Template for Organizing Framework for Scoping of PMR activities

Country: Brazil
Responsible official: Aloisio de Melo
Date of submission: May 28, 2012

Presentation’s Outline

1. Policy context: Domestic mitigation objectives and emissions profile
   1. Policy context and objectives
   2. Overview of country’s GHG emissions
2. Technical building blocks of Market Readiness and role of market instrument(s)
   1. Potential Sectors/Areas and Criteria for Identification
   2. Taking stock of relevant sectors (and/or target area)
   3. Interest in market-based instrument(s)
3. Organization and consultations
   1. PMR contact
   2. Consultation process
   3. Partners in the formulation and implementation of the country’s Market Readiness Proposal
4. Other key relevant initiatives
5. Organization of work and estimated timeline
   1. Overview of organization of work/tasks envisioned to prepare the Market Readiness Proposal
   2. Overview of estimated timeline for formulation of Market Readiness Proposal
6. Other relevant information
7. Conclusions – Summary of market readiness priority areas for PMR support

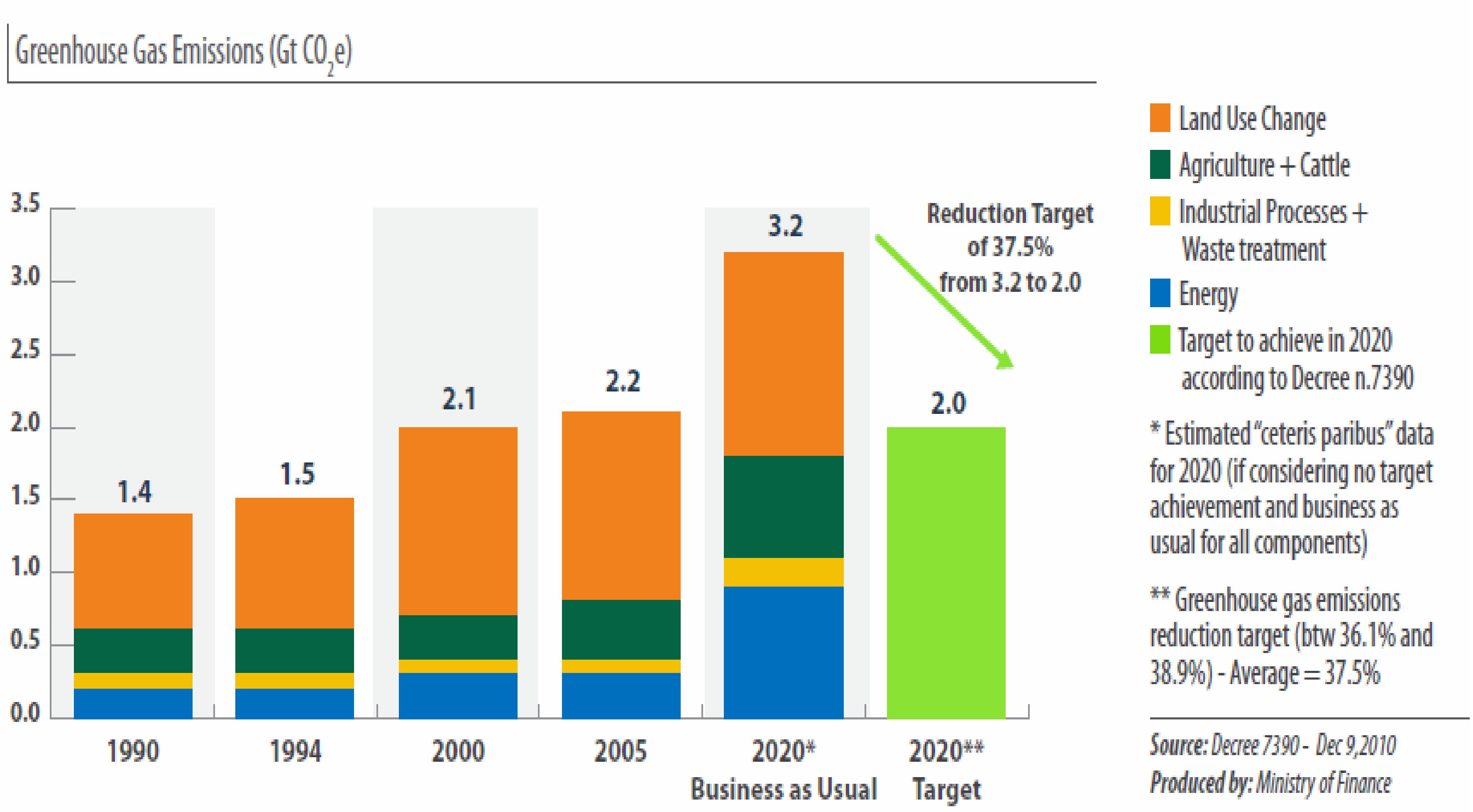
1. Policy context: Domestic mitigation objectives and emissions profile (1/8)

1.1 Policy context and objectives

- National Policy on Climate Change (PNMC) - Law No. 12.187/2009 + Decree No. 7.390/2010
  - ✓ National Plan on Climate Change (2008)
  - ✓ Domestic policy going beyond the international voluntary pledge announced in Copenhagen
  - ✓ Plans to Prevent and Curb Deforestation and Sectoral Plans (Agriculture, Energy, Industry, Mining and Transport; some actions already presented to the UNFCCC)
- National Fund for Climate Change – Law Nr. 12.114/2009 – Decree Nr. 7.343/2010 – US$ 307 mi 2012
- National REDD+ Strategy (ENREDD+) – in progress

1. Policy context: Domestic mitigation objectives and emissions profile (2/8)

1.1 Policy context and objectives



1. Policy context: Domestic mitigation objectives and emissions profile (3/8)

1.1 Policy context and objectives

- Sectoral plans for public consultancy (Industry, Transport and Mining)
- Sectoral Plans already in implementation (Energy, Agriculture, PPCDAM, PPCerrado)
- Revision of National Plan
- Possibility of financing part of the Sectoral Plans through market mechanisms (allowances or credits)
- Working Group on Monitoring (annual estimatives per sector; defining guidelines and responsibilities on measurement and reporting of reductions)

(For all of this we need DATA in appropriate form!)

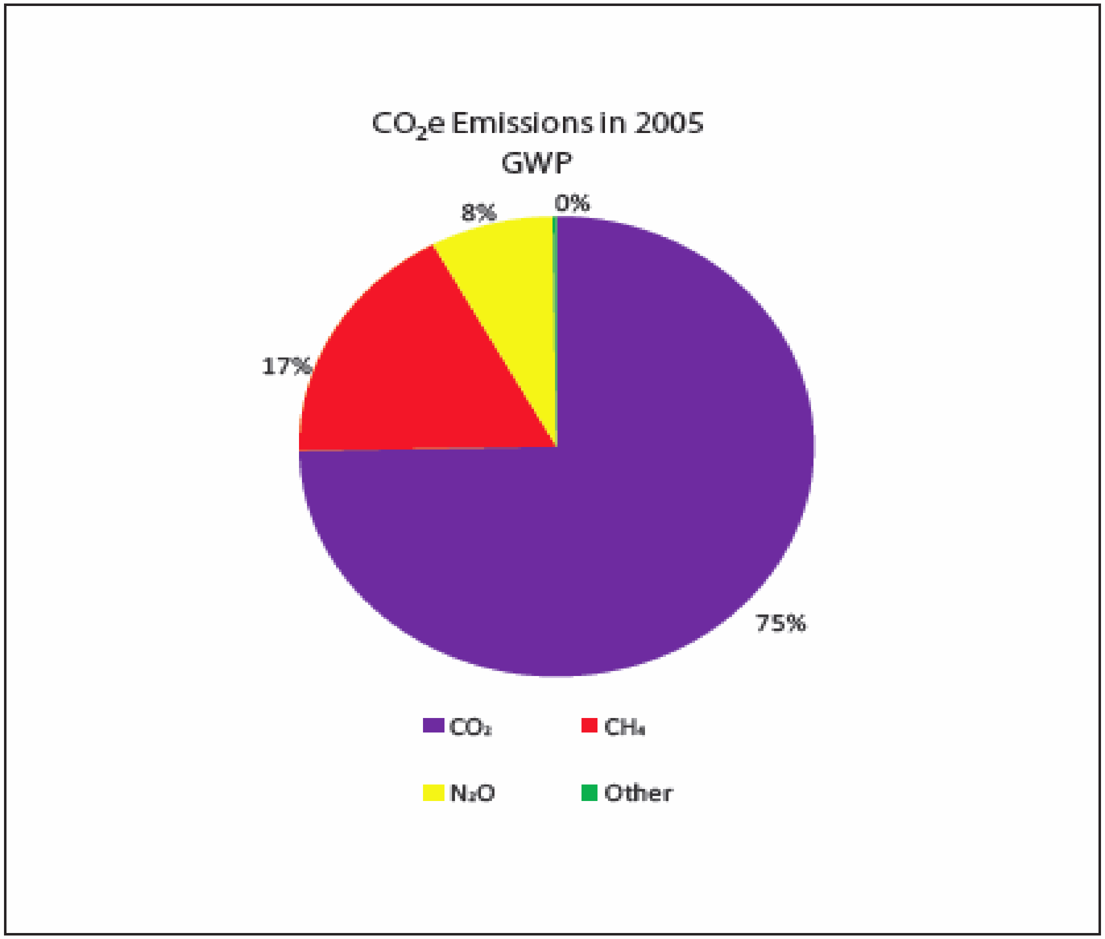
1. Policy context: Domestic mitigation objectives and emissions profile (4/8)

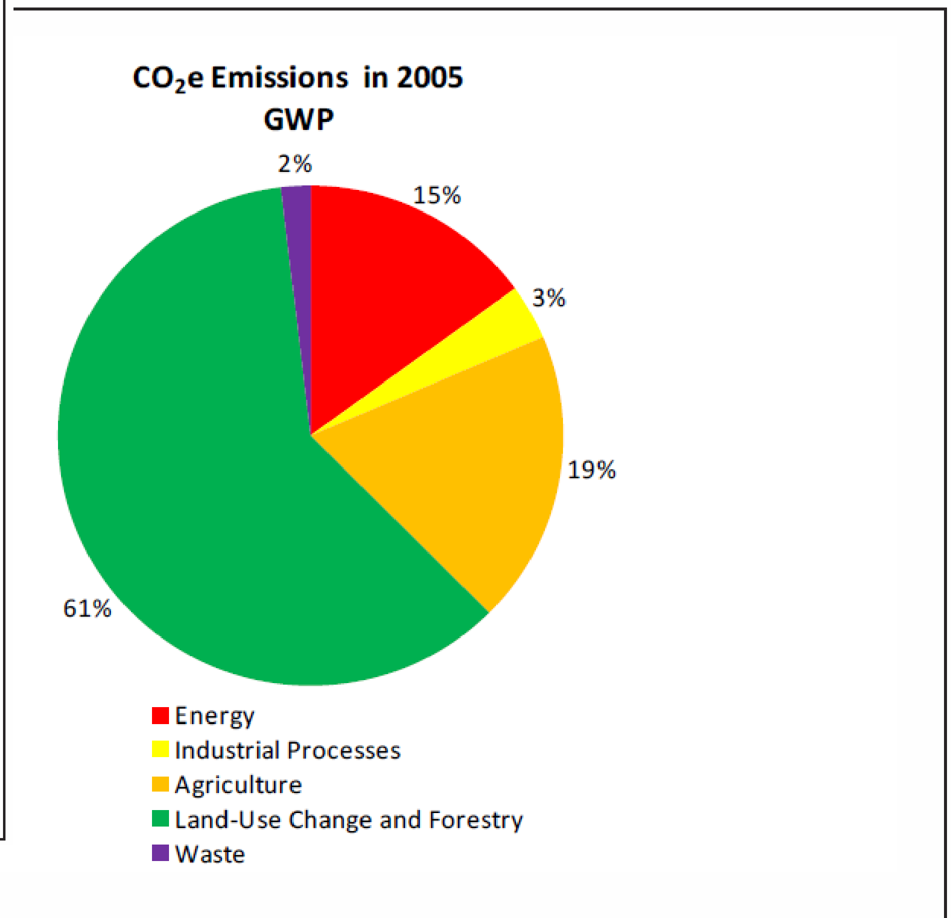
1.1 Policy context and objectives

SECTOR PLAN	Reductions in 2020 (in million tons of CO2e)		Estimated proportional reductions
	Lower Range	Upper Range	
PPCDAM	758	758	80%
PPCerrado	129	129	40%
Energy Decenal Plan	234	234	27%
Agriculture and Livestock Plan	134	163	20%
Industry Plan	15	15	5%
Mining Plan	0,7	2,7	10%
Transport Plan	5,6	5,6	2%

1. Policy context: Domestic mitigation objectives and emissions profile (5/8)

1.2 Overview of country's GHG emissions: Gases and Sectors





1. Policy context: Domestic mitigation objectives and emissions profile (6/8)

1.2 Overview of Power Generation's GHG emissions

CO_2 Emissions of fossil fuels (in unit of mass)

Energy Subsector (Power Generation)	1990	1994	2000	2005	Share in 2005 (in sub-sector)	Share in 2005 (in the energy sector)	Emissions growth 1990-2005
	(Gg)				(%)		
Total Energy Subsector	**22.723**	**25.443**	**43.595**	**48.602**	**100,0%**	**16,2%**	**113,9%**
Public Utility Power Plants	5.979	7.215	18.581	17.365	35,7%	5,8%	190,4%
Autoproducer Electricity Plants	3.273	3.785	7.468	8.621	17,7%	2,9%	163,4%
Energy Consumption	13.471	14.443	17.546	22.616	46,5%	7,5%	67,9%
Total Energy Sector	**172.371**	**198.222**	**279.088**	**299.941**	**-**	**100,0%**	**74,0%**

Source: 2nd National Communication

1. Policy context: Domestic mitigation objectives and emissions profile (7/8)

1.2 Overview of Transportation's GHG emissions

CO_2 Emissions of fossil fuels (in unit of mass)

Transport Subsector	1990	1994	2000	2005	Share in 2005 (in sub-sector)	Share in 2005 (in the energy sector)	Emissions growth 1990-2005
	(Gg)				(%)		
Total Transport Subsector	**79.915**	**91.821**	**120.131**	**133.430**	**100,0%**	**44,5%**	**67,0%**
Civil Aviation	3.503	3.763	5.278	5.374	4,0%	1,8%	53,4%
Railways	1.625	1.262	1.238	1.730	1,3%	0,6%	6,5%
Road Transportation	71.339	83.236	110.684	122.765	92,0%	40,9%	72,1%
Navigation	3.448	3.560	2.931	3.561	2,7%	1,2%	3,3%
Total Energy Sector	**172.371**	**198.222**	**279.088**	**299.941**	**-**	**100,0%**	**74,0%**

Source: 2nd National Communication

1. Policy context: Domestic mitigation objectives and emissions profile(8/8)

1.2 Overview of Industry's GHG emissions

Emissions in unit of mass of CO_2 ==> Energy consumption + Industrial Processess

Industry Sector	1990	1994	2000	2005	Share in 2005 (in sub-sector)	Share in 2005 (in the industry sector)	Emissions growth 1990-2005
	(Gg)				(%)		
Metallurgical Industry	**33.341**	**39.723**	**57.130**	**65.447**	**100,0%**	**46,4%**	**196,3%**
Pig Iron and Steel	28.441	33.544	47.952	53.605	81,9%	**38,0%**	**88,5%**
- Energy Consumption	3.685	5.116	12.515	15.322	28,6%		
- Industrial Process	24.756	28.428	35.437	38.283	71,4%		
Iron Alloys	177	285	574	1.146	1,8%	0,8%	**547,5%**
- Energy Consumption	177	285	574	1.146			
- Industrial Process	Given the impossibility of separating combustion emissions from ore reduction emissions, they were all estimated together in the Energy Sector						
Non-Ferrous Metals (Energy Consumption)	3.149	3.939	6.488	8.224	12,6%	5,8%	**161,2%**
- Aluminum (Ind. Process)	1.574	1.955	2.116	2.472	3,8%	1,8%	57,1%
Food and Beverage (Energy Consumption)	**3.268**	**3.684**	**4.496**	**3.873**	**100,0%**	**2,7%**	**18,5%**
Textile (Energy Consumption)	**1.619**	**1.364**	**1.307**	**1.246**	**100,0%**	**0,9%**	**-23,0%**
Pulp and Paper (Energy Consumption)	**2.467**	**2.979**	**4.349**	**3.951**	**100,0%**	**2,8%**	**60,2%**
Ceramics (Energy Consumption)	**1.706**	**2.550**	**3.430**	**4.022**	**100,0%**	**2,9%**	**135,8%**
Mineral Products	**24.608**	**24.039**	**39.150**	**37.661**	**100,0%**	**26,7%**	**53,0%**
Cement	16.683	15.030	26.488	22.990	61,0%	**16,3%**	37,8%
- Energy Consumption	5.621	4.944	10.441	8.641	22,9%		53,7%
- Industrial Process	11.062	10.086	16.047	14.349	38,1%		29,7%
Mining and Pelleting (Energy consumption)	2.425	3.244	5.655	7.255	19,3%	5,1%	**199,2%**
Lime Production (Ind. Processes)	5.318	5.578	6.764	7.168	19,0%	5,1%	34,8%
Production and Consumption of soda ash (Ind. Proc.)	182	187	243	248	0,7%	0,2%	36,3%
Chemical Industry	11.054	11.698	17.264	18.400	116,1%	**13,0%**	**66,5%**
- Energy Consumption	8.681	9.230	14.649	15.446	83,9%	**10,9%**	**77,9%**
- Industrial Process	2.373	2.468	2.615	2.954	16,1%	**2,1%**	**24,5%**
Other Industries (Energy Consumption)	**4.037**	**4.884**	**7.212**	**6.495**	**100,0%**	**4,6%**	**60,9%**
Total Setor Indústria	**82.100**	**90.921**	**134.338**	**141.095**	**-**	**100,0%**	**71,9%**

Source: 2nd National Communication

2. Technical building blocks of market-readiness (1/5)

2.1 Potential Sectors/Areas and Criteria for Identification

- Existing abatement cost curves are too broad regarding to sectors and sub-sector mitigation potential are not available yet;
- The criteria for prioritizing sectors in a second round of analysis was based in actual and trend emissions:
  - ✓ major emitters in 2005;
  - ✓ sectors with high emissions growth between 1990-2005;
- Transport was not included because:
  - ✓ Mitigation options studies show that the abatement depends on huge infrastruture investments (mass transport systems, like Bus Rapit Transit, metro, etc.)
  - ✓ Very complex regulation rules and large number of stakeholders involved;
  - ✓ Nobody starts with the transport sector!

2. Technical building blocks of market-readiness (2/5)

2.1 Potential Sectors/Areas and Criteria for Identification

- Priority sectors for further analysis:
  - Power Generation;
  - Industry:
    - Metallurgical (iron & Steel, iron Alloys and aluminium)
    - Mineral products (cement and mining & pelleting)
    - Chemicals
    - Ceramics
    - Pulp and paper
  - Additional subsectors:
    - Lime
    - Glass

2. Technical building blocks of market-readiness (3/5)

2.2 Taking stock of relevant sectors (and/or target areas) – (*1 slide per sector/target area*)

- **Chemicals**
  - Share of GDP: 3%; rank seven in world revenues (2010)
  - Instensive use of oil (40%) / Petrochemicals represent 60% of the sector

- **Aluminium**
  - Energy intensive process; low carbon intensity (2,7 t CO_2 compared with 7,1 t CO_2 /ton internationally); high share of recycling

- **Iron&steel**
  - Production capacity expected to triple until 2030; potential reductions (specially due to use of charcoal from forestry)

2. Technical building blocks of market-readiness (4/5)

2.2 Taking stock of relevant sectors (and/or target areas) – (*1 slide per sector/target area*)

- **Cement**
  - More than 70% of emissions come from industrial processes;
  - Expected to be the major growth emissions rate until 2030.

- **Power Generation**
  - Great share of renewables: 86% (base year 2010)
  - Thermal generation has been increasing in the recent years

2. Technical building blocks of market-readiness (5/5)

2.3 Interest in market-based instrument(s)

- Interest in studying how cap-and-trade and baseline and credit (sectoral or project-based) schemes could be applied in selected sectors
  - ✓ Possibility of using the reductions obtained by the implementation of Sectoral Plans as offset credits: Agriculture Plan, PPCDAM, PPCerrado
  - ✓ Advance on specific analysis for REDD+ credits (WG ENREDD+)
- CDM shall be analyzed and investigated in order to discover how it may fit in

3. Organization and consultations (1/5)

3.1 PMR contact point

- **MINISTRY OF FINANCE**

Mr. Aloisio Lopes Pereira de Melo
General Coordinator on Environment and Climate Change
Secretariat for Economic Policy
Email: aloisio.melo@fazenda.gov.br
Phone: (+55 61) 3412-2341

Mr. Artur Cardoso de Lacerda
Deputy Assistant Secretary
Secretariat for International Affairs
E-mail: artur.lacerda@fazenda.gov.br
Phone: (+55 61) 3412-2290

3. Organization and consultations (2/5)

3.2 Organization up to Now

Interministerial Working Group - GTI

Participants: 6 Ministries, headed by the Ministry of Finance, plus Civil Office of Presidency

- Role of market-instruments in National CC Policy
- Market instrument characteristics, requirements and preparation phases
- Analysis of existing data and projections
- International cooperation on market –based instruments
- Forests in carbon markets
- State Initiatives (RJ)

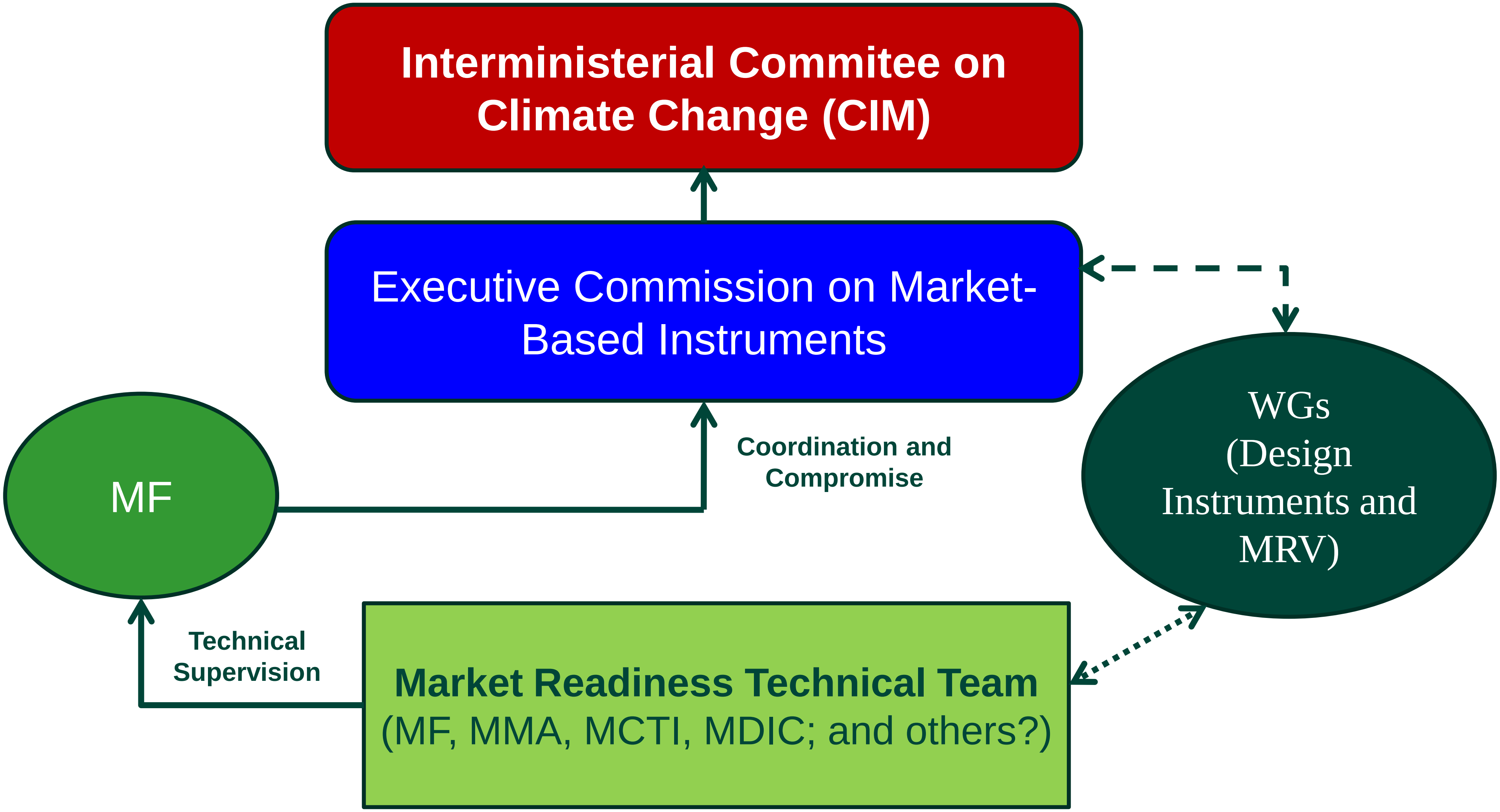
Internal Working Group – GT-MF

Participants: 5 Secretariats of Ministry of Finance + MF's General-Attorney

- Previous discussions on GTI agenda
- Elaboration of a document on the motivation to adopt market-based instruments

3. Organization and consultations (3/5)

3.3 Proposed Organization from Now On



3. Organization and consultations (4/5)

3.2 Consultation process

- Interministerial WG on Carbon Market (GTI): only internal work; no formal consultations yet
- During Preparation Phase: Consultation + Capacity Building
  - ✓ Sub-national entities
  - ✓ Private Sector (Industry, Energy, Financial Sector)
  - ✓ NGOs / Civil Society

Interactions through the Technical Team daily work (workshops, bilateral meetings, working groups, training days, specific consultations, etc…)

3. Organization and consultations (5/5)

3.3 Partners in the formulation and implementation of the country's Market Readiness Proposal (MRP)

- Ministry of Science, Technology and Innovation (MCTI)
- Ministry of Environment (MMA)
- Ministry of Development, Industry and Commerce (MDIC)
- Other Ministries
- Sub-national entities
- Private Sector
- Civil Society
- Research institutions (FGV, IPEA)

4. Other key relevant initiatives (1/2)

- GEF Project:
  - Marginal abatement cost curves per sector;
  - Integrated optimization framework and potential impacts;
  - Capacity building
- GIZ (German BMU)
  - Capacity building
  - Formulation of political/technical options;
  - Support for election, adaptation and implementation of the registry
  - Support of political network (dialogue platform)
- European Union Project / Ecoprogresso
  - Capacity building
- FGV São Paulo (through MDIC)
  - Sector Studies
  - MRV systems investigation

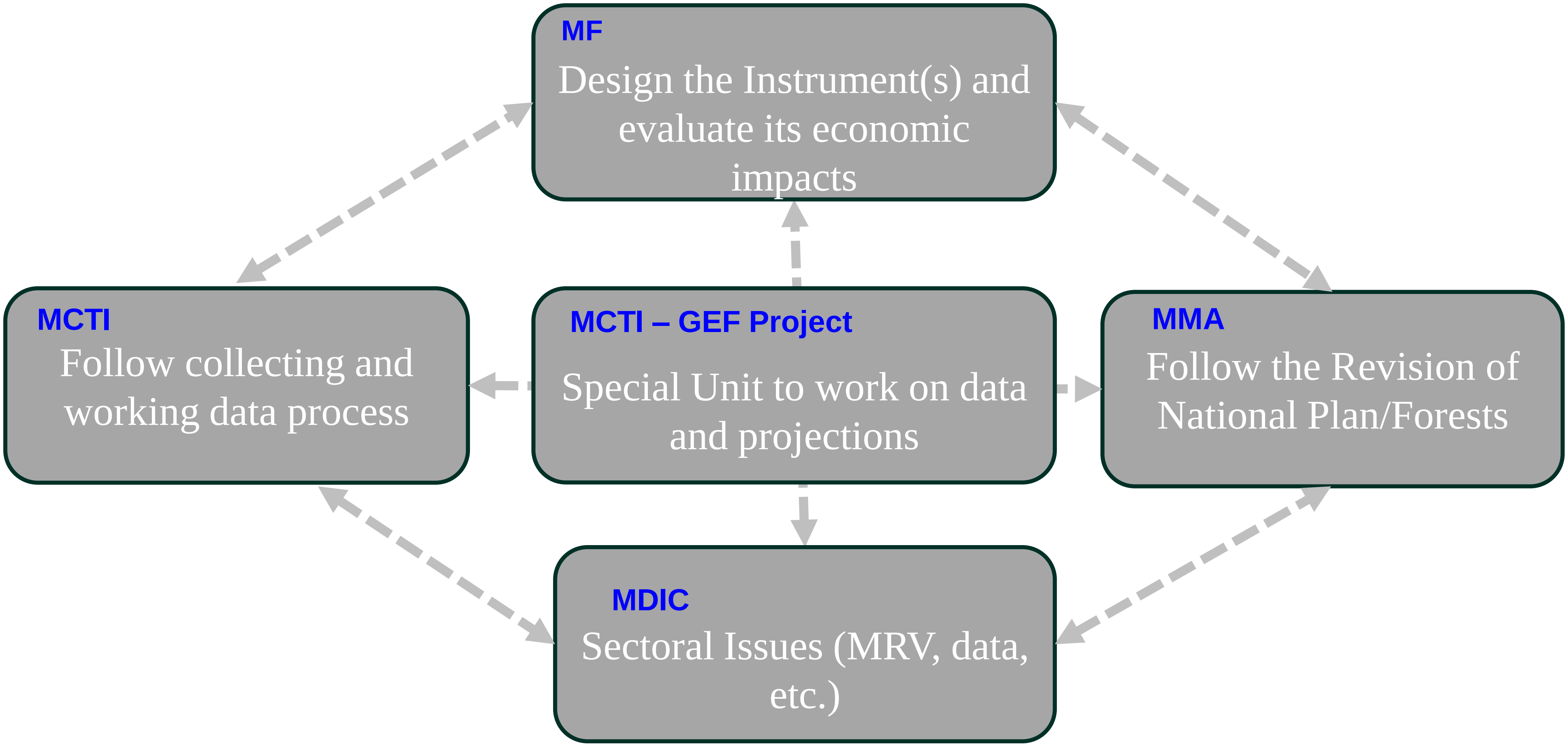
For Industry

4. Other key relevant initiatives (2/2)

- National Industry Confederation (CNI) + MDIC + MMA
  - ✓ Institutional cooperation to implementation of Industry Sectoral Plan
- IDB + São Paulo Stock and Future Exchange (BM&F/Bovespa)
  - ✓ Marginal abatement cost curves
- States considering the development of market mechanisms (Rio, São Paulo, Acre)
- World Bank support: marginal abatement costs tools (MACTool; MetaMAC)

5. Organization of work and estimated timeline (1/3)

5.1 Overview of organization of work/tasks envisioned prepare the Market Readiness Proposal (MRP)



5. Organization of work and estimated timeline (2/3)

5.2 Overview of estimated timeline for formulation of Market Readiness Proposal

- *Activity 1*: ***Research on design options*** *for implementation*
  - *Outcome 1: Comparison of instruments and proposals on design options taking into account actual and past experiences;*
  - *Outcome 2: Assess how such system should be combined with complementary policies (mainly Sectoral Plans); sub-national legislation and CDM's existence;*
  - *Outcome 3: Propose a regulatory framework and its institutional arrangements*
- *Activity 2:* ***Sector Studies*** *(data collection and mitigation potential and costs by sector)*
- *Activity 3: Studies and activities related to the* ***development of MRV systems***, ***tracking tools*** *and* ***registry***
- *Activity 4: Establishment of* ***working groups*** *(federal and state governments, national experts, sector representatives and NGOs) to exchange views and opinions on the development of the proposal*
- *Activity 5: Knowledge and* ***capacity building*** *activities*
- *Activity 6: Drafting* ***MRP***

5. Organization of work and estimated timeline (3/3)

5.2 Overview of estimated timeline for formulation of Market Readiness Proposal

Activities	2012						2013					
	Jul	ago	Set	Out	Nov	Dez	Jan	Fev	Mar	Abr	Mai	Jun
Research on Design Options												
Sector Studies												
Investigation of MRV Systems, tracking tools and registry requirements												
Establishment of WGs												
Knowledge and capacity building activities												
Drafting MRP												
Validation of MRP												
Sumission of MRP												

6. Conclusions – Summary of market readiness priority areas for PMR support

- *Research on design options for implementation*
- *Investigation of MRV Systems, tracking tools and registry*
- *Support in the organization and management of the working groups (background papers, logistics, etc.)*
- *Knowledge and capacity building activities (workshops, study visits, contracting of consultants for training days, etc.)*
- *Other studies, analysis and consultant services that may be necessary.*

5. Organization of work and estimated timeline (3/3)

5.2 Overview of estimated timeline for formulation of Market Readiness Proposal

Activities	2012						2013					
	Jul	ago	Set	Out	Nov	Dez	Jan	Fev	Mar	Abr	Mai	Jun
Research on Design Options												
Sector Studies												
Investigation of MRV Systems, tracking tools and registry requirements												
Establishment of WGs												
Knowledge and capacity building activities												
Drafting MRP												
Validation of MRP												
Sumission of MRP												

Thank you!

aloisio.melo@fazenda.gov.br