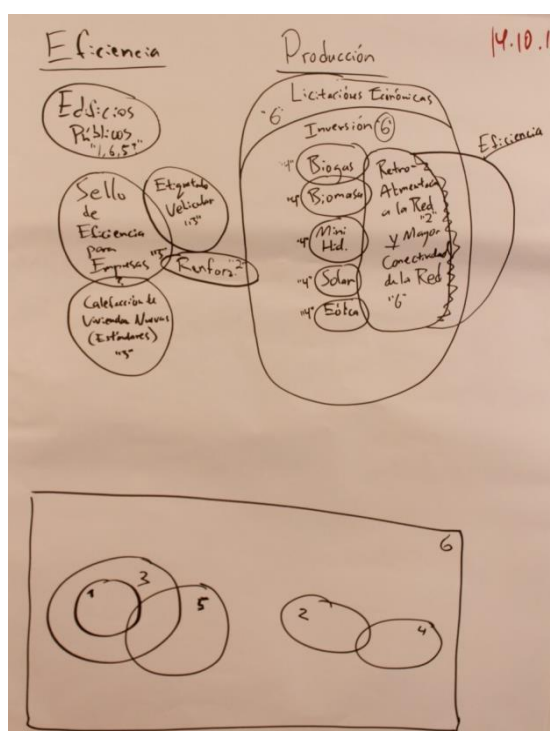


Photo 11. Results of Exercise Interactions of Mitigation Activities, Group 3.

- Group 2: Transport Sector

There is a relation among measures 1, 2, 3 and 4 that are measures linked to freight transport. Measures 2, 3 and 4 are associated with training and technical assistance, thus these were evaluated as a different interaction. According to this group, measure 2 is the most global; it contains measure 3 which in turn contains measure 4. Measures 1, 2 and 3 have a different interaction; measure 1 is the most specific and with least impact and is contained in measure 2, which is in turn contained in measure 3. Measures 2 and 3, since they pertain to training, reinforce measure 1.

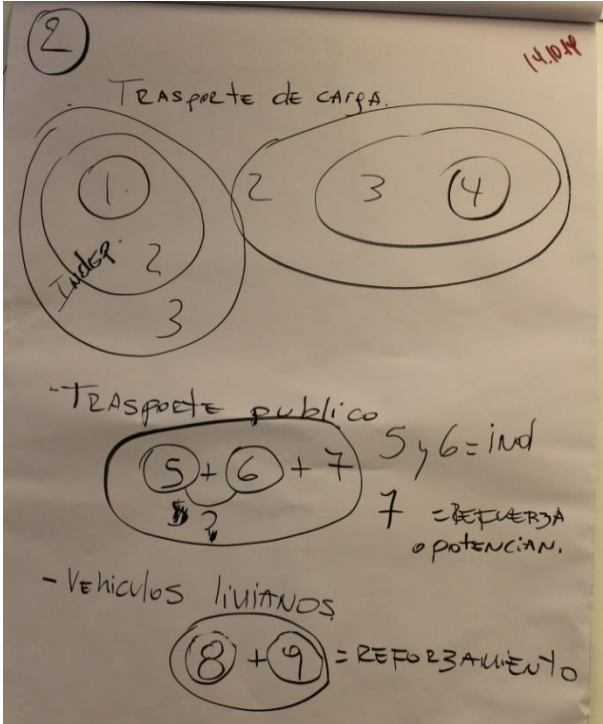


Photo 12. Results of Exercise Interactions of Mitigation Activities, Group 2.

The public transport sector is reflected in measures 5, 6 and 7. With a simple approach, although the impacts of measures 5 and 6 may be added since both consist in the renovation of public transport, there is no overlap between them since measure 5 has regional scope. Measure 7 encompasses measures 5 and 6 and reinforces them, since it is related to training by the Chilean Energy Efficiency Agency (ACHEE). The other measures that interact are 8 and 9, which are aimed at light vehicles. Their impacts are independent, however, if both are applied together they will generate reinforcement dynamics. In other words, the total impact will be greater if both measures are implemented.

- Group 4: Transport Sector

The umbrella identified by this group is the reduction of emissions associated with moving vehicles. The mitigation measures that are aligned with this umbrella were classified according to three items: freight transport, passenger transport and light vehicles. The measures associated with light vehicles are being incorporated recently, while for the transport of passengers and freight they are relatively old. For measures 1, 2, 3 and 4, those associated with freight transport, the group did not reach a consensus with respect to the type of interaction they present. In the measures associated with passenger transport, i.e. measures 5, 6 and 7, reinforcement was seen. Finally the measures associated with light vehicles, measures 8 and 9, are independent and do not overlap.

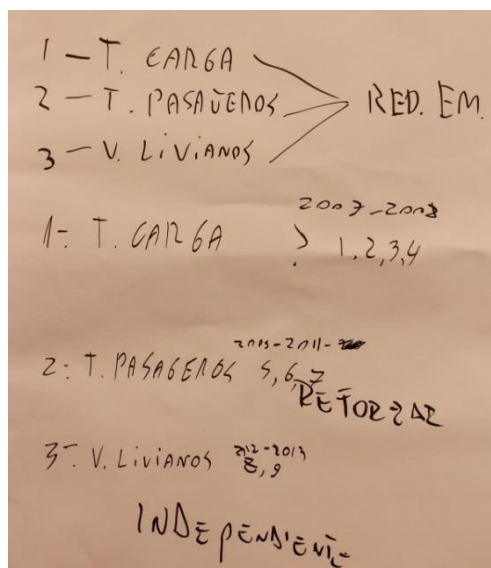


Photo 13. Results of Exercise Interactions of Mitigation Activities, Group 4.

Presentation 9: Putting in Practice MRV systems in general

Sina Wartmann, Consulting Agency Ricardo-AEA

The central topics of this presentation were the MRV Plan, Quality Control/Quality Assurance (QA/QC) and unexpected events in the MRV. To begin, it was explained that, in order to make a MRV continuous over time, one must insure that the budget, personnel, data, information technologies, etc. are available. Another highly relevant point is to have a written record of the processes, activities, responsibilities and deadlines. This is achieved by designing and producing a MRV Plan. The Office of Climate Change, with technical support from the consultant Ricardo-AEA, is currently developing a Generic Framework for MRV, which also considers the design of a MRV Plan. One kind of input that the development of this plan requires is indicators, each one with information on the value of its baseline, focus, suppositions and uncertainty of the baseline, objective value, frequency of the MRV, sources of data, duration of the MRV, the responsible entity that compiles and evaluates the data, and finally, the process of quality control that will be used. It is also important to consider that to have continuous and stable access to the information requires maintaining cooperation agreements with the entities that provide the data, especially in the case of public institutions. For example, England uses Data Supply Agreements (DSA) to maintain a constant flow of information to elaborate the national inventory of greenhouse effect gases. For the case of MRV of NAMAs, this approach is very useful; it allows making official cooperation and insures the quality of the data in the required time frame and format.

Another fundamental aspect that should be considered to make a MRV is to perform Quality Control (QC), which consists of internal processes to assure that the information available is adequate. Also, another very efficient tool is Quality Assurance (QA), which is an external check; this may be performed in the same institution, but by personnel not involved in compiling or evaluating the data. The combination of these two approaches is the QA/QC system. In Quality Control, not only the data and information sources should be reviewed, but also the documentation, which should maintain a record of the data, focuses and assumptions considered. The relevance of this is to assure the continuity of the process, including the case that personnel and responsible persons change. The MRV is a type of quality assurance.

The last central topic of this presentation refers to unforeseen events that may arise during the development of the MRV and the importance of always having an alternative plan to overcome the unexpected hurdles.

Examples of unforeseen events are illness of a key person, loss of information, discontinued data sources, change of government and thus its personnel, etc.

Exercise 5: MRV Plan for mitigation actions

A new exercise was performed to put into practice the topics of the MRV Plan for mitigation actions, taking into account possible unforeseen events. Three groups were formed: energy sector, transport sector and agriculture sector. The objective was to prepare the table for the MRV Plan based on the following defined indicators: “CO₂ emissions that result from energy consumption in public buildings” for the energy sector, “consumption of fuel from truck transport” for the transport sector and “Organic carbon in agricultural soils in a given area where there are there 15 farms” for the agricultural sector. During the development of the exercise, and when there were only a few minutes left to finish, the trainers interrupted the groups to indicate that unexpected events had occurred. Each group had to choose two cards at random, each of which was an unexpected event that they had to confront. When the results were presented, each group had to answer the following questions: How did you fill out the table? What unexpected events did you have? How did you confront these events? The results are presented below.

- Group 1: Energy Sector, indicator “CO₂ emissions that result from energy consumption in public buildings”.

To fill out the table, this group used a top-down approach, column by column, analyzing each of the factors. A discussion was generated in the group on the perspectives and the scope they would consider. The indicator they decided to evaluate was the consumption of electric energy and fuels in public buildings, measured in Kwh_{eq}/m², to measure both types of energy, and to evaluate both by m² and by employee, in order to represent not only the capacity of the building but also the quantity of persons that work there. The value of the baseline defined was the monthly mean for each building in a given year, measured by the bills, measures or records of each building. The frequency of measurement would be monthly. The entity that should provide this information would be the administration of each building. The responsible entity would be the Energy Ministry. The quality control proposed is to verify the data randomly in the field. The unexpected events given the group were a) necessary data were lost, and b) the leader of the group goes to live abroad, not leaving a record of the data. Faced with this, the group recommended having always a backup in a server or a cloud data storage, with access for all the members of the team. If this measure had not been implemented before the data were lost, the group proposed to have meetings with the stakeholders and make estimations with not very conservative criteria.

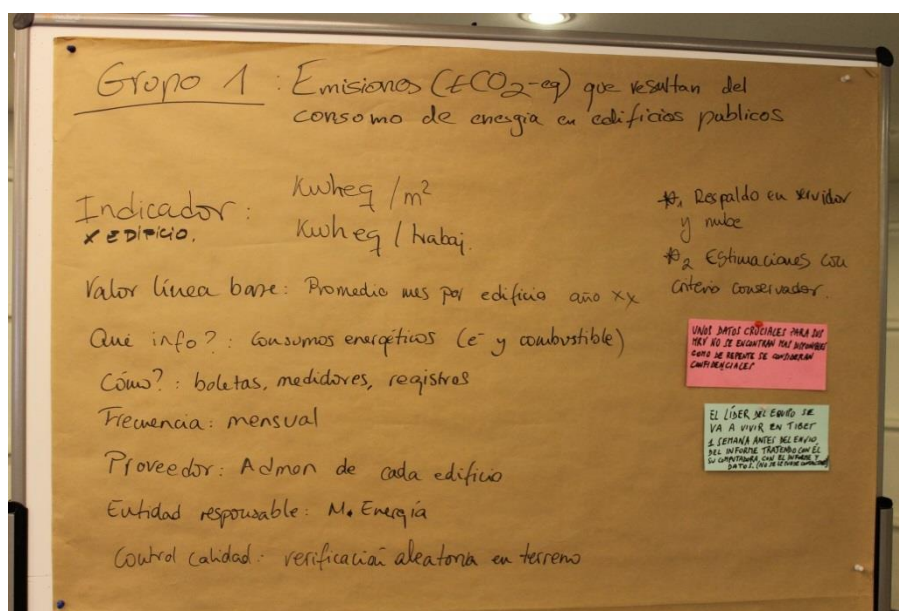


Photo 14. Results of the Exercise MRV Plan Group 1.

- Group 2: Transport Sector, indicator “consumption of fuel from truck transport”.

According to the discussion developed by this group, the value of the baseline would be a parameter of tons transported per liter. The baseline may be obtained from the data of the MAPS-Chile project and from the Ministry of Transport and Telecommunications. The assumptions of the baseline would be that the categories of the transport vehicles may be obtained from one of the sources named and that the level of fuel consumption depends on the vehicle age, activity and ambit of the load vehicle. The MRV frequency would be one year. The sources of information would be the Public Works Ministry, using information from weighing stations, the Superintendence of Electricity and Fuels (SEC) with information on the registered vehicles, available national studies and the Chilean Energy Efficiency Agency (AChEE). The responsible entity would be the Ministry of Transport and Telecommunications together with the Ministry of Energy. The quality control would be performed by the AChEE, which is able to work in the field, the SEC and the Ministry of Environment, through the National GHG Inventory System.

The unexpected events this group had to confront were a) that the funds for the development of the MRV plan were suspended for administrative reasons when the plan was 50% completed, and b) some crucial statistics of the MRV were interrupted without warning. With the second event, the group had to discard the first assumption associated with the source of the group of machines, thus it had to forget the value of the baseline associated with tons and consider the value of this activity. After receiving the unexpected events, the group changed the frequency of the MRV from 1 to 2 years and opted to make only the Energy Ministry as the responsible entity, excluding the Ministry of Transport and Telecommunications.

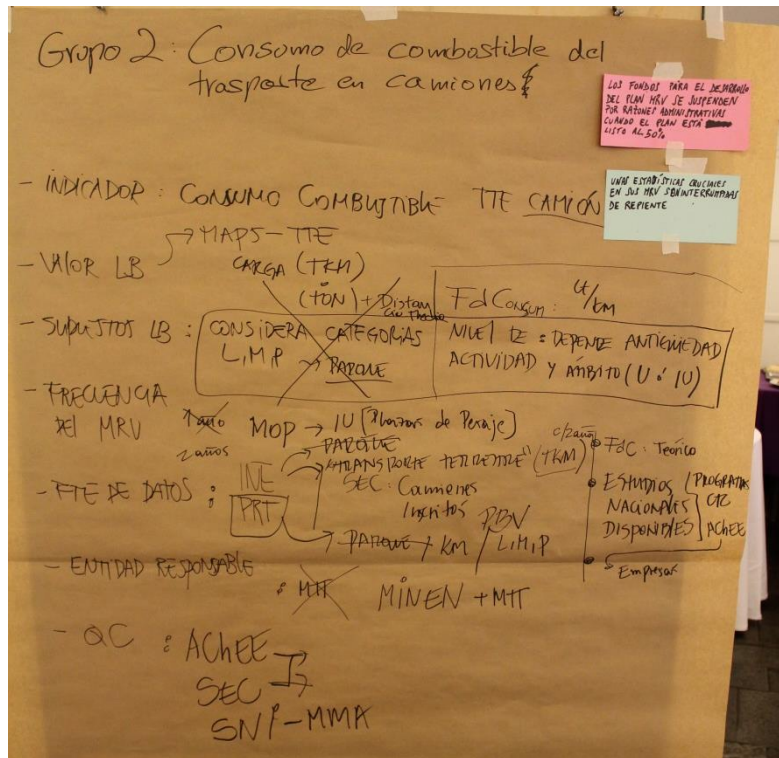


Photo 15. Results of the Exercise MRV Plan Group 2.

- Group 3: Agriculture Sector, indicator “organic carbon in agricultural soils in a given area where there are there 15 farms”.

The baseline for this group would be the soil organic carbon (COS) in the 15 farms in the year 2014, which would be measured by lab analysis of the first 20 cm of soil, determining the organic carbon and apparent density. The assumptions are that the soil use corresponds to permanent prairies (minimum 10 years) without animal grazing, and the samples will be analyzed in accredited laboratories. The MRV frequency would be medium to long term, since maintaining SOC in prairie soils requires long time periods, although the verification would be performed every five years and the reports of the different practices would be annual. Uncertainty would be very high, since the sampling error may be very great and this could hide the long term gain in COS. The data would be supplied by the Institute of Agricultural Research (INIA), the Office of Studies and Agrarian Policies (ODEPA), the Agriculture and Livestock Service (SAG), the Institute of Crops and Livestock Development (INDAP), the University of Concepción and other universities. The responsible entity is the INIA, which would provide the baseline data, the records and calibration of soil uses, the practices (recorded in the fields every five years) and sampling. The quality control would be performed by ODEPA, by means of a contract with an external university that would perform the audits.

The unexpected events the agriculture sector received were: a) the government falls down suddenly one month before the report is to be sent, and b) the main computer with all the data of the NAMA stops functioning two weeks before the report is to be sent. The first event would have little effect, because the capacities would be created; there would be protocols and recorded documents, and thus a change in the government would not cause problems. The second even would also not be a great impediment, since the teams of the different participating institutions would use external servers, thus all information would have backup.

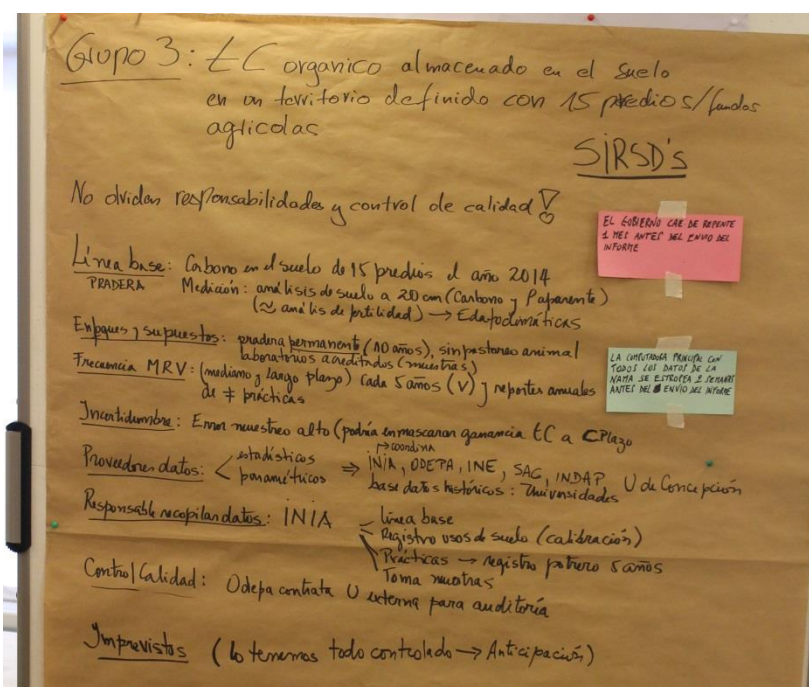


Photo 16. Results of the Exercise MRV Plan Group 3.

4. Workshop on MRV of Greenhouse Gases Inventory

The first part of the workshop allocated the 4th Working Meeting of the National System of GHG Inventories of Chile (SNICHILE). The objective of this meeting was to expose the chapter of the Inventory (GHGINV) of the BUR, the mechanisms of dissemination programmed, the short term improvements, and the work chronogram with the next steps to be followed.

Presentation 10. National GHG Inventory of Chile, 1990-2010 time series.

Paulo Cornejo, SNICHILE Coordinator, Climate Change Office, Ministry of Environment

The first presentation, given by the Coordinator of SNICHILE, was a repetition of the presentation given in the BUR Discussion Workshop (Presentation 4, Chapter GHG Inventory of the BUR), which consisted in presenting the contents of the chapter and the results of the inventory, in a preliminary basis. The difference was the previous exposition was that he made a deeper analysis of the results, both at national and sectorial levels.

For 2010, the preliminary results show that the greatest national emissions come from the Energy sector (74.7%), followed by the Agriculture sector (15.1%) and the Industrial Processes sector (6.1%). The Residues and USOP (use of solvents and other products) sectors had the lowest emissions (3.9% and 0.3%, respectively). The emission peaks associated with years with high incidence of forest fires was also notable.

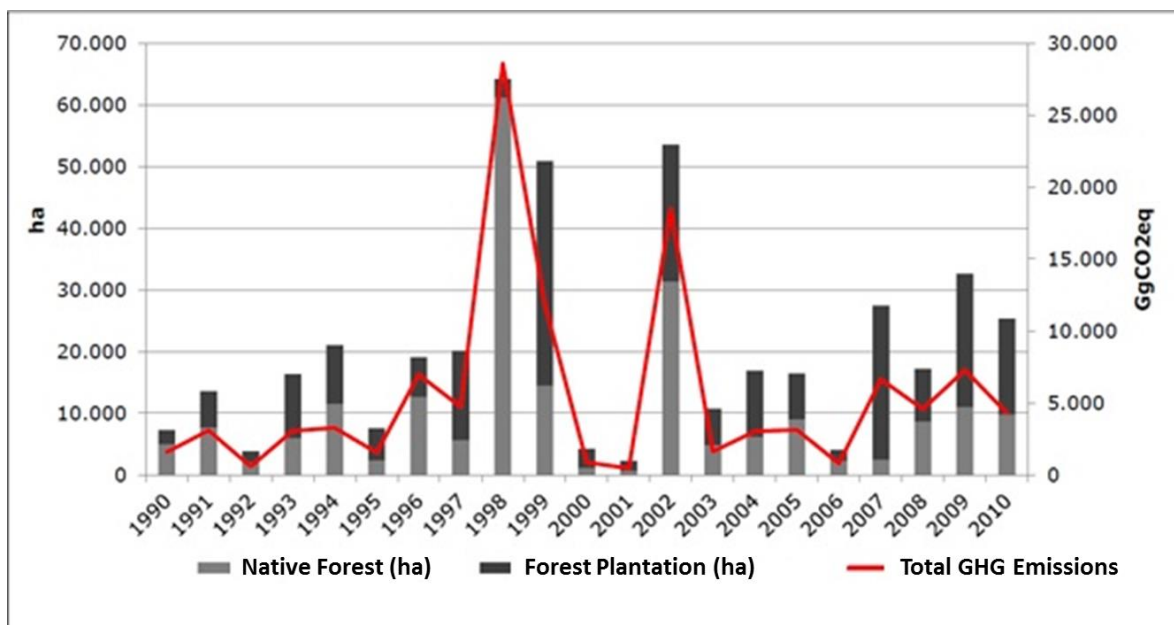


Figure 1: Forest fires, tendency of the area affected annually by fires and emissions of GHG in the period 1990-2010 (taken from the presentation of Paulo Cornejo).

Another important point is that refrigerant gases began to appear in the year 2005, with an exponential increase from then. Although currently these gases do not contribute that much to the total of greenhouse gas emissions, if the current tendency is maintained they may contribute importantly in the future. The situation generated by the interruption in the supply of natural gas from Argentina produced a significant increase in the emissions of this sector, since the energy sources used to replace were based in fossil fuels with greater emission factors than natural gas.

One of the preponderant factors in the agricultural sector with high uncertainty is the use of nitrogen fertilizers, given that the country does not have detailed information subdivided by use. Jaqueline Espinoza, from the Office of Agrarian Studies and Policies (ODEPA), indicated that more detailed data are currently being generated, which will allow a more precise update on this information in the next inventory.

The LULUCF sector, associated with forestry lands, shows carbon capture from second growth forests, forest tree plantations and roots. This sector also presents emissions due to forest harvesting, use of firewood and forest fires; as indicated above, the last are responsible for the evident emission peaks that are observed in Figure 1. The item of biomass expansion of roots is important, since it is being considered for the first time in the inventories.

The important components of the waste sector deal with solid residues, including landfills, garbage dumps and CH₄ recovery which are accounted in the energy sector.

Presentation 11. The next steps to be performed for the SNICHILE

Paulo Cornejo, SNICHILE Coordinator, Climate Change Office, Ministry of Environment

The SNICHILE Coordinator presented the next steps in the process. There are various ideas about how to disseminate the information. Some of the possibilities that are being managed include creating a brochure with the results of the Inventory, holding dissemination activities in which all sectors participate presenting their results and press releases in different communications media once the BUR of Chile is launched. Also, as a dissemination measure and to assure the information generated by this inventory, a Web Platform is

being developed by SNICHILE, which is expected to function as a reservoir of information, allowing access to all sectors of the inventory, in order to systematically update the information for the next inventories.

The last section of the presentation was oriented to plan the improvements that can be applied to the inventory in the short and medium term. Firstly, bilateral meetings are expected to be held with all the sectors to create and maintain capacities; these meetings will attempt to identify more clearly the improvements that can be made and the existing needs to fulfil the several objectives. These meetings will be held with the Ministry of Agriculture (MINAGRI), Office of Agrarian Studies and Policies (ODEPA), National Institute of Statistics (INE), Institute of Crops and Livestock Research (INIA), National Forestry Service (CONAF), Forestry Institute (INFOR), Ministry of Environment (MMA) and Ministry of Energy (MINENERGIA). It is also expected to clearly identify the responsibilities that each organism will have in the development of the next inventory. It is also suggested that, in the next update of the BUR, each sector assume developing its part in the inventory chapter and that this document have the structure of a NIR.

Below is the chronogram proposed for the next two years.

Activities	2015												2016					
	E	F	M	A	M	J	J	A	S	O	N	D	E	F	M	A	M	J
Bilateral training meetings																		
Official work plan																		
Implementation of improvements																		
Fourth meeting of SNICHILE																		
Upgrade of INGEI																		
Updated sectoral procedure manual																		
Compilation of INGEI																		
Elaboration of NIR and CRF																		
Preparation of INGEI chapter for IBA 2016																		

Figure 2: Work chronogram for the next two years for SNICHILE (taken from the presentation of Paulo Cornejo)

Exercise 6. Analysis of possible improvements in the sections of the Inventory.

An exercise that consisted in compiling the lessons learned with respect to the elaboration of the inventory, the process of compilation of information, choice of emission factors and preparation of the report, was performed. The aim of this activity was to identify possibilities of improvement for the next inventory, to be performed next year. The main results of this activity are presented here.

- Energy Sector.

To consolidate, improve and update the information that will be gathered in the field for the next inventories, MINENERGIA is developing a strategic association with INE. It was also mentioned that, with the information the Ministry has available, the data may be reorganized, substantially improving the previous effort in which there was only information at the country level through the Energy Balance.

One fundamental point to be considered in the next inventories is the generation of capacities and responsibilities in MINENERGIA, since it does not have an office or unit in charge of the inventory, and some of the employees who worked on the inventory were replaced with the change of government occurred in March this year. The help of the MMA will be needed to train the new personnel; it has indicated that it will be happy to collaborate. Among the short term actions is to hold this type of meeting and training with all the sectors.

- Industrial Processes Sector.

A key point that was identified for the development of the next inventory is to have the collaboration of CPL (Clean Production Council, part of the Ministry of Economy, Development and Tourism), to obtain the best data of the industry, especially from the cement industry, whose producers are reluctant to freely provide the data, since they suppose that their high emission levels would imply higher taxes. The professionals of Poch Ambiental, who developed the first inventory, know that the cement, iron and steel industries have emissions data that may be of tier 2; having this information would potentially provide considerable improvement in the accounting of the emissions. Also, it was found that the information provided in this inventory on nitric acid may be improved, since for the present update there was not sufficient information available. In the topic of HFC, there is the possibility of obtaining more detailed information beginning with the use of refrigerant gases.

- AFOLU Sector (Agriculture plus LULUCF)

There is a unanimous opinion among the representatives of the MINAGRI that this one has been the best inventory performed by the sector. However, it is important to continue working to decrease the level of uncertainty, which requires training in the area of statistical analysis of data and uncertainty. It is expected that INE will collaborate in this.

- Waste Sector

A number of problems occurred in the development of the inventory, mainly with the compilation of information. The private sector handles the management of residues and is not willing to supply the necessary information. It is expected to improve this point to have access to the data that best represent this sector.

An important point was the discussion about who has the best information about certain activities, such as waste disposal and its use as an energy source. Complementarily, Yasna Rojas of the INFOR indicated that MINENERGIA may possibly have better data with respect to emissions due to biomass consumption and its use as firewood, thus a joint effort is needed.

- Transport Sector

It was indicated that it is possible to perform a better inventory, to obtain better data and to provide greater details on the information of this sector. This would be possible with the help of MINENERGIA, especially of SEC (Superintendence of Electricity and Combustibles) and its annual statistical report.

At the end of this section, Paulo Cornejo presented the chronogram for future work from today to the next inventory, emphasizing the dissemination of the results and bilateral meetings with the sectors, to assure that all the institutions have the capability to perform the next update of the Inventory.

Presentation 12. The GHGINV chapter of the first BUR in Chile: Transversal topics.

Sina Wartmann, Consulting Agency Ricardo-AEA

This presentation reviewed the comments made by professionals of Ricardo AEA on the GHGINV chapter of the BUR of Chile. The first indication was that this chapter seemed more like a “mini-NIR” rather than a BUR chapter. With respect to the point of institutional arrangements of the GHGINV, the chapter is well structured, but it is suggested to add an item on lessons learned, future budget and availability of trained personnel to perform the inventories.

It was also indicated that there was a lack of completeness in a few categories that were not estimated due to lack of data; it is not clear why this gap of the information existed. One example is the lack of quantitation

of emissions of SF₆. Given the characteristics of the country, these emissions should be included, thus it is suggested to include this category in the next GHG inventory.

The reviewing team was pleased to note that the reasons why the IPCC 2006 guidelines were used were declared, and also that they were well presented. They mentioned that the point on analysis of key categories and uncertainty was presented correctly and clearly. They also liked the clarity with which the analysis of the key categories and uncertainty were handled.

Finally, in the point on quality control and assurance (QA/QC) of the GHGINV chapter, it was suggested to incorporate information on how the process was performed in each of the sectors and what are the roles and responsibilities of each institution.

Presentation 13. Review of GHGINV Chile – BUR 2014. Situation of Emissions Department, UBA, Germany.

Oscar Zarzo, GIZ - Germany

This presentation discussed the comments of professionals of the Federal Environment Agency of Germany (UBA) on the GHGINV chapter of the BUR. The reviewing team indicated that the result of this chapter is generally adequate, robust and well-structured, both overall and in the sectors. However, they indicated certain deficiencies, such as the lack of a list of the authors and those responsible for each sector, and an absence of summary tables with the fundamental parameters and data, in order to have an idea of the key source categories in the country and the data on activities and emissions. One suggested recommendation was to report in the next inventories the improvements that will be incorporated and those that are still pending for the future.

In terms of the methodology employed, the reviewers praised the use of the 2006 methodological guides, but recommended reviewing the Potentials of Global Warming, since those that were used were of the year 1995; the comparability with other inventories would be improved by using those values of 2006.

It was detected that there are several categories that were not included in the inventory, but in most cases these were categories that do not exist in Chile. This is not true for the SF₆ emissions of the energy sector, which should be incorporated in the next inventory if possible. It was also indicated that the QA/QC process was not clearly defined in the chapter.

In addition to the general commentaries, the UBA professional team reviewed each sector. Their main commentaries are given below.

- Energy Sector

It was mentioned that in the sub-categories 1A1b, 1A2, 1A2, 1A4 and 1A5, there is no information about the caloric potentials to perform the calculation. It was also indicated that it is not clear why natural gas appears with large participation during some years, reducing the emissions, and why later there was an increase. This point should be expressed more clearly in Figure 25.

- Transport Sector

There should be more detail about motor vehicles (private cars, motorcycles, public transport, etc.). Given that in the GHG inventory it is indicated that there was level 1 reporting since the necessary data to estimate country-specific emission factors do not exist, it was proposed that the COPERT model (used by the Ministry of Transport and Telecommunications) should be used to improve the estimate of highway transport, to have level 2 reporting.

- Industry Sector

It was identified that more data on cement is needed. The production of cement is an important point in which the GHG emissions may have been overestimated, since it deals with the national production of cements, including the quantities exported but not those imported. Also, for the category 2A7 (production of glass) it was recommended to review the activity data to avoid overestimation (the 50% proportion is very high for all the processes).

Within the Chemical Industry, it was considered that the proposal to improve the emission factor of ethylene is very expensive and inefficient, according to the experience in Germany. More completeness of the sources is needed, given that only methanol, ethylene and nitric acid are reported. For the HFC, it was recommended to include more detail about the data of this activity. For the Metallurgic Industry, it was recommended to include a description of the methodology utilized. Finally, as suggestion for improvement, it was recommended to improve the activity data through an agreement with the private sector; given that there are few companies, the information of the sector would have better quality.

- Waste Sector

The comments on this sector were not compiled in time to discuss them in this workshop; however, as soon as they are available they will be sent to the GHGINV Chile team.

- AFOLU sector

For a better understanding of this sector, it was suggested to indicate the climatic characteristics of Chile and include a map that clarifies why there is not a logical order in the numbering of the regions of the country. There should be more transparency in the activity data (for example, it is not known how many animals of

each type there are in Chile, how much fertilizer is used, etc.) and there is also a lack of information about the emission factors used. Along with this, there are no activity data for biomass, which is very relevant for the capture of emissions.

It was also detected that there is a lack of description of the uncertainty and what procedure was used to verify it. Finally, it was recommended to divide the emissions of the sub-categories of CH₄ and N₂O and not provide only the total emissions.

Exercise 7. An GHGINV Manual

A new exercise was performed in order to define the basis for a manual with the relevant information for the preparation of the GHGINV. Four groups were formed: Energy and Industrial Processes, UTCUS, Residues, and Agriculture. The work was divided into two steps:

- In step 1 the groups had to identify the information which is already documented, considering activity data, emission factors, responsibilities, data sources and providers, assumptions used for the calculations, checks (quality control), indicating who reviews, how and when, and indicate who, how and where data are stored.
- In step two, the groups had to identify the lacking information to document and define the method for an adequate compilation (who, how, where). The results are presented below.

- **Agriculture.**

Step 1:

- Activity data: the main activity data are provided by INE from the National Agriculture Census, which is performed every 10 years. For data between censuses there is information from ODEPA, which compiles data from different sources, obtaining estimations and annual projections within the agriculture sector.
- Emission factors: mostly default emission factors of the IPCC were used, although tier 2 emissions factors were used for cattle (enteric fermentation and CH₄-manure management) and swine (CH₄-manure management) populations.
- Responsibilities: are mainly of INE and ODEPA, which are the generators of the baseline information, as well as the INIA, which is in charge of collecting this information for the GHGINV.
- Data sources and providers for the sector: ODEPA and the National Customs Service that serve as data validators, and SERNAGEOMIN for the topic nitrogen fertilizers production.
- Calculation assumptions: mainly projections and census data.
- Quality control of the data: are performed by each official State organism.
- Finally, it was recommended that the data archive be incorporated in the Web platform that MMA plans to develop, and complementarily that the information be backed up in two servers available in different institutions, to insure the security of these data.

Step 2:

It is expected to improve the data between censuses, both in the livestock and crop sectors, and that this information be available each time the GHGINV is produced.

- ODEPA and INE should be in charge of compiling the information that is lacking.
- The coordinators of GHGINV can support this process by favoring the connection among organisms and training the personnel.

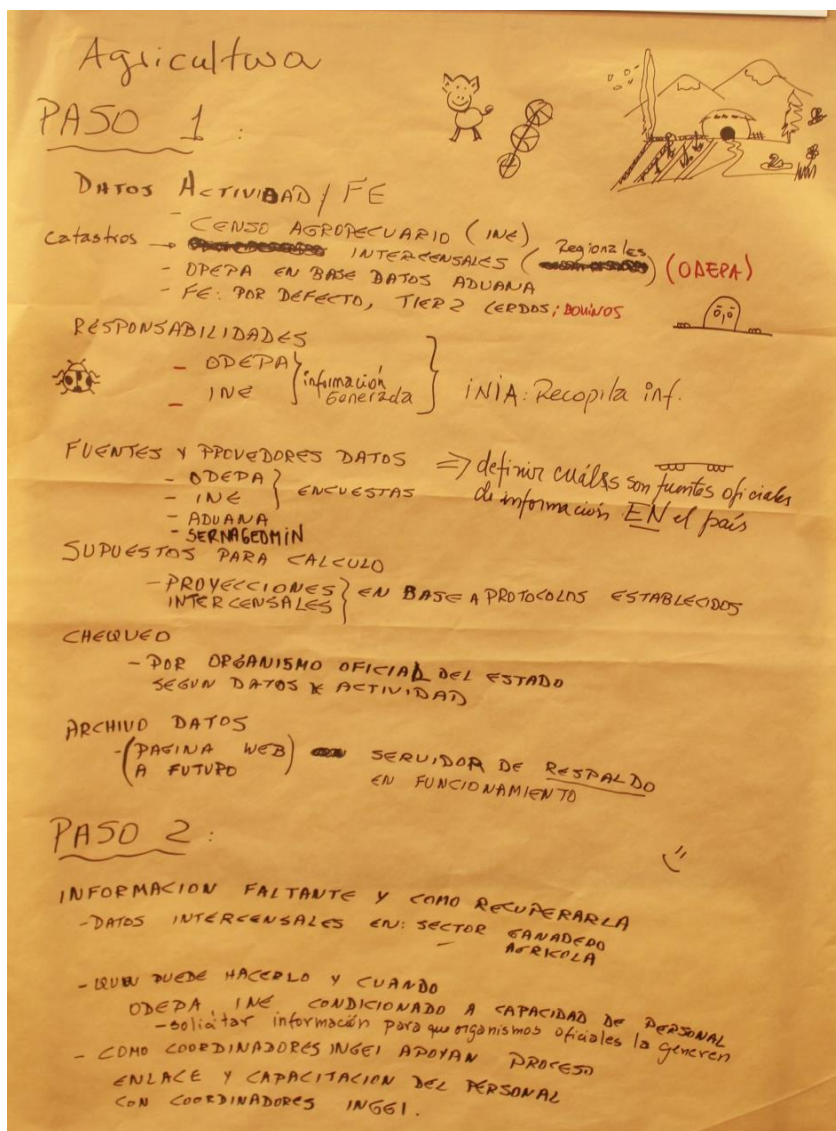


Photo 17. Results of the GHGINV Manual Exercise, Agriculture Group.

- IPPU (Industrial Processes and Uses of Products).

Step 1:

- Activity data: information was obtained from public data and private sector companies.
- Emission factors and uncertainty: emission factors of the 2006 IPCC were used.
- Quality control: the information was not documented. There was more than one external revision.
- A user's manual of the sector was developed.
- Responsibilities: The responsibility for this inventory was the private consultant entity "Poch Ambiental".

Step 2:

- The information which is lacking and can be added to the next inventory is level 2 data on cement, iron and steel; thanks to companies and national statistics, it may be possible to reach level 3 in lime production.
- In order to include quantitative data on SF6, information would be needed from various sources, such as the CNE (National Energy Commission), National Customs Service and INE, among others, and for other uses of carbonates, data from INE and National Customs Service would be required.
- How can the GHGINV coordinators support this process? By having work sessions that involve the public and private sectors, coordinating relevant institutions such as INE, National Customs Service, PRTR and other section teams.

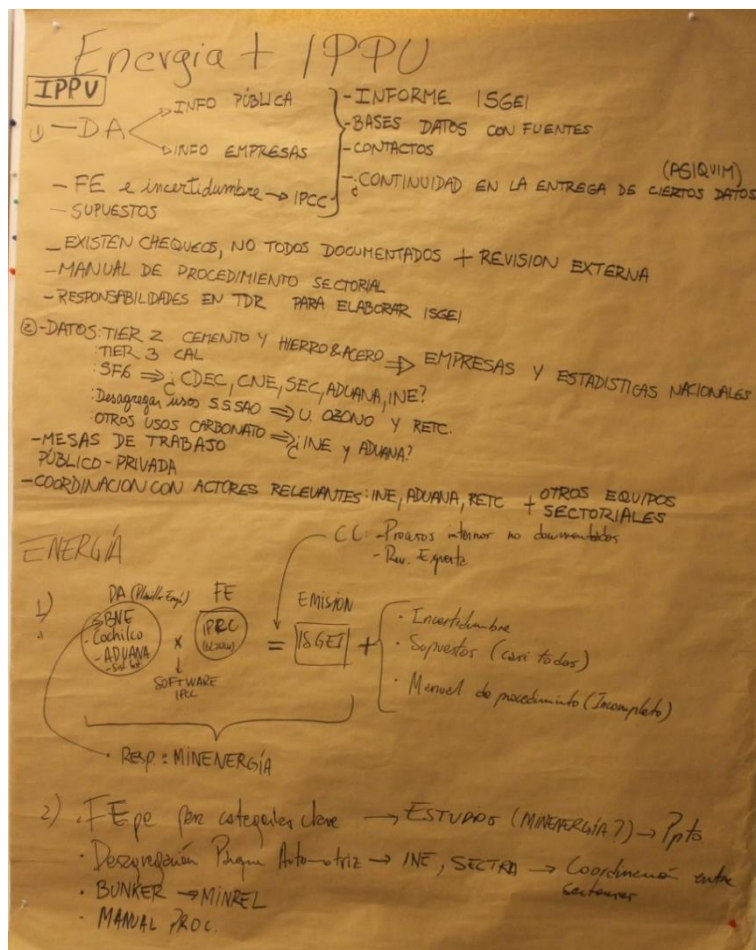


Photo 18. Results of the GHGINV Manual Exercise, Energy and IPPU Group.

- Energy

Step 1:

- Activity data: The main data available are those from the National Energy Balance, COCHILCO (Chilean Copper Commission), National Customs Service and the Central Interconnected System.
- Emission factors: Default emission factor from IPCC 2006.
- Quality control: An undocumented internal process was performed, plus an external review.
- Responsibilities: MINENERGIA.
- Procedure Manual: Is still incomplete due to lack of time.

Step 2:

- There is a lack of documented information on emission factors for key categories.
- Separation of the types of vehicles (INE, SECTRA), coordination among sectors.

- LULUCF.

Step 1:

- Activity data. Land Use.
- Emission Factors. Growth in volume, density.

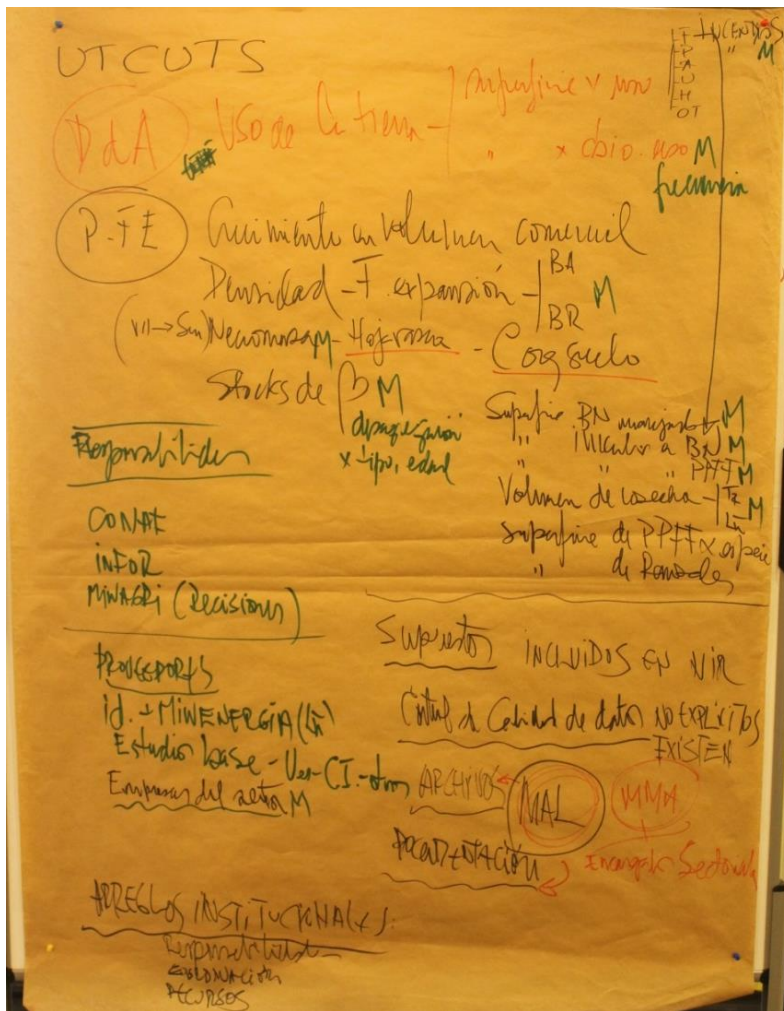


Photo 19. Results of the GHGINV Manual Exercise, LULUCF Group.

- Frequency: data are being recorded more frequently.
- Responsibilities: CONAF and INFOR, MINAGRI (which makes the decisions).
- Data providers: the institutions themselves, companies of the sector, MINENERGIA (for firewood), baseline studies, universities, research centres.
- Assumptions for calculations: included in the GHGINV.
- Quality control of data: not explicit, but there are internal quality controls.
- Archives: MMA, the database should be consolidated.

Step 2:

- There is a lack of information on leaf litter emission factors and soil organic carbon.
- Institutional Arrangements: better coordination, identification of the responsible parties, more resources and agreements among institutions are needed.

- Wastes.

Step 1:

- Activity data: adjusted catalog of MSW, SEIA, MINSAL, SISS, INE, hospital wastes incineration companies.
- Emission factors: default values of the IPCC.
- Responsibilities: MMA residues.
- Assumptions of the data: expert judgment.
- Quality control: review by OCC-MMA.
- Data archives: reports of institutions such as MINSAL, SISS and INE.

Step 2:

- Emission factors: country-specific.
- Activity data: national register of biological treatment of residues, burned residues, quantity of the treatments generated.
- Data possession begins with the inventory by means of legal instruments.

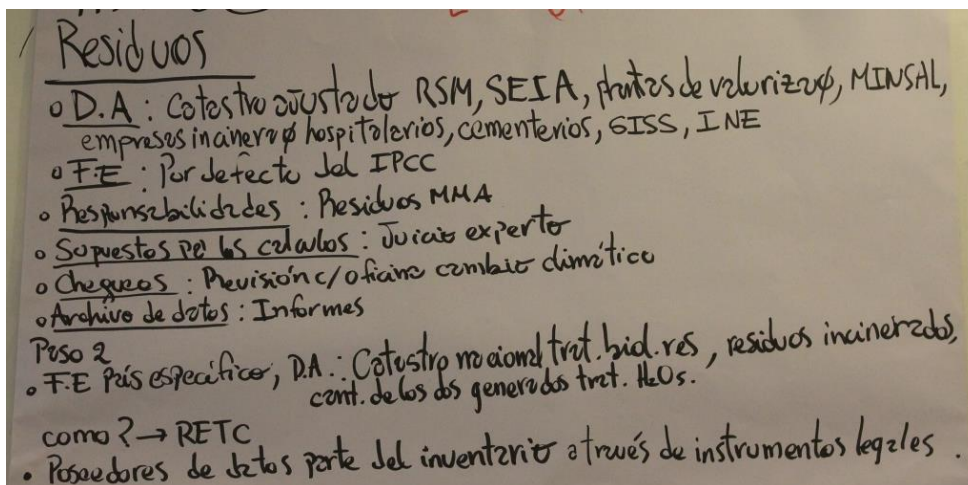


Photo 20. Results of the GHGINV Manual Exercise, Residues Group.

5. Workshop on MRV of Financial Support

At the beginning of the workshop on MRV of Financial Support, Sergio González gave a brief introduction to the topic and indicated the objectives of the workshop. The Annex I countries of the UNFCCC provide important financial support to confront climate change, through mitigation measures and creation of capacities in non-Annex I countries. The transparency in the use of financial resources supplied favors the adequate distribution of the resources by the donors. The central topic of this workshop is to establish the basis for the development of a trustworthy and transparent system that allows the country to report the support received from abroad and report how these resources are being used.

Since some of the participants had not attended the other activities of the project, Oscar Zarzo gave a presentation on the objectives and scope of the Information Matters Project, emphasizing what is being done in Chile by the GIZ with the financial support of the German Government and technical support—as a subcontractor—of the consultant company Ricardo-AEA, with respect to the needs of the country in MRV topics and development of capabilities.

Presentation 14. Workshop on support MRV

Luca Petrarulo, Consulting Agency Ricardo-AEA.

The central idea of this presentation was to explain why an MRV of the financial support should be performed, emphasizing the benefits that will bring to the countries which implement it.

It was indicated that there is an international normative from the United Nations Framework Convention (UNFCCC), which indicates that there are different actions that should be performed at the world and local levels to confront climate change. These actions include the elaboration of Biennial Reports that report the measures that are being taken in each country, the application of mitigation measures and quantification of the emissions at the country level. It is required to report not only the actions being developed by the countries, but also how these are being financed.

The development of GHGINV, of MRV of NAMAs and Financial Support are intimately related actions and are complimentary, given that when emissions are quantified the critical points may be identified and mitigation measures (NAMAs) may be created; to advance in the creation of the measures, international support may be needed (economic or the training of capacities or technical support). These three actions by themselves serve as a tool in national planning to comply with objectives associated with the topic of climate change, since the systems of MRV are a tool that allows countries to identify their needs for support and find the way to solve these needs.

Financial support and climate financing are of political priority for many countries. One example is that the Annex I countries have promised to deliver up to one hundred thousand millions USA dollars for climate financing to non-Annex I countries, yearly beginning in the year 2020. These resources are destined to “new and additional” funds, that is, they are given each year to new programs or initiatives and are in addition to existing financing.

The system of providing climate financing is complex and there are many international resources, thus it is essential to create a system to identify the needs of the country and thus evaluate how to obtain the resources required for them. Examples of international funds are GEF and Green Climate Fund. However, the support is not only financial; it also aims at technological transference and the development of capabilities (such as the Information Matters Project).

Continuing with this topic, Jillian van der Gaag (OCC) presented the contents included in the BUR on the topic of MRV on Financial Support, in which certain sources and amounts of financing have been identified. Sergio González indicated that it is also important to know the internal financing that is being provided for these goals, which is also relevant to be included in the reporting system. These two opinions opened the debate; there was agreement that it is important to verify the real flows that exist in Chile on actions of climate change, such as the topics of mitigation measures in the agriculture sector, energy efficiency and others. Another point discussed was the arrival of international funds; how these reach Chile and through which channels. In terms of where to start with the system of Financial Support MRV, one suggestion was first to investigate the existing sources and then apply for them, another was to study and identify gaps and/or needs and then investigate the funds available. The consensus was that we should begin by understanding national needs and then try to obtain financing to cover these needs.

Next, the representatives of each institution were consulted about their expectations for this workshop. The representative of FIA indicated that the main interest was to learn about the topic of climate change, especially the topic of financing, to be able to create indicators for the topic and to apply a MRV system for the projects that FIA is financing. The representative of MMA indicated that due to the topic of “green taxes”, they wanted to understand the MRV system to apply it to the projects that they are generating, to assure there is sustainability over time, apply them in a future market of emissions and calculate the environmental cost, among other tasks of the MMA, for which it is necessary to create a creditable support system.

It is clear to the representative of CORFO that the strategic alignments are a function of the ministries; depending on these and the existing initiatives, CORFO would finance the first initiatives, but once these have other funds for functioning or are self-sustaining CORFO would stop financing them and would focus on other points of interest such as areas related to energy efficiency, but not those related to renewable energy, since the banks are already financing projects related to this area.

Presentation 15. Focuses of Financial Support MRV

Luca Petrarulo, Consulting Agency Ricardo-AEA.

Luca Petrarulo gave a talk about existing international experiences with Financial Support MRV, focusing on the work performed in South Africa. After this talk, the group determined that it is necessary to establish and identify the existing needs in the country, perform a diagnosis to identify the gaps, and concurrently it is necessary to generate capacities, thus establishing the basis for a future MRV for financial support. It was suggested that perhaps there should be a relationship between the Finance and Environment Ministries, to create a line of credit in the area of climate change.

Presentation 16. Consolidation of the topics treated on Thursday.

Jillian van der Gaag, Climate Change Office, Ministry of Environment

A new session was held on Friday October 17; it began with a brief summary given by Jillian van der Gaag on the main points developed and discussed in the workshop the day before. She explained the objectives of this new session and posed the next challenges to be discussed, in which the main topic was the definition of a MRV system for financial support and the scope it should have, according to the needs of the country.

Presentation 17. Focuses of the Support MRV

Luca Petrarulo, Consulting Agency Ricardo-AEA.

Luca Petrarulo made a presentation similar to the day before but this time concentrated on international experience; he went into depth on the key points for the development of a “MRV for Financial Support”. Then there was a discussion on the main content that the document that defines this system should have.

According to the participants, the first mission is to implement a work session with the goal to generate a document on the basis of a Financial Support MRV for Chile, which should be posed as State policy in order to be well received in the Ministers Council. It was also proposed that it is important to identify in this document the strategic benefits of a Financial Support MRV for the country. The concrete proposal is to present a draft, before the end of the current year, to the Head of the Office of Climate Change of the Ministry of the Environment, and then sent it to be approved by the Ministers Council. The final objective would be to present a consolidated document in the COP21 in Paris. This draft, defined as a “white paper” (no more than 5 pages) by the participants in the workshop, should contain the following:

- a. definition of the MRV for Financial Support,
- b. context, scope and objectives of the implementation of a Financial Support MRV for the country,
- c. strategic benefits that a system of Financial Support MRV would provide. Some of the benefits mentioned by the participants were:
 - provide transparency and credibility at the international and national levels,
 - identify gaps and needs, supporting the process of decision making at the strategic level,
 - evaluate the impact of the provided and received funds,
 - facilitate the reception of funds and support,
 - dimension the efficiency of action of the different sectors and evaluate the resources received,
 - position Chile as a leader of the region by creating an innovative reporting system,
 - provide a follow-up of the resources provided,
 - provide a follow-up of the MAPS Project, and
 - measure the state of advance of the relation finances received/finances needed.
- d. proposal of the system (should be a simple approach)
- e. executive summary,
- f. annexes (including international examples and the agreements signed by Chile to create support for the process, and
- g. associated costs (costs of implementation of the system, cost/benefit relation).

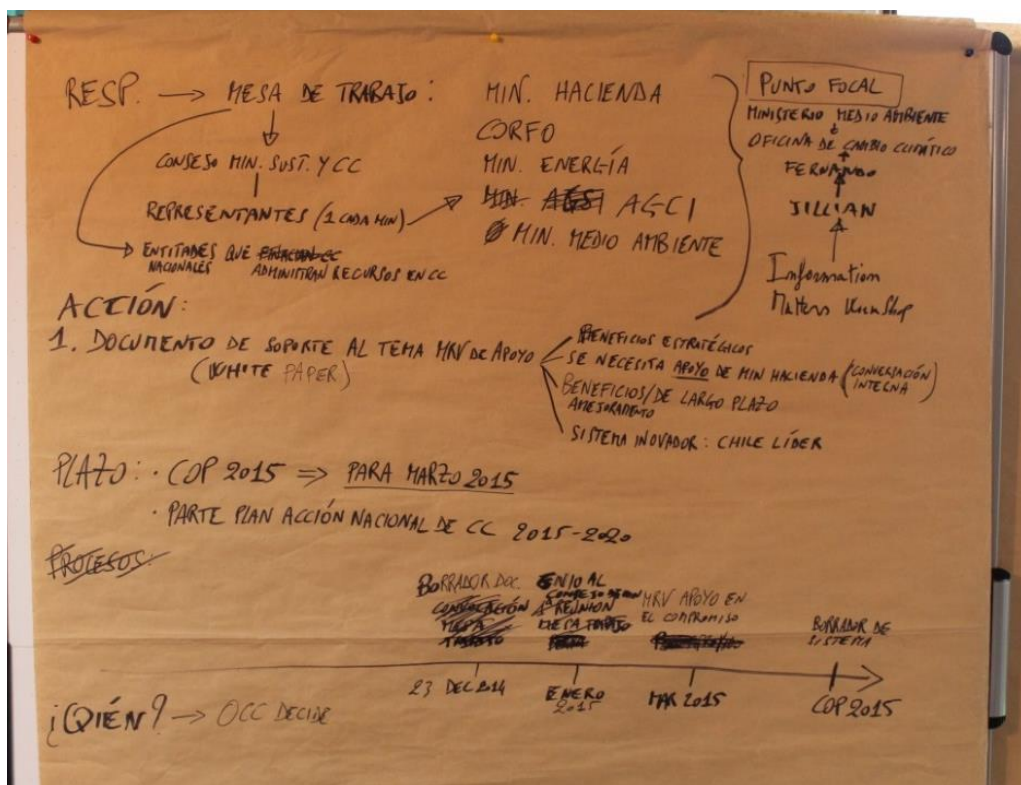


Photo 21. Results of the Discussion of Steps to be followed in the Support MRV

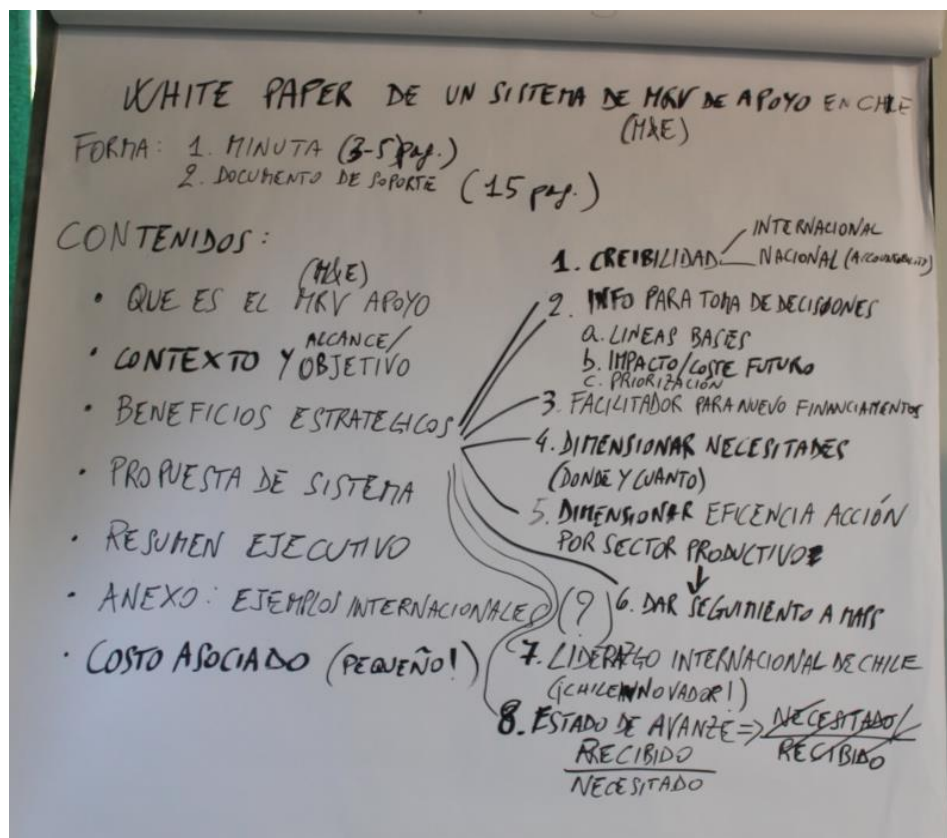


Photo 22. Proposal of a “white paper” for the support MRV.

Annex B: Workshop Agendas of the Second Capacity Building Mission of the Information Matters Project

Table A.1. Workshop Agenda: Discussion of the First Biennial Update Report (BUR) of Chile. Monday 13th October 2014.

DATE/TIME	TOPIC/ACTIVITY	DISCUSSANT
Oct 13th		
10:30-10:45	Introduction and presentation round	S. González ² A. Pirazzoli ³
10:45-11:30	Presentation of national BUR by chapter: <ul style="list-style-type: none"> • Chapter 1 (National Circumstances) • Chapter 2 (GHG Inventory) • Chapter 3 (Mitigation Actions) • Chapter 4 (Support) 	M. Jadrijevic ³ , A. Reinoso ³ P. Cornejo ³ , R. Martínez ³ J. Mager ³ J. Mager ³ , P. Cornejo ³
11:30-12:00	GIZ comments on chapters of NAMAs and Financial Support. Open discussion.	O. Zarzo ²
12:00-13:00	Lessons learned (participants raised its key lessons learned, problems encountered and confronted, and open questions).	L. Petrarulo ⁴
13:00-14:30	Lunch	
14:30-15:00	Presentation of the BUR of South Africa	S. Wartmann ⁴
15:00-15:45	Group work on ways to improve the BUR <ol style="list-style-type: none"> 1. GHGINV 2. MRV of NAMAs 3. MRV Support 	Facilitators: S. González ¹ S. Wartmann ⁴ L. Petrarulo ⁴
15:45-16:00	Presentation of results	
16:00-16:30	Coffee break	
16:30-18:00	Discussion on the implementation of the improvements: <ul style="list-style-type: none"> • Coordination • Timelines • Synergies with other projects 	S. Wartmann ⁴
18:00	Closing	

Table A.2. Workshop Agenda: MRV Workshop on Nationally Appropriate Mitigation Actions (NAMAs). Tuesday 14th October 2014.

¹ GIZ-Chile

² GIZ-Germany

³ OCC-MMA

⁴ Ricardo-AEA

DATE/TIME	TOPIC/ACTIVITY	DISCUSSANT
Oct 14th		
09:30-09:45	Introduction, presentation of attendees and expectations	A. Pirazzoli ³ , L. Petrarulo ⁴ , O. Zarzo ³
09:45-11:00	Content and key results of the previous workshop. General concepts of MRV for NAMAs	S. Wartmann ⁴
11:00-11:30	Coffee break	
11:30-12:00	How to avoid double counting in reducing emissions	S. Wartmann ⁴
12:00-13:00	Group work I and presentation of results	S. Wartmann ⁴ , L. Petrarulo ⁴ , S. González ¹
13:00-14:30	Lunch	
14:30-15:00	Implementation of an MRV system.	S. Wartmann ⁴
15:00-16:00	Group work II	S. Wartmann ⁴ , L. Petrarulo ⁴ , S. González ¹
16:00-16:30	Coffee break	
16:30-17:30	Presentation of results of working group II	L. Petrarulo ⁴
17:30-18:00	Discussion of results and lessons learned	S. Wartmann ⁴ , L. Petrarulo ⁴
18:00	Closing	

Table A.3. Workshop Agenda: Workshop on MRV of Inventory of Greenhouse Effect Gases. Wednesday 15th October 2014.

DATE/TIME	TOPIC/ACTIVITY	DISCUSSANT
Oct 15th		
09:00-09:15	Introduction, presentation of attendees	S. González ¹ , O. Zarzo ²
09:15-11:00	4th Working Meeting of the SNICHILE	P. Cornejo ³
11:00-11:30	Coffee break	
11:30-12:00	4th Working Meeting of the SNICHILE	P. Cornejo ³
12:00-13:00	Comments of Ricardo-AEA and UBA on the 1990-2010 National Inventory	O. Zarzo ² , S. Wartmann ⁴
13:00-14:30	Lunch	
14:30-15:45	Group work I: common approach to QA / QC (sectorial groups and coordination group)	S. Wartmann ⁴ , L. Petrarulo ⁴ , S. González ¹
15:45-16:00	Presentation of results I	Facilitators:
16:00-16:30	Coffee break	
16:30-17:30	Group work II: Documentation of data and approaches	S. Wartmann ⁴ , L. Petrarulo ⁴
17:30-17:45	Presentation and discussion of results	S. Wartmann ⁴ , L. Petrarulo ⁴

¹ GIZ-Chile

² GIZ-Germany

³ OCC-MMA

⁴ Ricardo-AEA

DATE/TIME	TOPIC/ACTIVITY	DISCUSSANT
17:45	Closing	

Table A.4. Workshop Agenda: Workshop on MRV of Financial Support. Thursday 16th October 2014.

DATE/TIME	TOPIC/ACTIVITY	DISCUSSANT
Oct 16th		
09:30-09:45	Introduction and presentation of attendees	S. González ¹ , J. Van der Gaag ⁴ , O. Zarzo ²
09:45-10:30	Introduction and expectations. Why should implement a "MRV of financial support?"	S. Wartmann ⁴
10:30-11:00	Exercise I	L. Petrarulo ⁴
11:00-11:30	Coffee break	
11:30-12:15	MRV approaches for financial support	L. Petrarulo ⁴
12:15-13:00	Exercise II – definitions	S. Wartmann ⁴
13:00-14:30	Lunch	
14:30-15:30	Key elements for MRV of support (including international examples)	S. Wartmann ⁴
15:30-16:00	Group work III: 1. Institutional arrangements; 2. Data Sources	L. Petrarulo ⁴ , S. González ¹
16:00-16:30	Coffee break	
16:30-17:30	Presentation of results. Discussion and evaluation of expectations	S. Wartmann ⁴
17:30	Closing	

Table A.5. Workshop Agenda: Workshop on MRV of Financial Support. Friday 17th October 2014.

DATE/TIME	TOPIC/ACTIVITY	DISCUSSANT
Oct 17th		
09:30-09:45	Consolidation of topics covered in the previous day	S. Wartmann ⁵ , J. van der Gaag ³
09:45-11:00	Group work IV	L. Petrarulo ⁴ , S. González ¹
11:00-11:30	Coffee break	
11:30-12:15	Roadmap	S. Wartmann ⁴
12:15-13:00	Presentation of results and general discussion	S. Wartmann ⁴
13:00	Closing	

¹ GIZ-Chile

² GIZ-Germany

³ OCC-MMA

⁴ Ricardo-AEA

Registered offices

Bonn and Eschborn, Germany

T +49 228 44 60-0 (Bonn)

T +49 61 96 79-0 (Eschborn)

Friedrich-Ebert-Allee 40

53113 Bonn, Germany

T +49 228 44 60-0

F +49 228 44 60-17 66

Dag-Hammarskjöld-Weg 1-5

65760 Eschborn, Germany

T +49 61 96 79-0

F +49 61 96 79-11 15

E info@giz.de

I www.giz.de