



Vrije Univesiteit Amsterdam (VU)
Institute for Environmental Studies (IVM)
Environment and Resource Management Master
Program (ERM)

University of Brasília (UnB)
Centre for Sustainable Development (CDS)
Post-Graduation Program in Sustainable
Development (PPGDS)

CAROLINA GOMES NASCIMENTO

BRAZILIAN CLIMATE CHANGE POLICIES:
a study of windows of opportunity in
terms of progressiveness

Supervisors: Agni Kalfagianni (VU) and Fabiano Toni (UnB)

Amsterdam, The Netherlands

2014

CAROLINA GOMES NASCIMENTO

**BRAZILIAN CLIMATE CHANGE POLICIES:
a study of windows of opportunity in
terms of progressiveness**

VOLUME 1 / 1

Master thesis submitted to *Vrije Universiteit* Amsterdam's Environment and Resource Management and University of Brasilia's Sustainable Development Master Courses as a partial requirement for the degree of MsC.

ERM's Specialization: Environmental Studies;
UNB's Concentration area: Environmental Policy and Management.

Co-tutelage Supervisors: Prof. Dr. Agni Kalfagianni (VU) and Fabiano Toni (UnB).

Amsterdam, The Netherlands

June of 2014

Nascimento, Carolina Gomes.

Brazilian climate change policies: a study of windows of opportunity in terms of progressiveness/Carolina Gomes Nascimento. Amsterdam: 2014.

xvi, 88 f.: il.; 30 cm.

Master thesis - *Vrije Univesiteit* Amsterdam, Institute for Environmental Studies, Master in Environment and Resource Management, 2014. Dissertação (mestrado) - Universidade de Brasília, Centro de Desenvolvimento Sustentável, Programa de Pós-Graduação em Desenvolvimento Sustentável, 2014.

Includes bibliography.

Supervision: Fabiano Toni; Agni Kalfagianni.

1. Policy change. 2. Progressiveness. 3. Window of opportunity. 4. Climate change. 5. Brazilian climate change policy.

1. Política ambiental. 2. Mudanças climáticas - Política governamental - Brasil. I. Toni, Fabiano. II. Kalfagianni, Agni. III. Título.

It is granted to *Vrije Univesiteit* Amsterdam and University of Brasilia permission to reproduce copies of this thesis and to lend or sell such copies only for academic and scientific purposes. The author reserves other publication rights, and no part of this dissertation may be reproduced without the written permission of the author.

Carolina Gomes Nascimento.

CAROLINA GOMES NASCIMENTO

**BRAZILIAN CLIMATE CHANGE POLICIES:
a study of windows of opportunity in terms of progressiveness**

Master thesis submitted and approved by the Examination Board to obtaining a Master degree in Environment and Resource Management from *Vrije Univesiteit* Amsterdam and in Sustainable Development from University of Brasilia.

Amsterdam, The Netherlands, June 15th of 2014.

Examination Board:

Prof. Dr. Agni Kalfagianni – Supervisor
Vrije Univesiteit Amsterdam - VU

Prof. Dr. Fabiano Toni - Supervisor
University of Brasilia - UnB

Prof. Dr. Roy Brower
Vrije Univesiteit Amsterdam - VU

Prof. Dr. Marcel Brursztyn - Substitute
University of Brasilia - UnB

A Deus e ao meu Anjo da Guarda, Pedro; pois este trabalho pertence mais a Eles, do que a mim.

ACKNOWLEDGEMENTS

For helping me to make this dream come true I would like to thank:

God, that guided and blessed me;

To my supervisors, Agni and Fabiano, for the patience in countless hours dedicated to this work, for welcoming my research, for all the valuable information and for guiding me in such precise way;

To my guardian angel and friend, “for this life and beyond”, Pedro Angoti. Thanks for always helping me.

To my Mom, whom I love unconditionally and owe everlasting gratitude. Thank you for believing in me, respecting my decisions and never letting difficulties run away with my dreams.

My most sincere acknowledgements to my family for the love and trust in my potential. Sorry for the many times I had to prioritize my studies over your company;

To my beloved Adriano, for being by my side and making me believe in my potential, and for all your unexplainable love and patience;

To those friends that have been my dictionaries, translators and grammarians: Pedro Angoti and Sephanie Ragghoe, for the patience in revising this thesis;

To my best friends that helped me overcoming the obstacles, and were my encouragement and support when I needed the most;

To my classmates, which made living in The Netherlands such a great moment. In particular, I thank those with whom I could build strong, true and worldwide friendships;

To my teachers from VU and UnB that have taught me the “art of questioning and researching” and awakened in me a passion for climate change issues;

To VU and UnB staff for the usual promptness. Specially Roy Brower and Ana Flávia Barros-Platiau that helped with the cooperation agreement for joint-supervision; and

At long last, to many others who somehow were present in my path, directly or indirectly, contributing to my personal, academic and professional development.

Earth provides enough to satisfy every man's need, but not every man's greed.

Mahatma Gandhi.

ABSTRACT

NASCIMENTO, Carolina Gomes. **Brazilian climate change policies: a study of windows of opportunity in terms of continuities and ruptures.** Supervisors: Prof. Dr. Agni Kalfagianni (VU) and Fabiano Toni (UnB). Amsterdam: VU/UnB, 2014. Master thesis (Master in Environment and Resource Management at *Vrije Univesiteit* Amsterdam and in Sustainable Development at University of Brasilia).

This thesis examines the evolution of Brazilian climate change policies from 1970's to 2013 based on an extensive review of literature and policy documents. Brazil has international economic and political relevance and stands out especially due to its unique climate and environmental characteristics. The thesis starts from the observation that, at first, the country's climate performance was based on common but differentiated responsibilities, polluter pays and right to develop principles. However, due to changes in both economic and political spheres over the last three decades, a shift in its stance can be observed, towards a more progressive political approach on climate change. The first progressive period was identified from mid-1980's to 1992 with the adoption of the United Nations Convention on Climate Change and the hosting of United Nations Conference on Environment and Development. The second period of considerable progressiveness occurred from 2007 to 2009, when Brazil voluntarily adopted goals of GHG emissions reduction and approved the National Plan and the National Policy of Climate Change domestically. This progressive pathway, nonetheless, decreased between 1993-2006 and has not been consistently perceived after 2010. The main objective of this thesis is to document and analyse these changes in the Brazilian domestic and foreign climate change mitigation policies and try to explain them on the basis of the windows of opportunities concept, combining domestic and international influences. On the basis of its analysis it concludes that the existence windows of opportunity can explain changes in the most progressive periods.

Key-words: Policy change. Progressiveness. Window of opportunity. Climate change. Brazilian climate change policy.

RESUMO

NASCIMENTO, Carolina Gomes. **Brazilian climate change policies: a study of windows of opportunity in terms of progressiveness.** Orientadores: Prof. Dr. Agni Kalfagianni (VU) e Fabiano Toni (UnB). Amsterdam: VU/UnB, 2014. Dissertação. (Mestrado em Gestão Ambiental e de Recursos pela *Vrije Univesiteit* Amsterdam e em Desenvolvimento Sustentável pela Universidade de Brasília).

A presente dissertação examina a evolução das políticas brasileiras de mudança climática de 1970 a 2013, com base em extensa revisão literária e de documentos oficiais. O Brasil possui relevância econômica e política internacionalmente, sobressaindo-se mais devido suas características ambientais. A dissertação inicia as observações, primeiramente, com a performance climática do país baseada nos princípios de responsabilidades comuns, porém diferenciadas, do poluidor-pagador e do direito ao desenvolvimento. Entretanto, devido às mudanças nas esferas econômica e política nas últimas três décadas, observa-se uma alteração de postura com ênfase na progressividade ao tratar de assuntos climáticos. O primeiro período de progressividade foi identificado de meados da década de 1980 até 1992, com a adoção da Convenção das Nações Unidas para Mudanças Climáticas e ao sediar a Conferência das Nações Unidas sobre Meio Ambiente e Desenvolvimento. O segundo período de considerável progressividade ocorreu entre 2007 e 2009, quando o Brasil adotou voluntariamente objetivos de redução nas emissões de GEE, além da aprovação do Plano e da Política Nacionais de Mudança Climática. Esse trajeto de progressividade, no entanto, é atenuado entre 1993 e 2006, e não é percebido de maneira consistente após 2010. O objetivo principal desta dissertação é documentar e analisar tais mudanças nas políticas doméstica e externa de mitigação às mudanças climáticas, e tentar explicá-las com base no conceito de janela de oportunidade, combinando influências nacionais e internacionais. No âmbito desta análise conclui-se que a existência de janelas de oportunidades podem explicar as mudanças nos períodos de maior progressividade.

Palavras-chave: Mudança política. Progressividade. Janela de oportunidade. Mudança climática. Política brasileira de mudança climática.

ABSTRACT

NASCIMENTO, Carolina Gomes. **Brazilian climate change policies: a study of windows of opportunity in terms of continuities and ruptures.** Begeleiders: Prof. Dr. Agni Kalfagianni (VU) en Fabiano Toni (UnB). Amsterdam: VU/UnB, 2014. Master scriptie (*Master Environment and Resource Management* te Vrije Universiteit Amsterdam en in *Sustainable Development* te University of Brasilia).

De huidige scriptie beschrijft de evolutie van Braziliaans beleid rondom klimaatverandering tussen de jaren 1970 en 2013 op basis van uitputtend onderzoek van academische en politieke werken. Brazilië heeft op economisch en politiek gebied internationale relevantie en onderscheidt zich omwille van haar unieke klimaat- en omgevingskarakteristieken. De scriptie stemt vanuit de observatie dat de oorspronkelijke prestaties van het land gebaseerd waren op de zogenaamde gemeenschappelijke doch gedifferentieerde principes, vervuiler-betaalt- en recht op ontwikkelingsprincipes. Desalniettemin kan, binnen de afgelopen drie decennia, een transitie naar een progressievere politieke aanpak worden waargenomen wat betreft klimaatbeleid wegens veranderingen op economische en politieke gebied. De eerste progressieve periode was in 1992 met de overname van het Raamverdrag van de Verenigde Naties inzake klimaatverandering, de piek van desbetreffende transitie wordt herkend tussen 2007 en 2010 toen Brazilië vrijwillig doeleinden omtrent het reduceren van broeikasgasemissies op zich nam alsmede landelijk de zogenaamde Nationale Plan en Nationaal Beleid der Klimaatverandering akkoord gaf. Dit progressieve pad verminderde tussen 1993 en 2006 en heeft zich sindsdien op geen van beide gebieden niet concreet hersteld na 2010. Hoofddoel van huidige scriptie is om veranderingen in Braziliaanse landelijke en buitenlandse omtrent klimaatbeleid te documenteren en analyseren en een poging te doen deze te verklaren op basis van het concept der “windows of opportunity” aldoende nationale en internationale invloeden combinerend. Op basis van de analyse in deze scriptie kan worden geconcludeerd dat "windows of opportunity" een verklaring kan geven voor veranderingen in de meest progressieve periodes.

Trefwoorden: Beleidsverandering. Progressiviteit. Windows of opportunity. Klimaatverandering. Braziliaans klimaatbeleid.

RESUMEN

NASCIMENTO, Carolina Gomes. **Brazilian climate change policies: a study of windows of opportunity in terms of progressiveness.** Supervisores: Prof. Dr. Agni Kalfagianni (VU) and Fabiano Toni (UnB). Ámsterdam: VU/UnB, 2014. Tesis de Máster (Máster en Gestión Ambiental y de Recursos en la *Vrije Univesiteit* Ámsterdam y en Desarrollo Sostenible en la Universidad de Brasilia).

Esta tesis analiza la evolución de las políticas de cambio climático de Brasil desde 1970 hasta 2013 basada en una extensa revisión de literatura y documentos oficiales. Brasil tiene una relevancia económica y política a nivel internacional y se destaca por sus particulares características climáticas y ambientales. La tesis parte de la observación de que, en un primer momento, las políticas climáticas de Brasil se basaban en el principio de responsabilidades comunes pero diferenciadas, principio del contaminador-pagador y el principio de derecho al desarrollo. Sin embargo, cambios en las esferas políticas durante las tres últimas décadas han incentivado un enfoque más progresista en materia de cambio climático. El primer período de progreso tuvo lugar a mediados de la década de 1980 hasta 1992, con la adopción de la Convención de las Naciones Unidas sobre el Cambio Climático y la celebración de la Conferencia de las Naciones Unidas sobre el Medio Ambiente y el Desarrollo. El segundo período de progreso considerable se produjo entre 2007 y 2009, cuando Brasil adoptó metas voluntarias de reducción de emisiones de gases de efecto invernadero y aprobó el Plan Nacional y la Política Nacional de Cambio Climático a nivel nacional. Sin embargo, este camino progresista se atenuó entre 1993 y 2006 y además, no ha sido percibido de manera consistente desde 2010. El objetivo principal de esta tesis es documentar y analizar los cambios en la política nacional y externa para la mitigación del cambio climático y explicar estos cambios tomando como base el concepto de ventanas de oportunidad, combinando influencias domésticas e internacionales. Este análisis concluye que la existencia de ventanas de oportunidad puede explicar los cambios en los períodos más progresistas.

Palabras-clave: Cambio político. Progreso. Ventana de oportunidad. Cambio climático. Política brasileña de cambio climático.

RESUMÉ

NASCIMENTO, Carolina Gomes. **La politique climatique brésilienne: une étude des fenêtres d'opportunités en termes de continuités et ruptures.** Superviseurs: Prof. Dr. Agni Kalfagianni (VU) et Fabiano Toni (UnB). Amsterdam: VU/UnB, 2014. Memoire de Master (Master en management des Ressources Environnementales a *Vrije Univesiteit* Amsterdam et en Développement Durable a l'Université de Brasilia).

Ce mémoire examine l'évolution de la politique climatique brésilienne des années 1970 à 2013 sur la base d'un examen de la littérature et documents de politiques. Le Brésil est d'importance économique et politique à l'échelle internationale et se démarque par son climat et ses caractéristiques environnementales uniques. Le mémoire débute avec l'observation que la performance climatique du pays est basé sur les responsabilités communes mais différenciés, le principe du pollueur payeur et le droit au développement. Cependant, pour cause de changements dans les sphères économiques et politiques durant les trois dernières décennies, une réorientation vers une approche plus progressiste est perceptible. La première période progressiste s'étend de la moitié des années 1980 à 1992 et l'adoption de la Conférence Cadre des Nations Unies pour le Changement Climatique et la tenue de la Conférence des Nations Unies pour l'Environnement et le Développement. La seconde période de progressivité s'étale de 2007 à 2009 quand le Brésil a volontairement adopté l'objectif de réduire ses émissions des gaz à effet de serre et a approuvé le Plan National et la Politique Nationale sur le Changement Climatique. Ce courant progressiste a néanmoins diminué entre 1993-2006 et n'a pas été perçue de manière continue après 2010. L'objectif principal de ce mémoire est de documenter, d'analyser ces changements dans la politique nationale et la politique extérieure de réduction du changement climatique brésilienne ainsi que d'essayer de les expliquer sur la base du concept de fenêtres d'opportunités qui combine influences domestiques et internationales. Sur la base de cette analyse, il conclue que l'existence de ces fenêtres d'opportunités peut expliquer les changement des périodes les plus progressives.

Mots-clés: Changement politique. Progressivité. Fenêtre d'opportunité. Changement climatique. Politique climatique brésilienne.

ZUSAMMENFASSUNG

NASCIMENTO, Carolina Gomes. **Brazilian climate change policies: a study of windows of opportunity in terms of continuities and ruptures.** Supervisors: Prof. Dr. Agni Kalfagianni (VU) and Fabiano Toni (UnB). Amsterdam: VU/UnB, 2014. Master thesis (Master in Environment and Resource Management at *Vrije Univesiteit* Amsterdam and in Sustainable Development at University of Brasilia).

Diese wissenschaftliche Arbeit analysiert den Wandel der brasilianischen Klimawandel-Politik zwischen 1970 und 2013. Die Analyse beruht zum einen auf einer intensiven Literaturrecherche und zum anderen auf politischen Positionspapieren. Brasilien hat international eine große politische und ökonomische Bedeutung und sticht hervor durch seine einzigartigen klimatischen und umweltbezogenen Charakteristika. Die Analyse setzt an der Beobachtung an, dass Brasiliens Klimapolitik auf den Prinzipien 1. allgemeine aber differenzierte Verantwortung, 2. der Umweltsünder zahlt und 3. das Recht weitere Prinzipien zu entwerfen, beruht. Innerhalb der vergangenen Jahre, verursacht durch politischen und ökonomischen Wandel, konnte jedoch eine Abkehr von diesen Prinzipien hin zu einer deutlich progressiveren politischen Herangehensweise in Bezug auf Klimawandel beobachtet werden. Die erste progressive Phase zeichnete sich Mitte der 1980er Jahre bis 1992 ab, gekennzeichnet durch die Einführung der „United Nations Convention on Climate Change“ und durch Ausrichten der „United Nations Conference on Environment and Development“. Die zweite als progressiv zu wertende Phase liegt zwischen 2007 und 2009. Brasilien akzeptierte auf freiwilliger Basis die Ziele der GHG Emissionsreduktion und stimmte zu, den „National Plan“ und die „National Policy of Climate Change“ umzusetzen. Zwischen 1992 und 2007 jedoch zeigte sich eine vermindert progressive Umweltpolitik. Dieser Trend folgte nach der zweiten progressiven Phase (2007-2009) bis zum heutigen Tage. Das Hauptmotiv dieser wissenschaftlichen Arbeit ist es, diese Veränderungen der brasilianischen Klimawandel-Politik auf nationaler und internationaler Ebene, zum einen, zu analysieren, und zum anderen, beruhend auf dem „windows of opportunities“ Konzept, zu erklären. Dabei werden nationale und internationale Einflüsse kombiniert. Basierend auf dieser Analyse ist zu schlussfolgern, dass das Konzept „windows of opportunities“ in der Tat die Veränderungen in den progressivsten Phasen erklären kann.

Schlagworte: Politikwandel. Entwicklung. *Windows of opportunities*. Klimawandel. Brasilianische Klimapolitik.

LIST OF FIGURES, FRAMES AND TABLES

Figure 1: Dependent and independent variables	7
Figure 2: Brazil's GHG Emission pattern in 2010	33
Frame 1: Thesis' research question, objectives and hypothesis	3
Frame 2: Key theoretical concepts	23
Frame 3: UN's Environmental Conferences (Appendix A)	80
Frame 4: IPCC's General information and Working Groups (Appendix B)	82
Frame 5: IPCC's Assessment Reports (Appendix C)	84
Frame 6: UNFCCC's COP's and KP's MOP's main outcomes (Appendix D)	85
Frame 7: KP's Flexibilization mechanisms (Appendix E)	88
Table 1: GHG total emissions rates from 2005 and 2011	26
Table 2: Brazil's 2011 scenario	31
Table 3: Brazil's emission and deforestation patterns	32
Table 4: Brazilian voluntary GHG reduction commitment	44

LIST OF ABBREVIATIONS AND ACRONYMS

ADP: Ad Hoc Working Group on Durban Platform for Enhanced Action;

AR4: IPCC's 4th Assessment Report;

AR5: IPCC's 5th Assessment Report;

AWG-KP: Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol;

AWG-LCA: Ad Hoc Working Group on Long-term Cooperative Action under the Convention;

BASIC: Brazil, South Africa, India and China Group;

BFCC: Brazilian Forum on Climate Change;

BFP: Brazilian Foreign Policy;

BRICS: Brazil, Russia, India, China and South Africa Group;

CDM: Clean Development Mechanisms;

CIDES: Interministerial Commission for Sustainable Development;

COP: Conference of the Parties of the United Nations Framework Convention on Climate Change;

ET: Emissions Trading;

EU: European Union;

FAR: IPCC's 1st Assessment Report;

FHC: Fernando Henrique Cardoso;

G-20: Group of the 20;

G-77: Group of the 77;

GDP: Gross domestic product;

GHG: Greenhouse gas;

ICGCC: Interministerial Commission on Global Climate Change;

IMF: International Monetary Fund;

IPCC: Intergovernmental Panel on Climate Change;

JI: Joint Implementation;

KP: Kyoto Protocol;

LULUCF: Land use, land use change and forestry;

MCT: Brazilian Ministry of Science and Technology;

ME: Brazilian Ministry of the Environment;

MER: Brazilian Ministry of External Relations;

MOP: Conference of the Parties of the Kyoto Protocol;

MPBM: Brazilian Ministry of Planning, Budget and Management;

NGO: Non-Governmental Organizations;

NPICC: National Plan of Climate Change;

NPoCC: National Policy of Climate Change;

OECD: Organization for Economic Cooperation and Development;

Proálcool: National Ethanol Programme;

REDD(+): Reducing Emissions from Deforestation and Forest Degradation;

Rio+20: United Nations Conference on Environment and Sustainable Development;

SAR: IPCC's 2nd Assessment Report;

SSE: Special Secretariat for the Environment;

TAR: IPCC's 3rd Assessment Report;

UN: United Nations;

UNCED: United Nations Conference on Environment and Development;

UNCHE: United Nations Conference on the Human Environment;

UNEP: United Nations Environment Program;

UNFCCC: United Nations Framework Convention on Climate Change;

USA: United States of America;

WMO: World Meteorological Organization;

TABLE OF CONTENT

INTRODUCTION	1
1 THEORETICAL FRAMEWORK.....	7
1.1. DEPENDENT VARIABLE	7
1.2. INDEPENDENT VARIABLES.....	9
2 BRAZILIAN CLIMATE CHANGE PERFORMANCE.....	25
2.1. BACKGROUND INFORMATION.....	25
2.2. BRAZILIAN CLIMATE CHANGE MILESTONES.....	33
3 BRAZILIAN CLIMATE CHANGE POLICIES AND WINDOWS OF OPPORTUNITY: AN ANALYSIS OF PROGRESSIVENESS	49
3.1. CHANGES IN BRAZILIAN CLIMATE POLICIES EXPLAINED BY WINDOWS OF OPPORTUNITY	49
CONCLUSIONS	67
BIBLIOGRAPHIC REFERENCES	70
APPENDIX A	80
APPENDIX B.....	82
APPENDIX C.....	84
APPENDIX D	85
APPENDIX E.....	88

INTRODUCTION

How can changes in Brazilian domestic and foreign policies on climate change mitigation be explained? The present thesis focuses on this question.

Brazil is a continental-sized country without great power in terms of military and technological resources. Its main distinction is its environmental heritage, placing it centrally on the international agenda (RICUPERO, 2007). The country has the most significant forest carbon stocks, largest biodiversity, most vast arable lands and the most competitive agribusiness in the world, the third biggest potable water stocks, most efficient ethanol production and world's second largest hydraulic energy production and reserve worldwide (VIOLA, FRANCHINI and RIBEIRO, 2013).

It will be one of the countries most affected by global warming impacts (VIOLA and FRANCHINI, 2012) and therefore has supported the international climate regime since its beginning (SERRA, 2008). The stance the country adopted towards the climate change problem has changed since the 1970's. Two periods are identified as the most progressive¹ in Brazilian policies: (1) from mid-1980's to 1992, when hosted the United Nations Conference on Environment and Development (UNCED) and signed the United Nations Framework Convention on Climate Change (UNFCCC); (2) between 2007 to 2010, when internationally assumed volunteer goals of Greenhouse gas (GHG) emissions reduction, and domestically approved a National Climate Change Plan and Policy. Changes in the domestic and international climate policies between 1993-2006 and after 2010 can be considered less progressive (VIOLA, 2013a).

Preoccupations about changes in the atmosphere's composition due to air pollution date back to the 19th century, when several governments decided in favour of controlling this pollution (CALISING, 2005). Climate concerns have evolved ever since, and nowadays researchers posit that the uncertainty brought by climate change will be the major driving factor of societies, including the Brazilian, in the future (VIOLA, FRANCHINI and RIBEIRO, 2013).

Numerous publications have been produced in the past years regarding climate change and its characteristics. More recently, many scholars are focusing on expectations involving a

¹ Concept defined in chapter one.

new international climate binding agreement (KEOHANE and RAUSTILA, 2008; ZHANG, 2009; BIERMANN, PATTBERG and ZELLI, 2010; PATTBERG and MERT, 2013; RONG, 2010; KLEPPER; 2011). Others, throughout the last decades are based on the historic course of climate change actions (KESKITALO, WESTERHOFF and JUHOLA, 2010; VIOLA, FRANCHINI and RIBEIRO, 2013; VIOLA, 2002; GUPTA, 2010; AGUIAR, 1997; FONSECA, 2007); on the formation and behaviour of country coalitions (GUPTA, 2010, 2012; VIOLA, FRANCHINI and RIBEIRO, 2013; HOCHSTELLER, 2012; HOHNE, 2011; RONG, 2010; COSTA E SILVA, 2011); on the existing legal instruments and their flexibilization mechanisms for the achievement of goals (BOYLE, 2013; GRUBB *et al*, 2011; PISTORIUS, 2012; GUPTA, 2012; KLEPPER, 2011; BAKKER and ASSET, 2011; MENDES and COSTA, 2010); on the scientific sphere of the regime or on the mitigation and adaptation possibilities²; or on the prevention, precaution and inherent uncertainties (IPCC, 1990, 2000, 2007, 2013; HULME, 2010; STERN, 2006; VIOLA and FRANCHINI, 2013a).

Still others focus on the Brazilian role considering consistencies, inconsistencies and shifts between domestic and external climate change policies adopted over the years (VIOLA, 2009a; 2013a; 2013b; COSTA E SILVA, 2011; SERRA, 2008; BARROS-PLATIAU, 2006, ESTEVO, 2012; VIOLA and FRANCHINI, 2013a; 2011e; LIMA, 2012; VIEIRA, 2013; LAGO, 2007; BRASIL, 2010; CINDES, 2011; NEVER JUNIOR, 2011).

Few, however, are considering a more comprehensive approach of countries policies, correlating the main domestic and international variables in order to better understand the ones that had the most influence (BRUNNER, 2008; BULKELEY and KERN, 2006; HARRISON and SUNDSTROM, 2010)³. Even scarcer are the studies that encompass a broader approach on climate change applied to the Brazilian course of action, aiming to understand the reasons why some changes are observed.

The present research fills this gap by trying to analyse the observed development of Brazilian domestic and foreign policies on climate change mitigation, considering domestic and international influences. This thesis aims to answer the following research question: **"How can changes in Brazilian domestic and foreign policies on climate change mitigation be explained?"** and the main objectives and hypothesis can be found in frame 1.

² Mitigation relates to actions taken to stop the causes (in this case, reduce GHG emissions) and adaptation relates to the actions taken to contain the effects and consequences of climate change.

³ Germany; Germany and United Kingdom; United States (USA); European Union (EU); Russia; China; Japan; Canada; and, Australia.

Frame 1: Thesis' objectives and hypothesis.

General objective	<ul style="list-style-type: none"> • To analyse progressive changes in the Brazilian domestic and foreign climate change mitigation policies based on the windows of opportunities concept.
Specific Objectives	<ul style="list-style-type: none"> • To conceptualise and comprehend Multiple Streams Framework in combination with international regimes theories to encompass international influences, especially the characteristics and requirements to enable windows of opportunity occurrence; • To examine how Brazilian mitigation policies have evolved since the 1970's; and • To correlate Multiple Streams Framework with the shifts in Brazilian climate change policies, examining the correspondence of progressive changes with windows of opportunities moments.
Hypothesis	<ul style="list-style-type: none"> • Domestic factors are the main influencers of the observed windows of opportunity.

Source: elaborated by the author.

The research starts with the assumption that changes in the Brazilian climate change mitigation policies and stance were driven by domestic and international influence factors and that the more progressive changes are correlated with the occurrence of windows of opportunity.

Given the inherent complexity in analysing the climate change issue, studies that complement the existing literature are important to increase the understanding of the thematic. Moreover, the broadening of this kind of research can empower academy and policy-makers with instruments to better understand the scenario, facilitate decision-making, anticipate future stances and enable solutions.

This research encompasses a historical-explanatory study that tries to test the theoretical approach of Multiple Streams Framework in explaining the observed changes⁴, the methodology was a comprehensive literature review and the qualitative strategy of inquiry used as research method was the Brazilian climate change policies study case and the deductive research design approach, testing the applicability of the chosen concepts and theories.

⁴ The research methodology applied in the thesis had the objective to answer the research question, the hypothesis, fulfil the proposed objectives and provide a explanation of the researched object (EVERA, 1977; THIOLENT, 1986). The main objective is proposing a better understanding of relations between the independent and dependent variables, which will be measurable qualitatively (EVERA, 1977).

The data compilation consisted of an extensive bibliographic research of the main articles and books related to the topic; both national and international official reports; and, domestic policies, to better understand the historical path of Brazilian climate change policies and the theoretical framework. The analysis organised information, classified it in terms of continuities and changes to better understand them (THIOLENT, 1986), in terms of window of opportunity creation. The data interpretation and discussion express the findings' significance in terms of comparisons and connections (THIOLENT, 1986), giving a broader sense to the changes in Brazilian policies and to the chosen theoretical frameworks.

The timeframe started in the 1970's, when environment and climate change started to consolidate as important issues in the international agenda, and for methodological purpose, ended in 2013 and considered available literature of 2014.

To address the objectives and answer the research question, this thesis has the following structure: the first chapter, addresses both dependent variables, conceptualizing policy change and progressiveness, and independent variables, determining theoretical bases of Multiple Streams Theory, along with their main characteristics and requirements for the occurrence of windows of opportunity, combining domestic facts with the ones correlated to international regimes of climate change.

The second chapter is divided in three subparts. The first covers, briefly, the background information regarding climate change international regime. The second presents the historical, political and socioeconomic background in which Brazil fits and the characteristics of its GHG emissions. The third approaches the Brazilian role in face of climate change. Both continuities and ruptures on Brazilian mitigation policies' evolution are observed.

The third one synthesises ideas presented in the previous chapters, operationalising the theoretical outline, discussing the correlation between the most progressive changes in the Brazilian climate policies and the existence of windows of opportunities, which is the result of problem, policy and politics streams alignment, which facilitates policy changes (KINGDON, 1984). The thesis concludes that the international level was instrumental in creating a window of opportunity for domestic changes. Therefore change cannot only be attributed to domestic factors as the initial hypothesis made.

More specifically, the following factors, further explained in chapter three, played a role in creating the windows of opportunity, helping to operationalise the concept. At the

domestic level: (1) In the problem stream: domestic pressure for environmental problems' recognition; domestic public opinion awareness raising on carbon sinks and biodiversity; variations in deforestation patterns; controversies in the ethanol production; and, domestic public opinion and Non-Governmental Organizations (NGO) pressure regarding ethanol, soybean and livestock production. (2) Regarding the policy stream dynamics: Marina Silva's candidacy for presidency in 2009 and 2014's coming elections; domestic pressure due to deforestation patterns variation; and, the Brazilian economic incentive packet endorsing heavy carbon reliant industries to overcome 2008's crisis. (3) Considering events in the political stream: contradictory positions of Ministries regarding climate change, sustainability and the objectives of the economic packet; impact of Marina Silva's resignation from the Ministry of Environment (ME), the appointment of Carlos Minc afterwards and later the appointment of Izabella Teixeira for the ME and shift towards a more conservative approach; and enlargement of the rural and oil branches' influence over the policy-building process. (4) Regarding problem and policy streams' interactions: domestic promotion of Amazon's carbon sinks and biodiversity. (5) Within problem and political streams' common events: polemic debate on the Forest Code's reformulation and further approbation; and, Minc's operationalisation of the National Plan on Climate Change's (NPICC). (6) In policy and political streams' shared events: inclusion of environmental concerns in governmental agenda; elevation of environment issues towards a central position in the domestic agenda; Marina Silva's entrepreneurship in among the government's actor and existing policies; Interministerial Commission on Global Climate Change (ICGCC) orchestration of government's institution encompassed in domestic and foreign climate policies; ethanol diplomacy and the pre-salt oil layer discovery; increased capabilities of the government's monitoring and enforcing environmental policies; and, the establishment of protected areas. (7) Lastly, considering events that affected the three streams simultaneously: the convergence of the sectors and stakeholders related to environmental and climate change policies; economic growth and its inherent demand for energy; and an overall dissatisfaction of the Brazilian public opinion regarding economy, politics, social and cultural spheres with potential to encompass environmental issues.

At the international level: (1) In the problem stream: international pressure for environmental problems' recognition; international public opinion awareness raising on carbon sinks and biodiversity; the Intergovernmental Panel on Climate Change's (IPCC) Assessment Reports in endorsing climate change problem; Brazil placing among the five

largest emitters; and, international public opinion and NGOs pressure regarding ethanol, soybean and livestock production. (2) Regarding the policy stream dynamics: promotion of the country's clean energy matrix; and, international pressure due to deforestation patterns variation. (3) Considering events in the political stream: international promotion and recognition of sustainable development; leadership among Kyoto Protocol's (KP) countries during the USA's withdrawal; maintenance of the country's leadership position among developing countries; presentation of emissions reduction voluntary commitments in 14th Conference of the Parties (COP); and, hosting of United Nations Conference on Environment and Sustainable Development (known as Rio+20). (4) Regarding problem and policy streams' interactions: 1980's economic crisis scenario; and, international promotion of Amazon's carbon sinks and biodiversity. (5) In policy and political streams' shared events: Brazilian international image regarding the lack of environmental policies; political debate in both launching the candidacy and hosting the UNCED; and, the Brazilian proposition on avoided deforestation mechanisms. (6) Lastly, considering events that affected the three streams simultaneously: international pressure for the adoption of a more environmentally progressive stance.

The entrepreneurs who helped converging the streams into a window of opportunity were: Fernando Collor, during his presidential mandate; Marina Silva, as presidency candidate; Carlos Minc ahead of the ME; and, the Ministry of External Relations (MER).

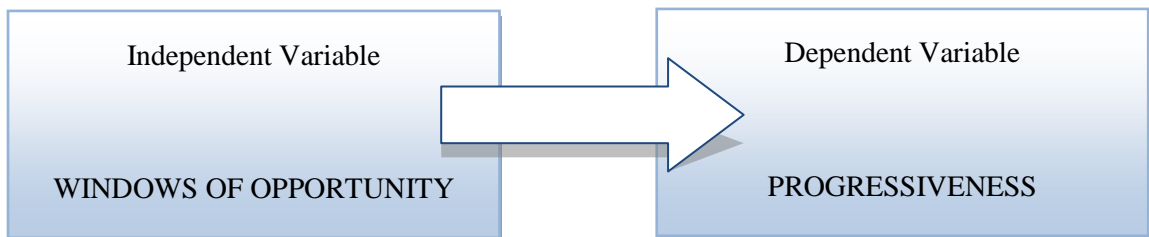
1 THEORETICAL FRAMEWORK

This chapter presents the concepts and theories that allows a better understanding on how progressive changes in Brazilian climate change mitigation policies can be explained by the windows of opportunity, influenced by domestic and international factors.

Climate change, despite being a global common problem, and having an international regime to act upon the issue, experiences implementation of mitigation and adaptation efforts on the domestic level (HARRISON and SUNDSTROM, 2010). Therefore, no level seems to be enough to explain countries' climate change actions and a combination of theories that address both policy levels seems suitable.

In order to operationalise the analysis, three theoretical definitions are relevant to fulfil the goal and investigate the hypothesis. The dependent variable is related to policy change, explaining what has changed in Brazilian policies, whether it has become more or less progressive. The independent variables are the ones that help to explain the reasons of these changes. Multiple Streams Framework is complemented by theories of International Regimes, to encompass domestic and international influences on windows of opportunity, as seen in figure 1.

Figure 1: Dependent and independent variables.



Source: elaborated by the author.

1.1. DEPENDENT VARIABLE

The concept of policy change and its characterisation as more or less progressive is the dependent variable of this research.

1.1.1. Policy Change and Progressiveness

On a daily basis, in order to solve societal problems, politicians have to decide whether or not they have all the necessary information and considerations regarding the problems (BRAYBROOKE and LINDBLOM, 1963). Former conditions, perceptions and information regarding problems can change and new political decisions can be made or adapted, leading to incremental or sometimes major changes.

Theories that study changes in policies differentiate them accordingly to distinct classifications (e.g. incremental, drastic, diffusion, accommodation) as the focus of this thesis is not to analyse in depth the changes but the reason why the Brazilian mitigation policies have change⁵ these classifications are not addressed. Changes within policies can be comparable even if they marginally differ (BRAYBROOKE and LINDBLOM, 1963). Therefore, policy change will be considered simply when a new adopted policy differs from the previous one, regardless if it is an incremental or a drastic change.

To operationalise changes in the Brazilian climate change mitigation policies and stance, the idea of 'progressiveness' is be used as a concept to describe in a simplified way when it is becoming more sustainable in terms of resources use, environment and climate concerns. The concept of progressiveness⁶ will be used as a way to compare policies and stances adopted over the years, but not as a quantifiable concept.

The concept is used in contrast with less sustainable or more conservative policies, in which the policies tend to mitigate the climate scenario less or wishes to maintain the status quo scenario, tending to emphasise economic growth at any cost and not being guided by sustainable, environmental or climate concerns.

Changes in Brazilian climate change mitigation policies are characterised as progressive further in this thesis whenever they tend to favour the mitigation of climate change more than previous ones adopted. However, as said before, this will not be quantified,

⁵ It can have three-order shift: (1) changes in policy instruments settings, with *status quo* maintenance; (2) replacement of policy instruments, with incremental nature; and (3) drastic shifts in policy goals and ideological paradigms. Another differentiation is as types, qualify the degrees of change as: (1) high, involving a rupture of the problem-solving view; (2) medium, involving new and old policy elements; and (3) low, involving substantially old measures (ADAM and KRIESI, 2007 in SABATIER, 2007). Policy innovations can also be classified as diffusion (adoption of a new policy, spread of similar policies within countries) or accommodation (subsequent changes in a policy within the domestic incorporation) (BIESENBENDER and TOSUN, 2014).

⁶ This concept was used in a similar study made by Brunner (2008) that used Multiple Streams Framework to analyse emissions trade system in Germany. More sustainable policies have the same characterisation used in this thesis.

but characterizing a change or reform that improves or aims to improve mitigation conditions or has adopted a mitigation pathway of continuous improvement of mitigation actions..

In sum, a progressive change is when a policy change has become more sustainable and/or tends to favour climate change mitigation. In practical terms, regarding climate change policies, more progressive are the ones encouraging emissions reductions decreasing deforestation, biofuels usage, and fostering action plans.

1.2. INDEPENDENT VARIABLES

The independent variables, causes and influences of what is observed, are used to explain changes in Brazilian climate change policies and are grounded in Multiple Streams Framework, especially regarding windows of opportunity concept. To expand its application within the international perspective, a combination with the international regimes theories is made. The framework in which international events that influence changes in Brazil took place, and to differentiate from climate change actions which occurred outside the regime - not addressed by this thesis.

Within the domestic level, reasons why countries participate in the climate change international regimes and act upon the issue are: self-interest (politicians and stakeholders perception of environmental issues); ideas (politicians ideas, values and knowledge of climate change); and political institutions (election systems and authority concentration). Public support, compliance cost to ratify agreements, concerns related to economic growth and the impact of historical variables are also listed as reasons (HARRISON and SUNDSTROM, 2010).

1.2.1. Multiple Streams Framework

In 1984, Kingdon conceptualised a theory of policy-formation which tries to better understand how changes occur in policy, why some issues move into and up the government's decision agenda, while others do not, and why countries' experience of extended periods of relative stability are followed by periods of changes (KINGDON, 1984). This theory is mostly applied for abrupt rather than incremental changes and was chosen to explain periods of progressive changes in Brazilian climate change policies.

Multiple Streams Framework endorses the importance in setting the agenda in the policy-building process, pointing that changes occur under some circumstances within three main streams: problem, policy and politics, converging into a window of opportunity for policy change (KINGDON, 1984).

1.2.1.1. Agenda and Policy cycle

Agenda is the list of issues that are being paid attention to inside or outside the government, and there are three types: (1) non-governmental (or systemic), encompassing the issues and subjects acknowledged by public opinion, but still apart from the government's sphere; (2) governmental, regarding all issues that have escalated to the institutional scenario and are embedded in public management, but not necessarily receiving proper political definitions; and, (3) decision, which is composed by those, in fact, addressed by the State (KINGDON, 1984). In summary, for a problem to be listed in the government's agenda and reach an effective decision, it requires proper political addressing and attention (GOMIDE, 2008) and the purpose of it is to narrow the amount of conditions which are focused upon (KINGDON, 1984).

The policy cycle perceives not only the relationship between intentions and actions, but also between government and social, economic and political environments (PINTO, 2008). The cycle has been divided into phases in order to detail the processes and improve the understanding on decision-making processes, but in reality it can occur differently.

Kingdon identifies four distinct and sequential phases: (1) agenda-setting: this stage focuses on identification, definition and incorporation of a problem in the government's agenda, how it comes to the political debate after capturing attention; (2) alternatives specification: definition of solutions from which the decision will be made; (3) authoritative choice: phase of policy formulation and legitimisation, in which a solution selection is made, when the search for legitimacy and necessary political support for the approval, the decision itself and its formalization occurs; and (4) policy-implementation: phase in which the operationalisation and implementation of decisions is done (KINGDON, 1984)⁷.

⁷ Another phase, contemplated by other scholars, is the Policy-evaluation, in which the evaluation of the achieved results is made, comparing the impacts obtained with the intended objectives and suggestions about necessary changes (PINTO, 2008). However this phase is not addressed in this thesis.

1.2.1.2. Policy streams

Kingdon's theoretical approach is grounded in the concept of three different streams, which *per se* are independent and not necessarily rely on the other actors' involvement, but also have simultaneous activities. They usually follow different patterns, independent flows and developments inside a country, according to their own intrinsic dynamics. Changes within one stream may or may not impact on the other (KINGDON, 1984).

However, in the existence of a common flow and intersections between them, there is the generation, temporarily, of a window of opportunity, which occurs when a "problem is recognised, a solution is developed and available in the policy community, a political change makes the right time for policy change and potential constraints are not severe" (KINGDON, 1984: 174).

1.2.1.2.1. Problem stream

Problem stream regards how issues acquire governmental attention (KINGDON, 1984), the perception of a condition as a problem that needs to be addressed publicly, how they are recognised and treated as problems (PINTO, 2008), and the conditions which are interpreted by policy-makers, promoted by the media and public deliberation (BRUNNER, 2008; SAINT-GERMAIN and CALAMIA, 1996). This context concentrates all societal problems, whose majority, nonetheless, are not receiving proper attention by the policy-makers (STIGT, DRIESSEN and SPIT, 2013).

The problem is more than a difficulty, it is a difficulty that can be acted upon and there is willingness to solve it⁸ (PINTO, 2008). Problems can be perceived as measurable conditions that emerge from given context and provoke policy-makers, interest groups or other relevant actors in the process to converge their attention and efforts (ACKRILL, KAY and ZAHARIADIS, 2013)⁹. However, a problem may exist but also never reach the formal

⁸ Usually, the specialist's interpretation defines in which policy area the problem will be addressed.

⁹ Both the uncertainty and the scaling of a problem towards its decision is more related to the governmental environment, the acceptance of the issue and the authors involved in the decision, elaboration and policy-implementation than in with its origin (PINTO, 2008). Also, ideas only acquire political influence if they are addressed by political actors inside the government's framework, either creating opportunities or constraints for other actors (THEOBALD and KERN, 2011; SAINT-GERMAIN and CALAMIA, 1996; ZAHARIADIS, 2007).

agenda if the possible solutions are not feasible or if it has not drawn enough community interest, especially on the decision-making sphere (KINGDON, 1984).

Situations might become problems by the (1) force of indicators and academic knowledge accumulation stating the magnitude of the problem, which might change its interpretation, significance and compliance, (2) focusing events, such as crises and disasters; and (3) feedback of existing policies providing information on success and failure performances (KINGDON, 1984). Problems can also decrease in importance over time, as people become used to it, through budget limitations or decreased expectancy of solving it (KINGDON, 1984; SAINT-GERMAIN and CALAMIA, 1996; ZAHARIADIS, 2007). This stream is connected to the first phase of policy cycle, agenda-setting.

1.2.1.2.2. Policy stream

Policy stream relates to the analysis of and proposed solutions to the problem in the current scenario; the generation of a policy proposal developed by specialists that surround the policy-makers (KINGDON, 1984). Policy-makers, however, perceive solutions when these fit into the needs they have surrounding the problem (STIGT, DRIESSEN and SPIT, 2013; SAINT-GERMAIN and CALAMIA, 1996). Additionally, policies can also be understood as ideas or solutions developed by experts to solve given situations (ACKRILL, KAY and ZAHARIADIS, 2013) and tend to reflect the values of the acquired scientific knowledge and consensus built among those responsible for the solutions' research (SAINT-GERMAIN and CALAMIA, 1996)¹⁰.

Here is where the attention of political entrepreneurs is drawn to the possible solution's feasibility. Once the actors are willing to invest resources for future return in terms of policies in their favour, entrepreneurs tend to consider the community's understanding on the matter and try to anticipate potential constraints that might bias their actions (BRUNNER, 2008). This stream is connected to the second phase of policy cycle, alternatives specification.

¹⁰ The possible alternatives must abide by specific criteria to become an actual solution, in accordance with the values of society, technical and budget feasibility, political and public support and capability of solving the issue. The acceptance of the proposals in scaling the government agenda relies much more on the government atmosphere than on who actually makes the proposal (PINTO, 2008).

1.2.1.2.3. Political stream

Finally, Kingdon (1984: 152) proposed that the political stream is "composed by public mood, pressure group campaigns, election results, partisan or ideological distributions in Congress, and changes in administration". Alternatives on the agenda compatible with the national mood catch interest of supporting groups or lack of opposition and are in accordance with legislative and administrative coalitions and inclinations are more likely to be decided upon (KINGDON, 1984).

Occurrences in this stage are those that foster the appearance of a window of opportunity, enabling the adoption of new policies (BRUNNER, 2008; SAINT-GERMAIN and CALAMIA, 1996). This stream is, therefore, the main scenario where the policy-building process is carried through (ACKRILL, KAY and ZAHARIADIS, 2013; ZAHARIADIS, 2007).

Changes in this stream can provoke reactions in the policy stream towards an alignment with the problem on the existence of an "institutional window": elections; public opinion oscillation; pressures of interest groups; media campaigns; appearance of a new problem; and, a focusing event or shifts in the government structure. While election turnover seems to affect the agenda more, the combination of organizing forces affects the policy stream (KINGDON, 1984).

This stream relates to the political process itself, after the problem is compiled and possible solutions discussed and accepted as feasible. Consensus is built by persuasion, diffusion and negotiation. Coalitions are built not only by persuasion but also, and especially, because non-compliance means exclusion of possible future benefits. The solution chosen does not necessarily represent a consensus, but an agreement to facilitate it in turning into an actual policy (PINTO, 2008).

Thus, when reached by the involved actors, collective choice is not simply the result of gathered individual efforts towards a solution, but rather the resulting combination of structural forces and negotiation processes which highly regards surrounding context. Also, it must be stressed that political systems encompass many sub-systems at their core, which can either facilitate the addressing of multiple issues (parallel processing), or shame the process of prioritizing subjects, by subjective interest reasons, in the political agenda (ZAHARIADIS, 2007). This stream is connected to the third phase of policy cycle, authoritative choice - selection of solutions and search for legitimacy and political support.

1.2.1.3. Policy streams alignment: Windows of opportunity

A window of opportunity can be conceptualised as the result of problem, policy and political streams' alignment in a critical time conjuncture, facilitating policy changes and the movement of issues inside the formal agenda (KINGDON, 1984). In addition, a window of opportunity can occur simultaneously with the emergence of given problem, where there is already a possible solution available and a favourable political context (GULDBRANDSSON and FOSSUM, 2009; ZAHARIADIS, 2007).

The occurrence of this streams-convergence allows for windows of opportunity: moments where the policy entrepreneurs can act, driving attention to their issues and push for solutions. This phenomenon is governed by changes in the streams - as crises or focusing events influencing the problems stream, or as elections and changes in national moods influencing policy/political streams and can have a spill over effect, enabling other issues to receive attention and scale on the agenda (KINGDON, 1984). Windows stay open for short time periods to be acted upon, otherwise, upon closing another window must be awaited (STIGT, DRIESSEN and SPIT, 2013). Their closure can be related to the feeling of having addressed the problem, alternatives either have failed to solve the situation or do not exist, politicians aren't favourable and/or new administrative or politicians changes (KINGDON, 1986).

Lastly, without a window of opportunity, the problems to be addressed and their possible solutions would not result in policy implementation and will remain inactive until the next one interjects on the political agenda (ANNESLEY, GAINS and RUMMERY, 2010). Windows of opportunity are connected to the third phase of policy cycle, authoritative choice - decision moment.

1.2.1.4. Participants of the policy process and Policy entrepreneurs

Kingdon emphasises the role of the active participants, or players, in the three streams process, in terms of identification setting and influence capacity over the streams and its available resources (KINGDON, 1984). The organizations within these streams' interactions are coordinated anarchies bearing preferences, technology, participation, structure and objectives that might be problematic, undefined, fluid, unstable and incoherent. Thus, the

actions are favoured by uncertainty and the preferences identified by actions, in other words, implying that organizations have a dynamic based on their own experience of facing crises - as if by trial and error (KINGDON, 1984).

These so called organised anarchies can have their players classified in governmental actors (participants on the inside) and non-governmental actors (participants of the outside) (KINGDON, 1984)¹¹. The governmental actors group is composed of representatives of the Executive, Legislative and Judiciary branches. An important subdivision is regarding the composition of Central Administration responsible for the establishment of the government agenda and its priorities, in (1) Chief of the Executive, highest authority in the government level studied, that has the power of hiring and firing, veto and public attention, has the ability to dominate and determine the agenda, but not the alternatives or total final outcomes; (2) its executive office staff who receive functions through authority delegation and are involved mostly in the policy stream; and (3) political appointees, appointed advisors by political connections and affiliations, involved more in the agenda alternatives than in defining agenda items (KINGDON, 1984)¹².

The Legislative branch is encumbered with the responsibilities defined in the Constitution and can reach the agenda and the policy stream, particularly regarding the agenda's outcomes which do not share deeper consensus among stakeholders. Their main resources are information, publicity and longevity (KINGDON, 1984)¹³.

Among the players of the Central Administration, it is not possible to declare that some actors rule the process. However, elected politicians and those entrusted in the government do have a bigger influence on agenda-setting (KINGDON, 1984). This reiterates the fact that, although institutions have a significant role in policy-making, their importance is dosed and controlled by individuals and their timing in the political context (ZAHARIADIS, 2007).

¹¹ Governmental, whose participation can be resilient and mutable proportional to the variety of parties and the political arrangements among them, imbues high complexity to negotiations and deter the objectiveness of given issues thusly; and, non-governmental actors, which exercise significant influence over the policy-making process by prioritizing its role and means of action over the issues of their best interest (ZAHARIADIS, 2007).

¹² The bureaucrats, or civil servants, are not empowered with much influence o agenda setting, but they can impact the specification of the solutions (policy stream) and the policy-implementation phase, with resources such as network, expertise, dedication and longevity (KINGDON, 1984).

¹³ The legislative staff helps and works together with Congress members to construct their ideas from a wide range of sources and stakeholders' influence on the alternatives but not the agenda-setting (KINGDON, 1984).

The non-governmental group is variably composed. This specialist group can include researchers, groups of interest, the media, public opinion and the parties. Interest groups specialise in blocking items off the agenda or prioritizing their own alternatives in promoting new courses of action in the government, acting in order to draw (or block) the attention to issues, instead of creating items, propositions, substitutions or amendments on the agenda. Interest groups can be the business and industry, professional and labour unions, public interest groups and lobbyists (KINGDON, 1984).

The subgroup of the scientific community, researchers, academics and consultants, which influence the elaboration and selection of the alternatives more than the agenda's issues, offer viable alternatives that take into consideration both interest and satisfaction of the politicians (KINGDON, 1984)¹⁴.

For Kingdon (1984), public opinion can also be considered by the Political stream, as another factor that acts more as restricting than promoting issues on the agenda. Along with the media, acts as a supporting actor, interpreting the decisions, that can help amplify conflicts and change actions in course, affecting public opinion in a positive or negative way regarding issues on the agenda and possible solutions (KINGDON, 1984).

Finally, according to this theory, the Political parties have influence in different ways, through their coalitions and platforms, leadership impact on the Legislative power, pressure made on its supporters and by vindication of ideologies. Promises made in election campaigns can be the essence of the agenda-setting (after actual election winning), but does not interfere much in the policy stream (KINGDON, 1984)¹⁵.

However, for this theory the most relevant actors are the policy entrepreneurs willing to support and push their problems and/or alternatives into the political mainstream (KINGDON, 1984). Not only the occurrence of an opportunity is what defines whether a given policy will succeed or not, the presence of political actors or entrepreneurs provide the needed synergy to the decision-making process, once they promote the idea by the allocation of resources in its effective implementation (KINGDON, 1984). They can be elected

¹⁴ Haas (1999) set epistemic communities (network of actors who share interest in a particular area, but that stems from several ones), which can stimulate the dissemination of ideas between countries (domestic and international) and institutions playing a fundamental role in the case of voluntary transfers of policies.

¹⁵ Elections are also an important factor in the dissemination of new policies as political campaigns should be made to differentiate the candidate from their opponents (POLSBY, 1984).

politicians, academics or someone sharing interest at any level in the endeavour (SAINT-GERMAIN and CALAMIA, 1996).

Policy entrepreneurs, either person or institutions, seize the active windows of opportunity (STIGT, DRIESSEN and SPIT, 2013), taking advantage of this opportunity scenario to move issues on the decision agenda. They are often responsible, at critical points in the process, for coupling a stream to another, acting as catalysts by bridging the vagueness in the problem's definition to its objective solution, not by merely advocating a particular solution, but by acting as "power broker and manipulators of problematic preferences and unclear technology" (ZAHARIADIS, 2007: 74).

Usually, they already have their solutions designed for the problem and are waiting for the correct moment, in the political stream context, to present and advocate to policy-makers (BRUNNER, 2008). However, they might differ in the level of awareness shown before the different levels of the decision-making process, governance and their own capacity towards the situation to be intervened (HUIITEMA, LEBEL and MEIJERINK, 2011)¹⁶.

Entrepreneurs' performance is critical in the decision of the solution to a problem. They invest resources as time, energy, reputation, know-how and even money with the expectation of future benefit returns. Their action can also be encouraged through incentives such as power pleasure and in participating in decision procedures, promotion of personal interests and values and/or interference in policy-making and formulation (PINTO, 2008). However, a single entrepreneur is not enough to promote policy reforms, once it is a process built in-group in democracies (ACKRILL, KAY and ZAHARIADIS, 2013; GOMIDE, 2008).

Considering the inherent ambiguity of political processes, the involved actors tend to seek a way to manipulate the information around a given issue in order to overcome vagueness towards solution. Here is where political entrepreneurial activity stands out by not merely promoting self-interest, but rather clarifying and fostering meaning for other actors in an entropic context, dividing them, afterwards, into those who manipulate and those who are

¹⁶ This class of actors is often confused with decision-makers, who shift their attention from one problem to another, while entrepreneurs focus on one issue and may appear inside or outside the context of given problematic. Thus, policy entrepreneurs act by means of persistence and negotiation skills, working political connections and resources in order to achieve the desired solution (GULDBRANDSSON and FOSSUM, 2009). Policy entrepreneurs are relevant in policy-making processes especially because of their capacity to contest ideas imbued with singularities inherent of the political sphere in order to mobilise support or opposition towards their interest; thus, their role needs careful development from the broader perspective of the policy-making process (ACKRILL, KAY and ZAHARIADIS, 2013).

manipulated. Moreover, this nuance is special as what sets Multiple Streams Framework apart from others, by considering rationality of choice or constructive persuasion in the policy-making process (ZAHARIADIS, 2007).

In addition, policy entrepreneurs tend to consider possible windows primarily as opportunities to present their solutions and then take the initiative along with policy-makers, taking into account the interests and capacities of not only all the others players involved but the possible outcomes (HUITEMA, LEBEL and MEIJERINK, 2011). Also, the role played by policy entrepreneurs varies according to the context they are inserted in, especially regarding coalitions where the consensus seldom is easily achieved without further negotiations, for example, a multi-party government system (KINGDON, 1984).

1.2.1.5. Critiques

Policy cycle models are largely criticised for addressing the process in a sequential, linear and ordinate way. In fact, the actions' thread is not linear and complementary to the whole political cycle, nor is all alternatives to the problems considered, or even the problems on the government's agenda. However, they are a way to act upon the complex reality and limited analytic capacities and resources trying to explain the majority of decision-making process as possible (BRAYBROOKE and LINDBLUM, 1963).

Despite the existence of policies originated by successive policy cycles, Multiple Streams Framework evaluates cycles not only in a deterministic, rational or linear way, on the contrary of other explanatory models, but also implying that policies can have a probabilistic sphere (PINTO, 2008).

There are authors who disagree with Kingdon's approach, stating that his theory is "too indeterminate to provide fully satisfactory explanations for why some problems receive serious consideration by government while others do not" (MUCCIARONNI, 1992: 459) and that Kingdon should have paid more attention to the institutional structures and inherent processes that "shape, constrain, and facilitate problems and solutions in reaching the agenda" (MUCCIARONNI, 1992: 482).

Another noteworthy remark lies in the argument that the bureaucratic processes inherent to the implementation of the adopted policies should be taken into account, and more attention should be paid to the intergovernmental interaction towards both formulation and

implementation (SAINT-GERMAIN and CALAMIA, 1996). Also, that integrating this theory with other theoretical perspectives could amplify the analysis possibilities and the enhancement of policy cycle models (PINTO, 2008).

Moreover, there is a challenge in distinguishing both theoretically and empirically non-change windows from those which can actually lead to a political reform, once the studies developed in this field tend to recreate given political situations to verify when and where the window of opportunity occurred (ACKRILL, KAY and ZAHARIADIS, 2013).

1.2.1.6. Thesis considerations

Despite criticisms, Kingdon's theory appears to be the most adequate to explain how agendas are decided and defined by national governments under a conflicting context in terms of objectives and policies towards them, once these policies rely on the institutional and political national framework (GOMIDE, 2008). Simplification of complex mechanisms, as policy cycle, can help to theorise and explain other related phenomenon, as this thesis proposed to do.

Thus, Multiple Streams Framework fits to explain the progressive changes in Brazilian climate change policies - trying to identify if correspond to moments of windows of opportunity, while other changes, comparatively less progressive or more conservative, do not.

The thesis considers the windows of opportunity concept as the critical moment when problem recognition (is the issue considered a problem?), solutions (are there viable alternatives?) and policy-makers (are there politicians willing to implement the alternatives, are the political forces favourable?) converge in making a change in the policy arena more likely to happen, usually acted upon by policy entrepreneurs. To encompass international influences in the policy changes, facts correlated to the climate change international regime it are aggregate.

Regarding windows of opportunity length of time, this thesis is based on Ackrill, Kay and Zahariadis (2013) claim that they are not only available briefly, they can last a few years. Once they are a direct result of each event encompassed in the policy-making process (problems, solutions, actors, events, etc.), the length of time for which they can be opened may vary considering the scope of all the variables encompassed and, most importantly, of

their interaction, thereby sustaining the window for longer periods and increasing the timing for opportunities.

1.2.2. International Regimes influence on windows of opportunity

To increase the scope of Kingdon's Framework, accounting factors that could have influenced Brazilian climate change policies shifts for the international arena, comes concepts of International Regimes theories is combined as an analytical source. These concepts are also important as the scheme in which international influential events develop and as a delimitation from those that happened outside the regime.

The policy dynamic is composed of two policy games at the domestic and international levels occurring simultaneously which should be resolved by the countries and not underestimated. Domestically, national groups try to make their interests prevail and internationally, governments try to maximize the achievements and to satisfy domestic pressures and coalitions (PUTNAM, 1988; BRUNNER, 2008; WANG and CHEN, 2013). Therefore, this two level policy games have domestic and international spheres influencing each other.

The study of the international environmental issues points to the necessity of collaboration among actors for the development of not only solutions for emerging problems, but to raise the gathering and co-optation of the actors around these thematic, as the domestic policy making. International cooperation, unbiased or thought international regimes, is present in diverse international relations spheres, including in climate change. The international climate change regime puts pressure on the Brazilian government to adopt more progressive policies towards climate change mitigation and can influence in the windows of opportunity.

1.2.2.1. International Regimes

The liberal-institutionalist approach to international relations projects on international cooperation and on the role played by institutions is the most efficient and effective way to settle the controversies internationally. Through cooperative arrangements between actors often emerge what can be understood as international regimes. Keohane and Nye (1977) define regimes as sets of management arrangements that include rules and norms, and practices networking which regulates the behaviour and affects control. Conversely, Krasner

(1983: 02) defines regimes as "sets of implicit or explicit principles, norms, rules, and decision-making procedures around which actors' expectations converge in a given area of international relations".

Keohane (1984) supports that international cooperation occurs because the interests of the actors are not harmonic at first. From this incompatibility emerges the necessity to adjust these interests into decisions, aiming for results. In that sense, cooperation is not without conflicts, on the contrary, it is a process designed to settle them. Furthermore, it is a process of interests, policies and objectives coordination, of which its own occurrence is self-propelling (KEOHANE, 1984). Similar processes occur domestically in the political streams, the coordination of interests toward the decision-making, not necessarily with the best solution for the issue, but the best solution available and agreed among actors in a process that involves, as in the international regimes, cooperation, persuasion, coalitions, and agreements.

International Regimes aim for the internalisation of norms, alteration of results and transformation of the actors' perception regarding possible results in cooperation for solutions of given issues, affecting the domestic sphere. Thus, regimes raise the chance of cooperation while creating mechanisms to help information sharing and creating expectations on reducing autonomous actions occurrence (OYE, 1986), also by establishing reciprocity in terms of sharing responsibilities between actors (KRASNER, 1983).

Therefore, the thesis examines the role of international regimes, specifically the climate change regime, in amplifying the influences in the windows of opportunity from only within the domestic level to the international one also. International regimes are perceived as something more than temporary arrangements, for not changing according to each and every power or interest shift¹⁷, once implemented they affect both behaviour of involved actors and results (KRASNER, 1983).

1.2.2.2. Critiques

This theoretical approach has received increasing criticism since the 1990's because of the emergence of alternative approaches that might help better understand the climate change issue and the increasing number of actions being done outside the regime boundaries, often

¹⁷ Thus, there is a distinction between international regimes and agreements: agreements are designed for a specific goal, most often singular, while regimes aim to facilitate the agreements (KRASNER, 1983).

not based on the state-sovereign vision but on a multi-scale and transnational governance pattern (BETSILL and BULKELEY, 2006; VIOLA, FRANCHINI and RIBEIRO, 2013; WANG and CHEN, 2013; MONCEL and ASSELT, 2012).

Additionally, there are the complexities inherent to climate change: the difficulty of dealing with a large group of countries with such different interests, the scope of global emissions reached by the existing agreements, difficulties in co-opting the largest emitters, achieving effective levels of implementation, and accomplishing a new and effective binding agreement (VIOLA, FRANCHINI and RIBEIRO, 2013).

The main obstacle over the last decades has been and still is the gap between developed and developing countries' interests. Therefore, the climate change regime might seem insufficient and inappropriate to solve the problem in a world of increasing interdependence, relevance and consensus of environmental issues in economic, policy-making and security arenas, also given scientific evidence and perceived environmental degradation (VIOLA and FRANCHINI, 2013b; VIOLA, FRANCHINI and RIBEIRO, 2012; WANG and CHEN, 2013; MONCEL and ASSELT, 2012). The existing institutions are designed and oriented to work in a short-term perspective, in which society tends to prioritise only imminent threats or extreme catastrophes.

However, the regime so far represents the most ambitious effort of the global community in preventing the worst livelihood scenarios predicted as consequence of climate change (SERRA, 2008; HARRISON and SUNDSTROM, 2010) and despite all the criticism regarding the international regime as a framework for state action as a solution to climate change problem, the Brazilian government believes that this regime is the best existing instrument to face this challenge within international negotiations' bases (SERRA, 2008).

1.2.2.3. Thesis considerations

International regimes¹⁸ can influence state's interests, considering that the perception of the interests depend both on actors' expectations of their own actions and on its basal

¹⁸ In general, in this research, the regime concept is understood as rules, regulations, plans, norms, practices, decision-making procedures, financial commitments, social or management arrangements, general behaviour principles on which mutual expectations converge to a determined area of international relations, most often in an interdependence context. They are stable, non-temporary, mutually beneficial agreements with long-term goals for conflicts management. They are derived from voluntary agreements, but do not depend only on

values (STEIN, 1983 *in* KRASNER, 1983), as occurs in the domestic level. Therefore, the climate change international regime creates pressures for the adoption of more progressive climate change policies when countries are truly committed within it and to fulfil the expectations. These international influences are encompassed in changes that occurred in Brazilian policies and windows of opportunity that existed.

The international climate regime played a role in explaining changes in Brazilian mitigation policies in parallel with domestic pressures. This is examined by looking at facts at the international level which created new pressures and responsibilities for the Brazilian government and changes in climate change policies, e.g. United Nations' (UN) environmental conferences and institutions, climate agreements and meetings, changes in GHG global emission patterns, advance and impact of scientific knowledge. Helping also to delimit borders within which this thesis focuses: international influencing factors related to climate change regime.

The climate change international regime formally comprises the UNFCCC and its KP (SERRA, 2008; VIOLA, FRANCHINI and RIBEIRO, 2013) and events that might have influenced the Brazilian climate change policies and stances are subsequently discussed.

Frame 2 provides an overview of the key theoretical concepts used in this thesis and their operationalisation is done in the next chapters.

Frame 2: Key theoretical concepts.

Variables	Concepts	Definition	Correlated concepts
Dependent	PROGRESSIVENESS	Describes when the countries' policies change has become more sustainable and/or tend to favour climate change mitigation, as encouraging deforestation or emissions reductions.	Policy change: Occurs when a new adopted policy differs from the previous one, regardless if it is an incremental or a drastic change
Independent	WINDOWS OF OPPORTUNITY	The result of three streams alignment in	Problem stream: explains how issues are recognised and treated as

unilateral willingness of given actors aware of the costs of opportunity in dissolving relations. The regime's maintenance relies on its effectiveness in succeeding in constraining unilateral, or actions in discordance with the establishments.

a critical time conjuncture for policy entrepreneurs to act, facilitating policy changes.

To this traditional understanding of the concept, the thesis adds 'international influence' as well.

problems in order to be acted upon, receiving governmental attention in terms of policies.

Policy stream: analyses and proposes solutions, with the influence of policy entrepreneurs, for the problems being addressed by the government.

Political stream: the main scenario where the policy-building process occurs, gathering all the actors that might be involved, after the problem is compiled and a possible solution discussed and accepted as feasible.

International influence: the international climate change regime puts pressure on the Brazilian government to adopt more progressive policies towards climate change mitigation influencing in the windows of opportunity

Source: elaborated by the author with information from BRAYBROOKE and LINDBLOM, 1963; KINGDON, 1984; PINTO, 2008; ACKRILL, KAY and ZAHARIADIS, 2013; BRUNNER, 2008; SAINT-GERMAIN and CALAMIA, 1996; KEOHANE and NYE, 1977.

2 BRAZILIAN CLIMATE CHANGE PERFORMANCE

The present chapter provides an overview of the climate change international regime and the Brazilian historical, political and socioeconomic background and climate change policies development. It enables the application of the previously presented theoretical framework further in this research, explaining if the periods of progressive changes correspond to windows of opportunity.

2.1. BACKGROUND INFORMATION

To better understand Brazilian climate change policies development (subchapter 2. 2), it is necessary to present an overview of the main facts correlated with climate change international regime and of Brazil's social, economic and environmental background, first.

2.1.1. International Level: United Nations and Climate Change International Regime Background

The issue of climate change has had a history of stalemates, appearing as a prominent area for both the academy and society because of its possible consequences to livelihoods. The IPCC considers climate change as either natural or human induced (IPCC, 2007) but the UNFCCC states that it is attributed directly or indirectly to human action in altering the atmosphere's composition and natural climate variability (UNFCCC, 1992)¹⁹.

The concern with atmospheric alterations, despite being one of the national priorities since the end of 19th century, became institutionalised, as climate change, only in the 20th century, due to mobilisation of international actors for reducing global warming (CALSING, 2005; IRACHANDE, 2002). The total GHG emissions rates of the biggest emitting countries

¹⁹ IPCC (2007: 08) conceptualises climate change as "any change in climate over time, whether due to natural variability or as a result of human activity" and the UNFCCC (1992: 07) as "change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods". Climate change problem lies in the increase in GHG's concentration in the atmosphere that intensifies the natural Greenhouse effect, the main gases are: Carbon dioxide (CO₂); Methane (CH₄); Nitrous oxide (N₂); Hydrochlorofluorocarbons (HFCs); Perfluorocarbon (PFCs); Sulphur Hexafluoride (SF₆); Ozone (O₃); water vapour (H₂O); and, Chlorofluorocarbons (CFCs) (FONSECA, 2006; BURSZTYN and BURSZTYN, 2012);

can be found in table 1 below. These countries are responsible for more than 70% of emissions²⁰, while no efficient international agreement can be achieved without their mitigation efforts (VIOLA and FRANCHINI, 2011e; VIOLA, 2013a).

Table 1: GHG total emissions rates from 2005 and 2011.

Country	% in 2005	% in 2011	Emissions in CO ₂ tons (2011)	Grow rates (2010)
China	16,4	21,0	10,9 billion	5%
USA	15,7	15,0	7,8 billion	0. 8% (Stagnation between 2008-2010)
EU	12,1	11,0	5,7 billion	0. 3% (Stagnation between 2008-2010)
India	4,3	7,0	3,6 billion	6%
Russia	4,6	5,5	2,8 billion	5%
Indonesia	4,6	5,0	2,6 billion	5%
Brazil	6,5	4,0	2 billion	5%
Japan	3,2	2,7	1,4 billion	0. 4%

Source: adapted from TSP, 2014; VIOLA, FRANCHINI and RIBEIRO, 2013; VIOLA and FRANCHINI, 2011c.

In UN, the change in the perception of environmental problems can be easily seen as a part of any other analysis solely through names of the most important environmental conferences over the past decades. The first was held in 1949 under the name of "United Nations Scientific Conference on Conservation and Utilization of Resources". In the second, in 1972, the perception of human interference in nature was added, reflected on its name "United Nations Conference on the Human Environment (UNCHE)". The third one, in 1992, named "United Nations Conference on Environment and Development (UNCED)" increased the notion of human destruction of the environment and development alternatives. In the last one, in 2012, the concern with sustainability was reflected in its name, "United Nations Conference on Environment and Sustainable Development (Rio+20)", highlighting the lack of progress on the agenda and that there is no development alternative more important than the

²⁰ From 1850-2010, developed countries had contributed to 75,6% of GHG emissions and the developing ones, with 24,4%. If the developing countries maintain their emissions pattern growth, their contribution will be equivalent in a few years (BRASIL, 2010).

sustainable one.

UN Environmental Conferences are important not only to the development of countries' environmental and climate policies, but also to the global vision regarding the matter and are further discussed in this research. Additional information regarding the dates, outcomes, documents and importance of the three main UN's environmental conferences can be found in Appendix A. In summary, it can be understood that the UN Conferences carried debates from 1972-1992 constituting the phase in which the actors were converging towards the elaboration of concepts and concerns, while from 1990-2000, main international instruments were instituted, and, from 2000 onwards, these instruments were applied, with verified occurrence of results and new challenges in their application (BURZSTYN AND BURZSTYN, 2012).

The first great international progress towards the climate change regime's formal institutionalization was the creation of the IPCC in 1988, managed by the World Meteorological Organization (WMO) and by the United Nations Environment Programme (UNEP), demonstrating the involvement of the international community in creating an organism capable of consolidating the myriad of knowledge produced on the matter (IPCC, 1999).

It is an epistemic community (HAAS, 1999) whose main efforts are its assessment reports (AR), drawn from a thorough compilation, exam and revision of technical-scientific and socioeconomic information available worldwide, for a broader understanding on the anthropogenic climate change hazards (IPCC, 2009). Additional information regarding IPCC and its Working Groups (WG) can be found in Appendix B.

Even though the impartiality of the IPCC's works is still open to criticism, regarding pointing to certain mismanagement on public and economic models of the countries, it nonetheless gives a universal approach to its clauses enabling direct implementation of the presented measures (RICUPERO, 2008).

The IPCC's creation elevated the climate change debate's feasibility to an institutionalised level. Despite the persistent international scepticism noticeable in the countries' negotiating groups²¹ towards UNFCCC, the Panel still managed to favour the

²¹ Developing countries, who expected resources and technology in exchange for an environmentally aware policy transition; European developed countries, who already progressed on diminishing their emissions in a first

process and set its foundations as well as KP's afterwards (RICUPERO, 2008). IPCC's First Assessment Report (FAR) stated that human activities were certainly increasing GHG concentrations (IPCC, 1990), since then five Assessment Reports (AR) have been launched²². Their main conclusions increasing the certainty of human induced climate change can be found in Appendix C.

A direct consequence of FAR was the UNFCCC, signed during the UNCED in 1992 by 154 countries, enforced by 1994, assuming that the leadership role should be played by developed countries in order to reduce GHG emissions due to their historic responsibilities and based on the principle of common but differentiated responsibilities²³. Drawing both scientific and theoretical outlines from IPCC's ARs (DEPLEDGE, 2009; RICUPERO, 2008) during the 3rd COP of the UNFCCC, the Kyoto Protocol was signed by 150 nations, wherewith ratifying countries committed to reducing 5,2% their GHG emissions compared to levels in 1990 (VIOLA, FRANCHINI and RIBEIRO, 2013)²⁴. 19 COPs and nine meetings of the KP Parties (MOP) were already held and their main outcomes (and the expected outcomes for the next ones) can be found in Annex D.

KP countries are separated in two groups: (1) those within Annex I²⁵, who had obligations regarding their maximum emissions (initially between 2008-2012) and have to implement mitigation policies accordingly; and (2) those non-Annex, that despite not having initial obligations, can voluntarily diminish their emissions and can possibly assume commitments in future commitment periods (VIOLA, 2002).

KP was only enforced in 2005, 90 days after Russia's ratification, which has fulfilled

moment, where the inherent costs thereof were plausible; and other developed countries, like the USA and oil producers, highly sceptical with emissions reductions given the economic impact (COSTA E SILVA, 2011).

²² FAR - 1990; 2nd Assessment Report (SAR) - 1995; 3rd Assessment Report (TAR) - 2001; 4th Assessment Report (AR4) - 2007; and 5th Assessment Report (AR5) - 2013.

²³ UNFCCC's (1992: 09) main objective is "stabilisation of GHG concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system".

²⁴ The Framework does not set a safe level for carbon concentration in the atmosphere, thus it does not foresee obligatory limits for GHG emissions nor coercive measures. However, several commitments have emerged from the UNFCCC's negotiations between developed and developing countries, such as GHG information exchange; mitigation programs' development and new adaptation technologies; fostering scientific and technological research especially regarding technologic and finance resources for developing countries; and developed countries aid for the most vulnerable countries. Moreover, KP Annex I countries should present two evaluation documents addressing their emissions and goals: the National Communication, detailing projects and policies adopted by member-states to control the Greenhouse effect; and the National Inventory, presenting yearly GHG emissions, sources and sinks (CALSING, 2005).

²⁵ Member-states of the organization for Economic Cooperation and Development (OECD) and other economies in transition from the former Soviet Union.

the quantitative requirement for encompassing countries responsible for 55% of world's emissions. Thus, either Russia or the USA's participation were vital to the Protocol's enforcing, once both countries represented 51,7% of 1990's emissions (VIOLA, 2010). KP also encompasses, for the countries' GHG emissions goals fulfilment, cooperation, joint solutions and other fruitful related mechanisms. In 2001, the Marrakesh Accord was signed, defining modalities and procedures for Flexibilization Mechanisms that might help the implementation efforts towards the established goals (CALISING, 2005; BORGES, 2011). There are three Flexibilization mechanisms: Clean Development Mechanism (CDM), Joint Implementation (JI) and Emissions Trading (ET) detailed information of which can be found in Appendix E.

In 2012, the first period of commitment ended and the negotiations for the second period, which had started in 2007, were not able to produce a new binding agreement with new commitments. In 2013 the validity of KP was extended with a new commitment period from 2015-2020 (VIOLA, FRANCHINI and RIBEIRO, 2013).

Climate change multilateral negotiations are complex and require further cooperation and convergence among actors for both positive and effective outcomes (VIOLA, 2009b). These negotiations are complex in nature, most importantly, due to differing interests within countries involved and sector and stakeholder diversity (VIOLA, 2009b). Despite the necessity of emission reductions of 80% from 1990's levels by 2050 (IPCC, 2013) negotiations in the climate regime have had slow advances in the last years.

2.1.2. Domestic Level: Brazilian Background

After the end of the Cold War, the settlement of a multipolar order allowed developing countries, like Brazil, to redesign international balance by drawing the world's attention that they could influence both political and economically (ALMEIDA, 2007; AMORIM, 2010). In the end of 1980's, after 24 years of dictatorship, Brazil kept the tradition of political notoriety on the international cooperation scenario while adhering to multilateralism and international law on many areas with the new coming democratic government (CERVO and BUENO, 2008).

During this period, Brazil had five different presidents: João Figueiredo (1980-1985), the last of the military administration; José Sarney (1985-1990), the first candidate after the democratic transition; Fernando Collor (1990-1992), who underwent an impeachment process

and was succeeded by Itamar Franco (1992-1994); and, Fernando Henrique Cardoso's (FHC) consecutive mandates (1995-2002), who had implemented macroeconomic stabilization and market opening, new monetary policy and the new currency (Plano Real), along with the stabilization for the long-term of the previous measures, facing the mid-1990's financial crisis (CERVO and BUENO, 2008; ALMEIDA, 2007).

From 2003-2010, Brazil was headed by the left-wing candidate, Luis Inácio Lula da Silva, carrying a thoughtful abidance of the ongoing policies, but with a different approach regarding the country's economic growth, development and presence in international agenda (ALMEIDA, 2007). Differing from FHC, Lula approached the international economic sphere seeking plain dialogue with the bigger powers, conducted by reciprocity tenets and multilaterally²⁶ rather than merely observing and accepting top-down political suggestion in order to keep its trustworthiness, as observed throughout the neoliberal phase in the 1990's (CERVO, 2010)

On one hand, Brazil claimed the world leadership in agribusiness but, on the other, it also acquired recognition amongst sophisticated product exporters, such as aircraft industry. Keeping a strengthened relationship with other developing countries was the goal of its international policy²⁷, especially with other emerging economies, like the BRICS²⁸, recognizing the weight and importance of their influence internationally.

Considering the deficit period of the mid 1990's (1995-2000), before the agreements with the International Monetary Fund (IMF), Brazilian public debt reached 53% of the Gross domestic product (GDP), and the external debt reached in 1999 US\$ 237 billion in 1999. Afterwards, Brazilian foreign trade started soaring from US\$ 48 billion in 1998 to US\$ 198 billion in 2008, presenting a surplus trend that oscillated between minus US\$ 1 billion, in 1999, and US\$ 40 billion, in 2007. In this period Brazil increased about 12% in population

²⁶ Lula's Prime Minister, Celso Amorim, presented the concept of “multilateralism of reciprocity” to define the Brazilian foreign policy throughout that period. It encompasses the prevalence of international law to equate countries in dispute; and a collective law-making process, in order to keep legitimacy and balance in the international system (CERVO and BUENO, 2008).

²⁷ Brazil registered, in 2007, US\$ 161 billion in exports to this group, compared with US\$ 65 billion shared between the USA and EU (CERVO, 2010). Trade with closer neighbours, inside Mercosul (Southern Common Market created in 1991 by Argentina, Brazil, Paraguay and Uruguay) rose from US\$ 8,8 billion, in 2002, to US\$ 36,6 billion, in 2008 (AMORIM, 2010).

²⁸ The Brazil, Russia, India, China and South Africa Group (BRICS). Despite the lack of institutionalisation towards a formal political arrangement (which Brazil champions strongly), the BRICS represent a new frontier on the international scenario, representing one third of world's population and 15% of its economy (AMORIM, 2010).

size, 238% in GDP, and, 412% in exportations (CERVO and BUENO, 2008; AMORIM, 2010).

Dilma Rousseff's mandate (2011 onwards) maintained the general lines of Lula's government, supporting of all the policies and achievements acquired during his mandate. During the second era of the Labour Party's government, Dilma's approach was to maintain the course towards the Brazilian insertion as an emerging power, facing a severe international economic crisis and disruptions period in the environmental agenda (FREITAS, 2012).

Brazil is one of the countries that will suffer the most from climate change impacts (IPCC, 2007; SERRA, 2008; VIOLA, FRANCHINI and RIBEIRO, 2013). Considering 2005 levels, Brazil answered for 5% of global carbon emissions and placed as the 5th largest emitter (VIOLA, 2013a). Brazil's average annual GHG emissions growth rate until 2004 was 5%, decreasing in 2005-2009, and 4% in 2011, when had become the 7th biggest emitter (VIOLA, FRANCHINI and RIBEIRO, 2013). An overview of Brazil's 2011 scenario can be found in table 2.

Table 2: Brazil's 2011 scenario.

Surface	8,5 million km ²
Population	195 million
GDP	US\$ 2,3 trillion
PDB/ capita	US\$ 11,8 thousand
CO₂ emissions	2 billion ton (4% of global emissions)
CO₂ emissions/ capita	11 ton
CO₂ emissions/ US\$ 1 thousand GDP	0,9 ton

Source: adapted from VIOLA, FRANCHINI and RIBEIRO, 2013; IEA, 2014.

Emissions were, until 2005, mostly related to land use, land use change and forestry (LULUCF)²⁹. This corresponded to about 75% of Brazil's total emissions (completely

²⁹ Emissions from deforestation represent 15 to 18% of global emissions. Brazil is the second biggest responsible for this kind (2% globally) only after Indonesia (with 4%). Congo has potential to be the second largest emitter, but there is the lack of reliable data (VIOLA, 2010).

different from global patterns)³⁰, making it relatively cheap to convert to a low carbon intensity economy (VIOLA, 2009b). In this year, Brazil had 11,5 tons of CO₂e per capita and the carbon intensity of the economy was around 1,7 tons of carbon per US\$ 1,000 of GDP (VIOLA, 2013a), a relatively clean energy matrix³¹.

From 2005-2009 the pattern radically changed: a decrease in deforestation was reached mainly in the Amazon and in the Cerrado areas. The lower rate was in 2009, corresponding to 20% lower emissions than in 2005 (VIOLA and FRANCHINI, 2011d) despite 3,5% annual average GDP growth³² (VIOLA, 2010; Viola 2013a).

From 2010 onwards, the pattern has worsened again and emissions increased, led by other economic sectors' growth and not derived from LULUCF, as before. Since 1988, 153,000 square miles of Brazilian Amazon region has been deforested (TOLLEFSON, 2013) and a synthesis of the main data of these periods can be found in table 3.

Table 3: Brazil's emission and deforestation patterns.

Period	Main characteristic	CO ₂ e Emissions	Annual Deforestation average
1994-2005	Large contribution of emissions by deforestation (45% only in Amazon region).	1,4 billion ton (1994)	21,000 km ² (2000-2004)
2005-2009	Increased participation of other economic sectors and strong reduction on Amazon deforestation (75% of deforestation and 25% of emissions).	2,2 billion ton (2006)	6,200 km ² (2006)
2010-onwards	Emissions growth with greater participation of other economic sectors, but also of deforestation (Amazon region deforestation raised 28% in 2012).	2 billion ton (2011)	7,000 km ² (2010)

Source: elaborated by the author with information from VIOLA, FRANCHINI and RIBEIRO, 2013; VIOLA, 2013a, 2009a; MIRANDA, 2014; PRADA; 2013; FREITAS and KANECO, 2011.

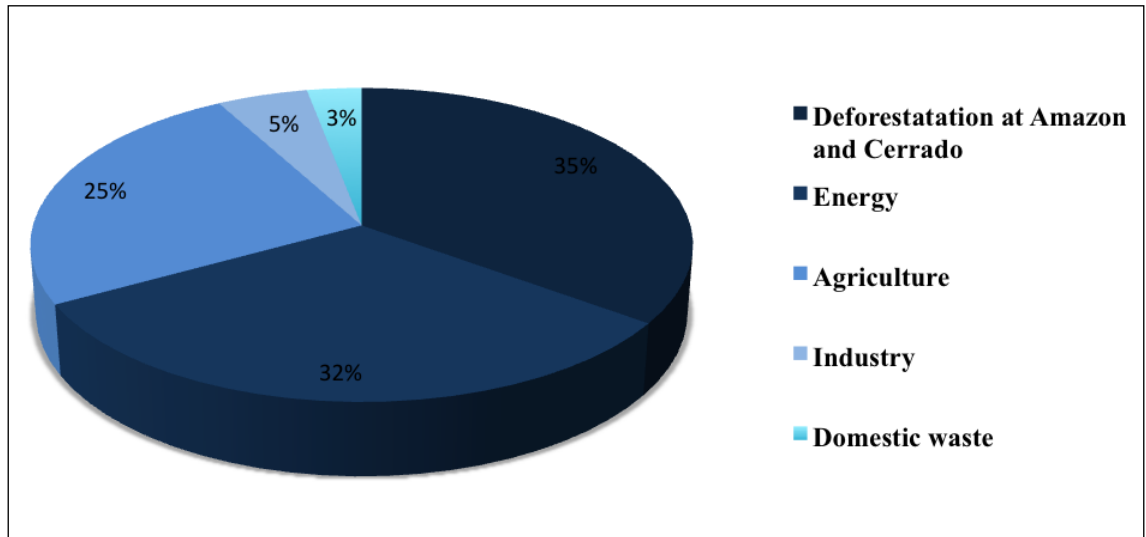
³⁰ In 2004, the world's emissions pattern registered: energy and industry 66%; agriculture 14%; LULUCF 17%; and, waste treating 3% (BORSZTYN and BORSZTYN, 2012).

³¹ Brazil had the most diversified energy, as registered in 2006, with 44% of renewable sources, whereas the global rates were 14% (FREITAS, 2012; BORGES, 2011).

³² From 1994 to 2007, the emissions from the production and energy sectors increased 50% in comparison of a GDP growth of 38% (VIOLA, 2013a). These inversely proportional percentages occurred due to a raises in biodiesel consumption, traffic jams, electric energy production with fossil fuels (11% to 15%) and oil refining (VIOLA, FRANCHINI and RIBEIRO, 2013).

Nowadays, Brazil has an emission pattern comparable to the global average and to similar income countries, as shown in Figure 2.

Figure 2: Brazil's GHG Emission pattern in 2010.



Source: elaborated by the author based on information from VIOLA and FRANCHINI, 2011d.

Brazilian Foreign Policy (BFP) has been settled in the common but differentiated responsibilities, polluter pays and right to develop principles since the beginning of the climate change regime negotiations and started assuming volunteer mitigation and emission reduction goals in 2009. The domestic and international policy climate change milestones are better explained in the next subchapter.

2.2. BRAZILIAN CLIMATE CHANGE MILESTONES

Since the first climate change international initiatives, Brazil has demonstrated its willingness to cooperate. The climate change BFP is settled upon the acknowledgement of both sovereign rights development allied to sustainability and the importance of multilateral agreements. This topic deserves the biggest attention from the BFP due to anthropogenic causes and, policy should focus on relieving harmful consequences and avoiding compromising future conditions. In that sense the climate regime represents the most ambitious effort of global community to prevent a worst livelihood scenario (SERRA, 2008; HARRISON and SUNDSTROM, 2010). However, in the domestic scenario, the construction of the climate policy resulted from the interactions between the main actors of the government

and stakeholders encompassed in the environmental agenda, which was not an accordant or linear process. Both spheres are further explained below.

2.2.1. Before Mid-1980's

In the UNCHE development was a problematic issue. Brazil, as other developing countries concerned with their development, reclaimed a differentiated treatment as a “right to pollute”, confronting their challenges to develop receiving highly polluting industries as an expression of foreign direct investment during the 1970's. This worsened the domestic environmental scenario only properly addressed in the 1980's with a new and environmentally aware approach on development (LAGO, 2007; VIOLA, 1988; 1998).

From this Conference resulted principles³³ that set the foundations of the Brazilian environmental stance, having some being recognised and adopted internationally, such as: the polluter-pays; right to develop; and common but differentiated responsibilities. On the opposite side of how developed nations championed environmental standards, Brazil, as a leader of the developing countries³⁴, defended in UNCHE that the promotion of environmental protection should not be dissociated from economic growth, which must be done without increasing poverty and deprivation. Therefore, developing countries righteously would pollute to do so, since they still had some developmental steps to achieve (BURSTYN and BURSTYN, 2012), and regarding the use of natural resources, they defended total sovereignty rights in their exploitation (VIOLA, 2004b)³⁵.

Considering the post-Cold War context and the last years of the dictatorship in Brazil, its BFP was still biased by universalism and independency towards development and cooperation. Even with a certain level of chaos among international and domestic institutions during that period, Brazilian diplomacy was present in all multilateral forums since 1979, championing the right of all countries to a better insertion in the forthcoming globalised dynamic (CERVO and BUENO, 2008).

³³ Further information in Appendix A.

³⁴ Known, at that time, as “Peripheral countries” or “Third world countries” (VIOLA, 1998).

³⁵ In the 1970's, the “right to pollute” principle was a pillar of the Brazilian environmental stance, whereas it endorses the sovereignty's steadiness over natural resources towards pursuing development (BURSTYN and BURSTYN, 2012).

In this period, a decrease in the state's environmental obligations can be observed during the oil crisis period. Also, as a result of the economic impact, the government's incentives on biofuels production aimed the fossil fuels imports' substitution to contour the effects of the crisis and managed to set the basis for posterior policies on tackling climate change and international biofuels' production, an area where Brazil acquired commerce leadership afterwards (VIOLA, FRANCHINI and RIBEIRO, 2013)³⁶.

However, the domestic environmental sphere underwent the results of UNCHE, and managed to institute the Special Secretariat for the Environment (SSE) directly linked to the Presidency, which helped form the legal basis of the country's environmental policies and institutions (BURSTYN and BURSTYN, 2012).

Brazil entered the 1980's facing the increase of the public environmental awareness as a consequence of the development model adopted from even before the 1970's. Until the beginning of the 1990's, the Amazon Forest was still under the stereotype of a bold development frontier to be exploited, whereas high deforestation rates resulted from: dams for hydroelectric plant construction; logging; expansion of agribusiness; mining activity; and, expansion of infrastructure (DUTSCHKE, 2000). Development understanding was, as before, focusing on the short-term income in order to tend to poverty with no solid policy restrictions for environmental usage on that territory whatsoever (VIOLA, FRANCHINI and RIBEIRO, 2013).

During the 1980's, the environmentalism in Brazil was acquiring more impact among the society, also as a direct consequence of the international pressure generated by NGO towards environmental policies, raising awareness on the social, economic and environmental aspects of the environment preservation and rational use of the available resources (HOCHSTETLER and KECK, 2007).

³⁶ With the creation of the National Ethanol Programme (Proálcool, in Portuguese) in 1975 (Law nº 76. 593), ethanol production was fostered, emphasizing the increase of agricultural production and modernisation of the productive chain. In its first phase (1975-1980), the ethanol production increased from 600 million litres per year to 3,4 billion litres per year; in the second phase (1980-1987), it reached 12,3 billion litres per year. In addition, from 1978 to 1986, the production of ethanol-based cars increased from 0,46% to 76,1%. After the soaring rate of ethanol-based cars in the mid-1980's along with the oil price internationally plummeting, Brazilian ethanol could not keep up with the national demand for fuel and started becoming less advantageous in comparison with fossil fuels, since the national market, from 1988 onwards, reshaped its imports for both oil and fossil fuel-based cars, which has left Proálcool in discredit. Only in 1998 (Law nº 1. 662) when a percentage (22%-24%) of ethanol to be added in the gasoline was established, did the Program keep its support to biofuel production in association with environmental policies (BIODIESELBR, 2014).

In 1981, fostering the shift towards new, environmentally friendly development, Brazil implemented the National Environmental Policy (Law nº 6. 938), which: (1) established as objective a balance between socioeconomic development and the quality of the national environment; (2) instituted the National Environment Police Force; (3) the National Environmental System; (4) the National Environmental Council; and (5) the Brazilian Institute of the Environment and Natural Renewable Resources, gathering the previous institutions responsible for this agenda in one branch. This policy can be understood as the foundation of the Brazilian environmental policy onwards (BURSTYN and BURSTYN, 2012).

President Sarney undertook a plethora of institutional measures to reclaim international respect to Brazilian environmental policy and to settle the domestic scenario, which was full of environmental activism on this issue: the new Constitution mentioning the environment's importance and the candidacy for hosting the UNCED – officialised by Collor in 1990 (FREITAS, 2012). Before the decade of 1990 Brazilian concerns about climate change were emerging. As in most of the world, actions with climate impacts were not guided by pure climate concerns, but as environmental ones.

2.2.2. From Mid-1980's to 1992

After the mid-1980's, a period of progressiveness in Brazil develop. Brazilian diplomacy was steadily striving towards a more cooperative approach, endorsing multilateralism as a key mechanism to solve security, economy, trade and environment issues, given the distension acquired with the end of the bipolarity and the emergence of a new international agenda (CERVO and BUENO, 2008). However, Brazil was still perceived internationally as a country with insufficient domestic respect for the environment, as a consequence of the development model carried out before (LAGO, 2007; VIOLA, FRANCHINI and RIBEIRO, 2013).

Besides the increase in Brazilian public opinion's awareness in environmental issues (VIOLA, FRANCHINI and RIBEIRO, 2013), BFP was engaged in the realization of UNCED, increasing Brazil's bilateral, multilateral and regional cooperation profile in order to overcome the North-South cleft and reach consensual solutions for environmental matters (CERVO and BUENO, 2008). The MER understood that hosting UNCED was crucial for the

image of an environmentally progressive country, with both domestic and international stances and agenda in coherence (LAGO, 2007).

However, the content of Brazil's position was the same as adopted in the past decades and as in the UNCHE development was a problematic issue. The climate change problem, brought into the UNCED, as other environmental issues, was repeatedly stressed as derived from developed countries' historical processes of industrialization and development and therefore developing countries, as Brazil, refused to commit to any emission reduction (VIOLA, FRANCHINI and RIBEIRO, 2013).

Consequently, the common but differentiated responsibilities principles enabled these countries to have different commitments towards emission reductions, remaining only national mitigation programs and emissions inventories (FREITAS, 2012; CALSING, 2005). Brazil understood this principle in the climate change area as differentiated: because of the effective contribution to climate change and GHG increase, the polluting countries should pay as a matter of fairness and justice. However, also as common because almost all anthropogenic activity is a GHG emitting and the impacts on climate change will affect all nations and future generations, and actions must be coordinated to minimise the impacts.

Domestically, UNCED was organised by MER's Environment Division and the Interministerial Commission for UNCED Preparation (FREITAS, 2012; BRASIL, 1991), at that time Brazil had no Environment Ministry (HOCHSTETLER, 2012), only the Presidency's SSE, headed by José Lutzenberger, an environmentalist with radical positions. The national position paper for the UNCED, though, was headed by the MER, which coordinated 23 government sectors under the Interministerial Environmental Commission (FREITAS, 2012; BORGES, 2011)³⁷.

The Conference represented a progressive hallmark for international environmental agenda (further information in Appendix A), and especially for Brazilian diplomacy, for having hosted one of the most important conferences of the decade, and for the climate change with the signature of UNFCCC: endorsing Brazilian commitment and willingness on the matter. Thus, Brazil succeeded in a progressive shift from an exploitation development

³⁷ The UNCED organization registered civil society organization's partaking, a completely different approach to Brazilian policy-making process, now biased by the scientific outline, provided and endorsed by the IPCC, on the climate change issue (FREITAS, 2012).

model to the observance and respect before sustainable development (CERVO and BUENO, 2008).

2.2.3. From 1993 to 2006

In the domestic sphere, after the Conference, the environmental understanding shifted for a more gathering and inclusive approach of the state organs and redefinition of both environmental policy institutions' role, in order to sustain the agreements made on the UNCED and diminish divergences. In addition, the shift observed in the BFP, from a nationalist to a globalist stance, reflects also in the environmental domestic policy: (1) creation of the ME³⁸; (2) improvement of Amazon related policies - perceived as national heritage, but with no effective anti-deforestation measures until 2005, when the control of environmentally hazardous activities, such as lumber production and agribusiness expansion, acquire state's supervision; (3) increased coordination of environmental related agencies (VIOLA, FRANCHINI and RIBEIRO, 2013).

After the ratification of the UNFCCC in 1994, the Interministerial Commission for Sustainable Development (CIDES, in Portuguese) (Law n° 1. 160/1994) was instituted by UN's recommendation to settle disputes and clefs between ministries to define the agenda's direction (FREITAS, 2012; BORGES, 2011)³⁹. Also, the ICGCC (Laws n°482 and regulated by n° 7/1999) was instituted, designed to address the urgency in establishing a mechanism to coordinate, converge and articulate with more synergy the government's actions in the matter, providing compliance to the UNFCCC and related instruments thusly (MCT, 2011)⁴⁰.

Collor promoted the globalization and strengthening of both the environmental agenda and movements. However, after his impeachment, his successor, Itamar Franco, left these

³⁸ The Special Secretariat for the Environment of the Presidency acquired a new governmental status, becoming the Ministry of the Environment (BURSTYN and BURSTYN, 2012).

³⁹ Working under the Ministry of Planning, Budget and Management (MPBM) supervision, CIDES had three areas: Coordination of Foreign Affairs, in charge of the MER to define the Brazilian stance on climate change internationally; Coordination of Climate Change, in charge of the Ministry of Science and Technology (MCT) to address UNFCCC's recommendations; and, Coordination of Biodiversity, in charge of the ME to observe the commitments of the homologous convention (BORGES, 2011).

⁴⁰ Moreover, it is responsible for elaborating reports and propositions to support negotiators, articulate governmental actions of Agriculture and Supply; aside from the Presidency and guarantee UNFCCC's decisions implementation. Composed by the MER; the MCT; the MPBM; the Ministry of Transportation; the Ministry of Mines and Energy; the ME, the Ministry of Development, Industry and Foreign Commerce; the Civil House; and, the Presidency of the Republic (DUTSCHKE, 2000).

issues aside, facing a severe governance crisis. FHC managed to balance and stabilise the Brazilian governance afterwards, but kept an economic approach for environmental issues, which were not the government's priorities (BURSTYN and BURSTYN, 2012).

FHC, in order to obtain further international prestige, supported the most encompassing version of the KP, despite reaffirming two key principles: the right to development and non-intervention, when stating that it would not accept GHG reduction goals (CERVO, 2010). On the other hand, in areas that enfold trade and development interests, as flexible mechanisms, clean energy, and technological transference, Brazil's position can be considered as more engaged and cooperative (FREITAS, 2012).

Brazil has become a signatory member of UNFCCC, in 1992, and of KP, in 1997, and its environmental climate change policy was designed: (1) bearing the common but differentiated responsibilities and right to development principles, allied to sustainability; (2) aspiring leadership towards prestige, with a more prominent and less defensive stance during negotiations; (3) aware of the necessity in avoiding forest usage's regulation and reinforcing national sovereignty in Amazon; (4) polluter pays and historical responsibilities principles, regarding the understanding that developed countries should have obligatory emission reduction goals; and (5) avoiding obligatory commitments to the non-Annex I – a position that was supported by both EU and Japan, while the USA never agreed (VIOLA, FRANCHINI and RIBEIRO, 2013; DUTSCHKE, 2000; VIOLA, 1998, 2002, 2004a). Most of them were presented in the climate change BFP afterwards.

However until 1999, neither the Brazilian presidency nor the Congress had applied any additional effort than what the MER was already heading, who, on the other hand, kept the BFP in the matter steadily progressive and consistent. Only in 2000 the Presidency establish the Brazilian Forum on Climate Change (BFCC), an international innovation, which gathered additional key stakeholders around the national environmental policy to foster its international role (VIOLA, 2004a; VIOLA, FRANCHINI and RIBEIRO, 2013; DUTSCHKE, 2000)⁴¹.

In 2001, Marrakesh Accord regarding KP flexibilization mechanisms increased developing nations' participation. Along with the USA, Brazil is responsible for the

⁴¹ BFCC is a multilevel institution and gathers governmental actors, enterprises and entrepreneurs along with NGOs (VIOLA, FRANCHINI and RIBEIRO, 2013). Besides the government Ministries that are part of ICGCC, the Ministry of Health was included (DUTSCHKE, 2000).

introduction of CDM⁴² (further elaborated in Appendix E) and nowadays a large part of these projects are being implemented in the country⁴³ (FREITAS, 2012).

This change to accepting a market-based flexible mechanism helped set new guidelines for the climatic and environmental BFP, that were actively championed during COP-7 through five main principles: (1) to support the right for development in accordance with the BFP's previous agenda; (2) promote development connected with environmental sustainability through the policy-making processes in both domestic and international spheres; (3) endorse financing mechanisms from developed to developing countries' mitigation projects; (4) foster Brazilian international leadership considering its tradition of prestige and respect to multilateralism; and (5) overcome international rules on forest usage in order to protect Brazilian sovereignty on Amazon's issues (VIOLA, 2004c).

In the domestic sphere, Brazilian environmental laws were considered a model worldwide, but extremely deficient in implementation and enforcement (DUTSCHKE, 2000). During FHC and the beginning of Lula's government (1994-2004), within the tolerance of deforestation, illicit activities as drug, weapons and wild animal trafficking also thrived in the Amazon region, considering the lack of more comprehensive protection policies and articulation between the government's environmental institutions⁴⁴ (VIOLA, 2004a).

In 2001, the country endured an energy blackout that subsequently increased efficiency by 20% and public concern towards clean and efficient energy's importance. This achievement, however, is often misused by the government as a change towards a cleaner energy matrix (VIOLA, 2010).

⁴² CDM is an alteration in the Clean Development Fund proposition that provoked Brazil to shift its former position of not supporting flexibilization and joint implementation mechanisms (VIOLA, FRANCHINI and RIBEIRO, 2013). The Fund proposed financial assistance from developed to non-Annex I countries for use of cleaner technologies in development (VIOLA, 2004). It is noteworthy that, in spite of USA's disagreement towards the Brazilian proposition for the Protocol's first commitment period, with no mandatory GHG reductions for developing countries, both countries presented a new version for the CDM, which allowed developed countries to fulfil their reduction goals by fostering and financing sustainable development projects in developing countries, without punitive measures for those non-compliant (VIOLA, 2002).

⁴³ Brazil occupies the 3rd place in 2012's registered CDM projects, behind China and India, whereas the majority of these documents addresses energy, swine culture, fossil fuel shift and landfill (IPAM, 2014; BORGES, 2011). Until this year, China was responsible for 52%, India 21,5% and Brazil for 8% of the CDM projects (HOCHSTELLER, 2012).

⁴⁴ FHC implemented the Amazon Surveillance System in 1993, in partnership with the USA, which significantly increased the state's presence in the region in subsequent years and enabled more effective actions in controlling illicit activities (VIOLA, 2004a).

With Lula's government, Brazilian prestige consolidates on economic and social spheres. In the ME, the Minister, Marina Silva (2003-2008), a former social and environment activist, aiming to foster a responsible Brazilian stance, especially regarding Amazon's deforestation, started to change the domestic arrangement of political forces thereof, mainly by assuring the enforcement of forest protection mechanisms of the 1965's Forest Code (TOLLEFSON, 2013). With the beginning of the Reducing Emissions from Deforestation and Forest Degradation (REDD) propositions starting in COP-9 (VIOLA, FRANCHINI and RIBEIRO, 2013), Brazil would come to disagree with its development by judging it inappropriate to properly attend mitigation given difficulties in measuring and monitoring effective reductions from deforestation (BORGES, 2011).

Since 2003, the country has been reinforcing its role as an international key player regarding biofuel usage and production, nationally, by increasing the investments in sugarcane in a non-conflicting way with food production and using it to reduce its GHG emissions; and internationally, not only through biofuel exportation, which contributes to a global GHG reduction, but also with knowledge exchange with other countries (FREITAS, 2012). In 2004, Brazil instituted the National Program on Biodiesel Production and Usage (Law nº 11.097), organizing the production chain, providing credit and establishing the regulatory framework of the Program, which obligates the addition of at least 5% biodiesel to mineral diesel, and implements mechanisms and measures to monitor the fuel market thereof (MENDES and COSTA, 2010). Furthermore, the Program had announced the Amazon Deforestation Control and Prevention Action Plan, in order to decrease deforestation rates in Amazon states (BORGES, 2011). And, regarding alternative energy sources, Brazil instituted the Program for Electric Energy Alternative Sources Incentive (Law nº 5.025), seeking the increase of alternative sources, considering wind energy: biomass along with small hydroelectric plants, in the National Electric Interconnected System (COSTA E SILVA, 2011).

In 2005, Brazil figured among the world's five biggest GHG emitters, with the discrepancy in the Brazilian emissions data as follows: Amazon states correspond to 50% of national emissions, 11% of the population and 6% of the GDP; while the others represent 50% of emissions, 89% of the population and 94% of the GDP. It has pushed the government towards a more thoughtful evaluation on deforestation, which provoked the Presidency to endorse the low carbon initiatives that were being addressed in the BFCC (VIOLA, 2008). In

this year, Brazil started addressing the principle of common but differentiated responsibilities and transforming its deforestation trajectory (VIOLA, FRANCHINI and RIBEIRO, 2013).

Until 2007, domestic policies related to climate change can be considered negligible, reflecting the international stance, which did not require emission reductions from the country (VIOLA, 2010). Policy changes and developments cannot be considered as progressive because had, in general, environmental concerns after economic purposes.

2.2.4. From 2007 to 2010

In 2007, the Brazilian climate stance started to change deeper towards a more progressive approach. The discovery of the pre-salt oil layer was positively embraced, as the government and Petrobras⁴⁵ stated that the exploration could only be accomplished with advanced technologies in the least environmental damaging way (VIOLA, 2010) and the ICGCC was designated to address policy-making on the matter, the NPICC's implementation and propositions to negotiation position adopted at UNFCCC (VIOLA, FRANCHINI and RIBEIRO, 2013).

In the same year, National Congress created the Permanent Joint Committee on Climate Change to address and evaluate actions in these issues; and, after a great reform in the ME's structure, the Secretariat for Climate Change and Environmental Quality was created to address the Ministry's issues on this matter. In 2008, a Special Representative for Climate Change was created on MER to keep the dialogue within national and international stakeholders (BORGES, 2011).

Still in 2007, Brazil signed a strategic partnership with the EU, which had recently launched the Climate Action Plan, forsaking substitution of 10% of fossil fuels for biofuels. Added to that, the success of Brazilian production of fuel from sugar cane had given a promising and favourable scenario – a consistent solution to solve energy demand with a clean and renewable fuel (FREITAS, 2012).

In his second mandate, Lula's developed the ethanol diplomacy in trying to internationally publicise the Brazilian successful biofuel initiative, as an opportunity for

⁴⁵ Petrobras is "National Petroleum", the Brazilian semi-public multinational energy company.

mitigation to developed countries and development for developing nations (VIOLA, 2010; SCHUTTE, 2012)⁴⁶. This position led the international community to question, because the ethanol was related to deforestation and Amazon's future⁴⁷, labour's disrepair, forest degradation, food security and misuse of pesticides. To solve that, Brazil joined the Bali Road Map and Action Plan at COP-13, recognizing the importance in reducing deforestation (SCHUTTE, 2012).

In this year Marina Silva resigns from the ME due to interministerial divergences with special emphasis on the dichotomy between her ongoing policies towards sustainable development and climate change and Dilma's, Ministry of the Civil House at that time, support for the Development Acceleration Plan's (PAC, in Portuguese)⁴⁸ and the construction of hydroelectric plants in the Amazon contributing to the increase of deforestation (VIOLA, FRANCHINI and RIBEIRO, 2013). Even with this disagreement, the MCT persisted as the most interested, promoting thus, along with the civil society, the debate on CDMs (FREITAS, 2012).

Led by the progressiveness of the new Minister, Carlos Minc (2008-2010), the ME acquired more space in Brazilian negotiating position (which has always suffered from the monopoly of the MER, defining the negotiation procedures, and MCT, defining substantive matters) (FREITAS, 2012). Despite the gaps between domestic and foreign policies towards sustainability, in COP-14 (2008) Brazilian diplomacy managed to present its domestic alternative to REDD: the Amazon Fund, designed to attract investment from developed countries in terms of carbon credit. The Fund is administered by the Brazilian National Bank of Development (BNDES), to draw resources addressing prevention, monitoring and tackling Amazon deforestation as part of Brazilian strategy to reduce GHG emissions by involving

⁴⁶ National biofuel policies were mostly left aside after the 1990's, due to the lack of profitability and consumer confidence following periods of shortage (DUTSCHKE, 2000), being retaken only from 2000 onwards. In 2010, ethanol corresponded to 19% of the energy matrix, a trend in decline ever since, nonetheless. The government has invested in the creation and expansion of the domestic biodiesel market, with 5% percentage on fossil diesel in 2010. However, the main reason for these actions was to encourage familiar agriculture and not climate change policies (VIOLA, FRANCHINI and RIBEIRO, 2013). In parallel, the reduction on the Imported Products Tax, especially over flexible fuel vehicles (using at least 85% ethanol) represented, nonetheless, a significant increase in ethanol production: from 4,3 billion liters in 2003 to 16,5 billion liters in 2009 (SCHUTTE, 2012).

⁴⁷ As Brazilian emission were 75% derived from LULUFC at that time. In a business as usual scenario, Brazilian emissions in 2020 would represent 2,7 billion CO₂ tons; and, with the commitment should be 1,6 billion (Viola, Franchini and Ribeiro, 2013).

⁴⁸ Headed by the federal government, PAC intended to stimulate Brazilian economy growth through high investments in infrastructure, as ports, highways, airports, sewage, energy and others.

incentives, such as carbon credits⁴⁹ for deforestation (VIOLA, 2010). Also announced the recent NPICC, which was unwelcome by the international community perceived as a last-minute presentation, and an answer to both domestic and international critics and pressures (VIOLA, 2010; VIOLA, FRANCHINI and RIBEIRO, 2013).

The NPICC was properly launched in 2008 (Law nº 6. 263/2007), with emission reduction fostering actions, mainly mitigation opportunities, impacts and vulnerabilities, research and development and qualification and education (BURSZTYN and BURSZZTYN, 2012). The Plan encompassed obligatory national goals and a reductions timeframe for deforestation, with special emphasis to the Amazon (VIOLA, FRANCHINI and RIBEIRO, 2013).

However, to overcome the criticisms, at COP-15 a more progressive and ambitious Brazilian mitigation plan was announced, encompassing the following: (1) voluntary compromise, a declaration of intent; (2) non-binding goals; and (3) commitments for GHG emissions reduction of between 36% and 39% in comparison with 2020 projected levels⁵⁰, as seen in table 4 (VIOLA, 2010, 2013a). Even with a relative small share of the GHG emissions, Brazil decided that the current emission patterns and its impacts to the future generations could not be ignored and therefore decided to reduce and control GHG emissions voluntarily, without formal goals.

Table 4: Brazilian voluntary GHG reduction commitment.

Mitigation actions until 2020	Projections for 2020 (mi t CO_{2e})	% of reductions in scenario 1	% of reductions in scenario 1
Deforestation	1.084	24,7%	24,7%
Agriculture	627	4,9%	6,1%
Energy	901	6,1%	7,7%
Others	91	0,3%	0,4%
Total	2.703	36,1%	38,9%

Source: adapted from BRASIL, 2010.

⁴⁹ Carbon credits are certifications generated by projects proven successful in capturing or diminishing GHG emissions, bought by developed countries' enterprises or programs that need to cut their emissions. Countries that don't have obligations to reduce their emissions certifying reductions or carbon credits, bought by Annex I countries (further information regarding Carbon credits in Appendix E).

⁵⁰ A GHG reduction of 1,6 billion, representing 20% in comparison with 2005 levels.

Lula said, at that time, that the Brazilian contribution had to be more ambitious and solidary (SERRA, 2008). It is also noteworthy to mention the impact generated by domestic changes and elections in promoting climate change to the political agenda's priorities, further analysed in the next chapter (VIOLA, FRANCHINI and RIBEIRO, 2013).

Still in COP-15, despite the progressiveness of voluntary goals, Brazil (as part of G-77⁵¹) rejected obligatory reduction goals, emission peaks and imports taxes (VIOLA, 2010; RIBBELKE, 2011). Moreover, Brazil did not incorporate climate change investments into the packages of economic recuperation after the economic crisis of 2008, as done by other G-20⁵² economies⁵³ (FREITAS, 2012).

From 2005-2009, Brazil reached the lowest deforestation rates (VIOLA, 2013a), as seen in table 3. This reduction directly impacted the progressiveness of the 2009 National Policy on Climate Change (NPoCC) (Law n° 12. 187), aiming at GHG emissions reduction, endorsing GHG sinks and internalizing commitments assumed at COP-15. NPoCC addresses: (1) which sectors of the economy should assume emission goals (BURSZTYN and BURSZTYN, 2012); (2) targeting to harmonise development and climate stabilization, by reducing emissions by natural carbon sinks; (3) developing the Brazilian Market for Emissions Reduction; and (3) to assure environmental protection, preservation and vegetation recovery (VIOLA and FRANCHINI, 2011e; VIOLA, FRANCHINI and RIBEIRO, 2013). Brazilian diplomacy managed to re-establish balance between international pressure and the sovereignty impetus of the past decades regarding the debate on Amazon rainforest.

However, in the same year, the progressiveness achieved started to presented controversial actions, threatening its continuation: (1) a law (n° 11. 952) of landlordism

⁵¹ The Group of 77 (G-77) gathered seventy-seven developing countries in 1964, during the United Nations Conference on Trade and Development. It is the largest intergovernmental organization in the UN framework, and intends to promote cooperation and enhance joint negotiating capacity between these countries in many issues of the international agenda addressed at the UN. Nowadays, the G-77 has 133 members, but the name is maintained for historic significance (G-77, 2014). Usually is referred as G77/China because this country is an associate member. In the climatic issue this group stands together as having livelihood patterns under the developed nations' ones, minimum global historic responsibilities regarding emissions and will be those achieved by the most adverse climatic effects (HOCHSTELLER, 2012).

⁵² The Group of Twenty (G-20) is the premier informal forum for international economic cooperation and decision-making that took place after 1999 crisis, in order to strengthen global economy and financial regulation internationally. Gathering 19 countries plus the EU, represented by their presidents, finance ministers and central bank governors, which meet yearly to discuss and support global economic growth, job promotion and open trade, with the participation of IMF, OECD, UN and International Labour Organization (G-20, 2014).

⁵³ In South Korea, low carbon economic incentives were around 65%, 35% in China, 20% in the United Kingdom and Germany and 15% in USA (VIOLA and FRANCHINI, 2011d; 2011e).

regularization legalised Amazon appropriated lands prior to 2005 (VIOLA, 2010; VIOLA and FRANCHINI, 2011d); along with (2) the oil sector's expansion with the pre-salt oil layer discovery and the increase in fossil fuel demand; (3) the debate on the new Forest Code, comparatively less progressive; and (4) the lack of political advance in sectors' plans of the NPoCC (VIOLA, FRANCHINI and RIBEIRO, 2013).

Trying to re-establish coherent dialogue between its domestic and foreign policies on climate change and sustainable development, Brazil managed to approve several domestic measures in 2009: (1) National Monetary Council's Resolution (n° 3. 545), which has prohibited credits for landlords with any environmental standard irregularities; and (2) Climate Change National Fund (Law n° 12. 114), aiming to ensure resources for adaptation and mitigation projects in the country (COSTA E SILVA, 2011).

From 2007-2009 Brazilian climate change policies presented the most roust progressive changes, however, by the end of 2009 some controversies with the new progressive stance started to be presented.

2.2.5. After 2010

Since 2010, some actions were taken trying to continue the progressive stance presented between 2007-2010. In the international sphere, regarding the flexible mechanisms, Brazil's position continues to be prone to cooperation. The county is also responsible for the idea of REDD+, presented at COP-16 (2010) (SERRA, 2008; PISTORIUS, 2012), a counter proposal to the REDD mechanism designed for developing countries, as mentioned above (BORGES, 2011)⁵⁴, changing Brazilian stance against mechanisms regarding forest management.

In 2010, the NPoCC initially based its rules on sector plans⁵⁵ enabling Brazil to fulfil the commitments made in 2009 (VIOLA and FRANCHINI, 2011e), and the ME was

⁵⁴ Different from the REDD mechanism, the REDD+ regards emissions reduction from deforestation and forest degradation, also conservation and sustainable management towards carbon stocks on developing countries only (BORGES, 2011).

⁵⁵ Action Plan for: (1) Prevention and control of deforestation activities in the Legal Amazon; (2) Preservation and control of deforestation activities in the Cerrado Region; (3) Energy; (4) Agribusiness (agriculture and livestock); and (5) Replacement of Coal from deforestation with planted forests in the steel production. Other sectors are going to be implemented after, such as transportation (cargo and passengers); durable consumer goods and manufacturing industries; chemical industry; paper and pulp industry; mining; construction industry; and health services (VIOLA and FRANCHINI, 2011e; VIOLA, FRANCHINI and RIBEIRO, 2013).

designated to be in charge of the National Fund on Climate Change. Also in this context, BNDES decided to create a US\$ 150 million Environment Innovation Fund to be active in 2012 towards clean energy developing programs (VIOLA and FRANCHINI, 2011e; Viola 2013a).

However, after this progressive period Brazil has presented some setbacks since 2010 (some already in 2009). One controversy lies in increasing deforestation and GHG emissions, presented after 2010, as seen in previous table 3 (MIRANDA, 2014; PRADA; 2013).

During Dilma's mandate, since 2011, environmental concerns were subdued to economic and social interest, reversing to the previous political moment's *status quo*. Considering the whole decision making process and the actors and institutions involved, actions in general were not being steered by environmental issues anymore (VIOLA, and FRANCHINI, 2012; VIOLA, FRANCHINI and RIBEIRO, 2012). Regarding the international crisis period and its influence over countries' economies and political reestablishment, Dilma adopted a more conservative stance regarding the climate change agenda, for understanding that efforts should converge in order to sustain and boost development, and, in the crisis period, it was not good for the country's economy to deepen its commitments without further interest of other great emitters (COSTA E SILVA, 2011).

Another setback occurred in 2012: a new Forest Code was approved in a context of political animosity for polemic measures contrasting in part with environmental political trajectory, such as granting amnesty to illegally deforested lands before 2008 and more favourable to agribusiness but still with minimum requirements for forest protection (VIOLA, 2013a; TOLLEFSON, 2013).

Also, in Rio+20, Brazil tried to disrupt the climate change issue and focused on its social axis, reinforcing a less progressive position – also by not agreeing with the green economy definition and the creation of a global environmental organization (VIOLA and FRANCHINI, 2013b). The notion of acting as a facilitator, given its economic and environmental importance, and also by hosting the Conference, and pursuing of consensual documents might be considered a failure for the BFP (VIOLA, FRANCHINI and RIBEIRO, 2013). The intergovernmental efforts to organise the Conference were headed by the National Brazilian Commission for Rio+20 (Law n° 7. 495/2011), which was co-presided by the Ministries of the MER and ME. Additionally, the MER headed also the National Committee for Rio+20 Organization, and the ME the Extraordinary Advisory for the Conference (FREITAS, 2012). Rio+20 had a less ambitious agenda than the previous ones regarding

binding agreements and has not succeeded to accomplish what it proposed, demonstrating that the cleft between global environmental structures and their responses, scientific evolutions and limitations has increased (VIOLA, FRANCHINI and RIBEIRO, 2013), further information regarding the Conference can be found in Appendix A.

In 2013 important progress was made in the UNFCCC: REDD+ framework has been successfully adopted in the last COP-19 after almost 8 years of negotiations (BOYLE, 2013; TOLEDO, 2013).

In the domestic sphere, the optimistic mood presented near 2009 (Brazil as a global player, the oil discover and a model in how to face economic crisis) is not present anymore. Brazil's population held several public demonstrations in 2013, protesting against diverse social, economic, political and cultural dissatisfactions on the ongoing scenario: endemic corruption and political structure; 2014's Football World Championship and 2016's Olympic Games expenses; the lowest GDP growth (0,9%) since 2008's financial crisis and internal contradictions regarding sectors such as health, education, inequality, transportation (JESUS, 2014). However, discontents regarding environmental concerns were not commonly seen.

Since 2010, some actions were taken trying to continue the progressive stance presented between 2007-2010, but mainly what is observed is that the Brazilian environmental and climate change approach has become more conservative.

In the next two years Brazil have the opportunity to change this path and make once more some progressive changes, restoring the progressive of 2007-2010 period and maybe consolidating it - considering the successes acquired so far with the Amazon Fund, REDD+, upcoming presidential elections and the possibility of a new binding Agreement under UNFCCC. Nevertheless, the legacy for the Brazilian society was proven fruitful in raising its environmental awareness, but it is still impossible to foresee whether it is lasting or not, considering the economic factors related to conventional non-sustainable development (VIOLA, FRANCHINI and RIBEIRO, 2013).

In sum, from the periods addressed by this thesis, we observe that Brazilian environmental and climate change policies presented two periods of conservative and less progressive changes: (1) 1970's to mid-1980's (2) 1993 to 2006 and (3) 2010 onwards. Periods of considerable progressive changes are: (1) mid-1980's to 1992 and (2) 2007 to 2009. The next chapter explains why the most progressive changes are correlated to occurrence windows of opportunity and the most conservative periods are not.

3 BRAZILIAN CLIMATE CHANGE POLICIES AND WINDOWS OF OPPORTUNITY: AN ANALYSIS OF PROGRESSIVENESS

In this section, the theoretical framework of chapter one is applied to the Brazilian climate change path addressed in chapter two. As seen, Brazilian climate change policies had, so far, two moments of outstanding progressive changes: (1) from mid-1980's to 1992 and (2) from 2007 to 2009. This chapter has the objective to analyse if these moments have correlation to and can be explained by existence of windows of opportunity, while the other moments cannot.

3.1. CHANGES IN BRAZILIAN CLIMATE POLICIES EXPLAINED BY WINDOWS OF OPPORTUNITY

In this section, Brazilian climate change policy development is explained, identifying the occurrence of problem, policy and political streams and their alignments when the more progressive changes are identified and their non-existence or non-alignment in periods of conservative and less progressive changes.

3.1.1. Before Mid-1980's

UNCHE represented the beginning of the institutionalization of environmental concerns, from systemic to governmental agendas and the dichotomous posture adopted towards them by developing and developed nations, existing until nowadays in the international environmental debate. Within the problem stream, Brazil led developing countries contrary to the acknowledgement of environmental problems as consequence of the development model being adopted by them: holding polluting industries transferred from developed countries, heading natural resource exploitation, lack of environmental policies and awareness. For them, environmental problems should be addressed, in the problem and policy streams, as a direct consequence of the development model adopted by industrialised countries, which did not have any environmental concern whatsoever throughout their development path (VIOLA, FRANCHINI and RIBEIRO, 2013; LAGO, 2007).

Environmental concerns have been introduced in the Brazilian governmental agenda since UNCHE, which resulted, in the problem stream, in international pressure and more

relation to development needs satisfactions than environmental ones (LAGO, 2007). By the 1980's, domestic and international pressures, for changes in environmental problems solutions within the policy stream and also in the political stream, helped environmental concerns gain more importance in Brazil. Internationally, it resulted in the construction process of environmental BFP, from the UNCHE onwards, embracing key principles such as the common but differentiated responsibilities, polluter-pays and the right to development (BURSTYN and BURSTYN, 2012; LAGO, 2007). Domestically, the National Environmental Policy creation resulted (1981), and in the democratic phase, creation of SSE and environmental concerns explicitly in the 1988's Constitution (COSTA E SILVA, 2011).

In this moment, despite the successful implementation of the above-mentioned policies, resulting from both exogenous (international pressure of the new post-Cold War agenda) and endogenous (the reshaping of domestic policies after the democratic transition) influence, the changes cannot be said to have created window of opportunity. This is because: (1) not all three streams are identifiable; (2) subsequently, convergence of the three streams was not possible; and (3) changes were neither progressively significant nor abrupt.

3.1.2. From Mid-1980's to 1992: The First Window of Opportunity!

From the mid-1980's, Brazil faced a different scenario from both domestic and international perspectives. The exploitation-based development model being adopted by Brazil brought severe consequences for: (1) the environment - especially regarding deforestation, biodiversity loss, natural resource depletion, Amazon's importance and increased environmental awareness, consolidating the problem recognition (problem stream) and placing environmental problems from the government into the decision agenda; (2) the economy - increased external debt, inflation and imports' dependence, changing problem stream searching for alternatives (policy stream) to Brazilian problems in multiple spheres (3) the social-political sphere - increased population dissatisfaction and questioning dictatorship's policies and stances, changing political stream; and (4) Brazil's international image, which resembled a flawed environmental policy and pushed the country, through international media exposure, to re-evaluate its respective policies (FREITAS, 2012), interfering in political and policy stream.

This set the foundation for the upcoming democracy and changes in problem, policy and political streams, regarding not only environmental problems; the Brazilian government

was pushed to re-evaluate its policies in both domestic and international spheres, in accordance with the new streams' interactions. In the problem stream, in accordance with all the redemocratization processes, Brazil was broadening its political agenda far from the bipolarity tenets, opening the way for the consolidation of environmental issues (CERVO and BUENO, 2008). At the end of the 1980's, the candidature for hosting the UNCED was conceived to foster and endorse a progressive change in its image towards a better international insertion and as an environmentally conscious country (CERVO and BUENO, 2008), as alternative from the policy stream embraced by the political one.

The shift in Brazilian position, in accepting environmental issues as centrally placed on the agenda (but still mainly derived from developing countries actions), regarding the problem stream, can be related to an attempt, from policy and political streams, in changing the country's image and the necessity in reclaiming international trustworthiness to its new-coming economic neoliberal measures Collor's recently democratic government (CERVO and BUENO, 2008). In this period the scenario changed not only due to the international pressures for a better country insertion, but also in the domestic sphere, registering more occurrences of environmental movements from both governmental and civil society actors, consolidating them in the problem stream. Also, climate change issues were acquiring significantly more importance in the international arena, moving from the systemic to the governmental agenda. (VIOLA, 2002; VIOLA, FRANCHINI and RIBEIRO, 2013; SILVA, 2012). In the problem stream, IPCC and its ARs played an important role by providing a better understanding of the problem (IPCC, 2009), also with the convergence of government and civil society towards addressing environmental issues.

The country's choice to host UNCED can be perceived in two ways: (1) victory of BFP and Collor's government, acting as entrepreneurs; or, (2) international pressure for the country to adopt a more environmentally progressive stance (SILVA, 2012), pressure of international sphere over Brazilian problem, policy and political stream. By hosting the UNCED, Brazil: (1) endorsed the role of the MER entrusting it with both logistical and political perspectives of the Conference, which can be considered entrepreneurial; and (2) achieved some significant hallmarks on the environmental matter, the wide recognition of sustainable development and principles minted in UNCHE, in the national and international problem stream, and reaffirming the country's commitment to the environmental matter multilaterally in the political stream (FREITAS, 2012). Regarding key stakeholders' participation in the policy and political streams, the MER in Collor's administration attempted

to reinforce the dialogue with national NGOs and government institutions in order to frame the new environmental BFP (LAGO, 2007; VIOLA, 2008).

During the UNCED, BFP managed to place Brazil in a more globalist stance internationally for five main reasons: (1) in the problem stream, the environmental damages left by the development model of the 1980's helped raise awareness of the public opinion, combining both domestic and international acknowledgment around sustainable development importance; (2) also in the problem stream, the climate change concerns were gaining importance, entering in the governments' agendas; (3) in the policy stream, the government suffered international pressure regarding solutions for Amazon deforestation, since the country consists of $\frac{2}{3}$ forest and was not protecting it enough, (4) also in the policy stream, Brazil has a remarkably clean energy matrix, embedded mainly in hydroelectric power, in comparison with other countries highly dependent on fossil and nuclear sources - an alternative solution for environmental and climate problems; (5) in the problem and policy streams, the increase in the awareness of natural carbon sinks and biodiversity regarding the Amazon and the opportunity for Brazil to combine preservation and sustainable development, seeking to endorse its sovereignty, which denotes advantages for domestic environmental policy-building process, considering the clean energy matrix in Brazil; and, (6) in the policy and political streams, as the host of such conference, Brazil drew the attention of international actors who demanded from the country a more globalist approach towards environmental and climate change, the country believes that a successful conference and being able to change the world's perception of the country (environmental concern and full supporter of multilateralism) could assist in solving security, environment, economy and trade problems and also the development of such political efforts in guaranteeing the hosting of the UNCED and its success, developed throughout the political stream (VIOLA, FRANCHINI and RIBEIRO, 2013).

The impacts of the UNCED on climate change and environmental Brazilian policies can be seen as an important progressive change, and be observed by its prominent role during: the elaboration of the Convention on Biological Diversity; the negotiations of the UNFCCC; and the definition of the financial commitments contained in the Agenda 21 (VIOLA, 1998, 2004a). However, regarding forests, a Convention was not able to be signed, only a declaration of principles, an area in which Brazil's stance was defensive and based on the sovereignty principle (DUTSCHKE, 2000), that could be considered within the policy and political stream.

The UNCED can be considered a success to Brazil because it embodied its positions, proved its organizing capacity and rescued its democratic image after 24 years of dictatorship (FREITAS, 2012). It is also successful in the international arena for optimism involving global governance, despite the lack of practical effectiveness of the final documents, some of them with enforceable mechanisms (VIOLA and FRANCHINI, 2012). After 1980's, Environmental agenda was a central concern and climate change issues were gaining more importance - changing not only the political perceptions but also in the public opinion. UNCED candidature and hosting was expected to improve Brazil's image and to have spill over effects in trade, economy, security and environmental areas. Domestically, no new policies were identified, but by the end of 1990's the country has created a relevant scientific community, especially with the National Institute for Space Research, producing relevant data regarding monitoring and proving better control over domestic lands (BURSZTYN and BURSZTYN, 2012). Internationally, BFP was grounded in the same principles as in the UNCHE, but with a more globalist than nationalist approach, UNFCCC and important documents were signed (COSTA E SILVA, 2011).

The entrepreneurship by the MER and by Collor's administration has put together all political efforts in both foreign and domestic policy instances in order to guarantee the candidacy and the development of the Conference itself, and it can be perceived as the main orchestrator in the political stream, converging the three streams in a window of opportunity for a progressive change. The window of opportunity from mid-1980's-1992 has not only produced results concerning progressiveness in Brazilian environment and climate change policies, but also at the international level consolidating environment and climate concerns in the government and decision agendas, the consolidation of sustainable development and important principles, the adoption of important instruments, and by representing the formal institutionalization of climate change international regime based on important principles for developing countries, like Brazil, as common but differentiated responsibilities and polluters pays.

3.1.3. From 1993 to 2006

UNCED brought the environmental concerns to the domestic decision agenda impacting in the creation of the ME, increasing coordination of domestic correlated institutions and better policies regarding Amazon (BORGES, 2011; COSTA E SILVA, 2011).

Climate change was officially encompassed by the Brazilian government agenda as a problem with UNFCCC signature in 1992, during COP-1, and the first steps in the new climate agreement. BFP for climate change managed to gather the support of EU and Japan by presenting an opposing alternative to the US's proposition that emerging countries should not have binding commitments during this first phase of emissions reduction (COSTA E SILVA, 2011).

During FHC's government Brazil's involvement, inherited from Collor's mandate, was still in drawing attention and acknowledgement of the great powers, along with prominence and prestige before the international agenda, even if it had to play a more nationalist role. It could be observed in the international climate changes regime, where Brazil played a strong and steady role in the foreign policy and political streams denying the possibility in cutting emissions for non-Annex I countries or forest regulation (VIOLA, FRANCHINI and RIBEIRO, 2013). However, environmental concerns were not as central as in the beginning of 1990's; they were undervalued due to the economical ones.

Domestically, CINDES and ICGCC were created in 1994 to expand coordination of environmental policies and climate change actions. However, it can be said they were created as an answer to international pressure, not as a change in the policy and political domestic streams, and due to irregular meetings and the slow decision-making process, each Ministry executed the decided alternatives according to their own point of view (DUTSCHKE, 2000), a discrepancy within the policy and political streams. At this moment, it is noticeable that for divergences in the policy and political streams the progressiveness of the Brazilian environmental and climate policies suffered a small deterrence. Additionally, until the 2000's, Brazilian policies were considered progressive in tackling environmental concerns, but severely suffered from the lack of implementation and enforcement, due to a decreased concern in addressing these matters by the government (DUTSCHKE, 2000). Another misalignment within the streams - the problem stream was suffering from the decrease of environmental problems importance, the policy had found alternatives for solving the problems, but the political, that had approved the policies, were failing in implementation and enforcement.

Brazilian participation in the climate change arena can be considered negligible (DUTSCHKE, 2000) until some chances started towards improvement in 2001. Respective reasons are: (1) the climate problem that had entered in the government agenda in 1992 was not able to effectively reach the decision agenda; and (2) despite the acknowledgement of the

climate concerns in the international regime (problem stream), domestically the issue was not duly comprised therefore, policy and political streams were not properly addressing the issue. In 2007, when Brazil accepted market-approach into flexibilization mechanism and the Brazilian reformulated CDM proposition was highly welcomed by almost all countries, Brazil not only kept its stance regarding common but differentiated responsibilities and polluter pays principles, as demanded a leadership role from the Annex I countries for mitigation actions, but the BFP also succeeded in establishing the country as a key player throughout the KP's negotiation processes, managing, thus, to lead the emerging countries' coalition (G77/China) and also connecting gaps and settling disputes between developed and developing countries (VIOLA, 2002). This change in the policy stream, accepting flexibilization mechanism as a sustainable alternative for development problems for developing countries, was not so in the domestic problem stream, by the domestic recognition of climate change as a problem. The changes in Brazilian policy can be observed but they cannot be considered as progressive.

Brazil had a decisive role in the articulation between the developed and developing countries, especially in the South-South axis, in the settlement for KP's ratification - after impacts of the IPCC's TAR and the withdrawal of the USA from KP's negotiation (VIOLA, FRANCHINI and RIBEIRO, 2013; VIOLA, 2009b), an operative performance in the international political stream. Brazil's negotiating position acquired reputation because of the ability to articulate the division between developing and developed countries' interests and for being grounded in good scientific basis, but got weakened by the difficulty in containing deforestation (FREITAS, 2012). The changes in Brazilian policy, though important for international prestige, cannot be perceived as progressive, because it did not tend to favour climate change problem solution.

These changes helped set new guidelines for climate and environmental BFP (VIOLA, 2004c), but no abrupt or deep progressive changes can be perceived. Despite having a relatively clean energy matrix (but with high deforestation rates), an important distinction in the policy stream, Brazil's position was linked with other emergent countries highly dependent on fossil fuels, like India and China (VIOLA, FRANCHINI and RIBEIRO, 2013), especially considering the influence of domestic sectors interested in fossil fuels prevailing in all the streams related to this debate: a more conservative than progressive approach. At that time, for example, Climate BFP was headed by the MER with little support of the MCT - business sector, NGOs and other governments institution's, as ME, that could influence a

more progressive approach had not much influence in the international nor domestic sphere (FREITAS, 2012).

The first attempt to shift towards a more progressive climate change approach was with Marina Silva's appointment heading the ME in 2003, in the beginning of Lula's government. Marina played an entrepreneurial role fostering shifts towards the Ministry's proactivity in Brazilian climate and environmental policy (FREITAS, 2012; BORGES, 2011), in the policy and political streams. ME's approximation with MER endorsed the consolidation of the Ministry, under her management, as a strong and consistent actor for the development of the climate BFP due to the strengthening in combating domestic deforestation and with climate change concerns, changing problem, policy and political streams, but unfortunately not being able to converge them.

Marina's administration was able to acquire significant reductions on Brazilian deforestation, in order to connect Brazilian international environmental commitments and the implementation of the domestic measures to guarantee them, representing, once more, a change in problem, policy and political streams (BORGES, 2011).

In 2005, with Brazil figuring between the 5th largest emitters, Amazon's deforestation trajectory (75% of Brazilian emissions were derived from LULUCF, as seen in table 3) had to change once for all (BORGES, 2011), a great and important change in the problem stream. Within the policy and political stream, Marina's solutions focused on enforcing existing policies, in a consolidated Brazilian stance of non-acceptance of international policies regarding forest management, based on sovereignty principles (DUTSCHKE, 2000).

In this period, from 1992 to 2006, as in the period before the mid-1980's, the changes in Brazilian climate change policies cannot be explained through a window of opportunity. The main different reasons are: (1) some changes can be observed in the three streams; and (2) existence of a policy entrepreneur, Marina Silva, trying to converge the streams. The similar ones are: (1) the streams did not to converge⁵⁶; and (2) changes were not progressively significant or abrupt. Environmental and climate concerns were not the main drivers of the streams - for example, KP was signed to acquire more prestige; flexible mechanisms were

⁵⁶ As stated before by Kingdon (1984), streams are independent variables with separated dynamics, which may or may not influence one another or converge into policy windows. It adds to the understanding of the role developed by Marina Silva in the government sphere, whereas she succeeded in achieving policy results although they have not affected enough policy stream dynamics in order to converge towards a window of opportunity.

accepted to gain in terms of trade, deforestation continued as problem, and the existing laws were not being enforced. In sum, Brazil did nothing more than what was necessary to solve some international climate regime and national pressures and even with the existence of an important entrepreneur the alignment of streams did not occur.

3.1.4. From 2007 to 2010: The Second Window of Opportunity!

Until 2007, Brazilian climate policies were considered often unobservant, starting to become more progressive and proactive (VIOLA, 2010) when several sectors and stakeholders started influencing both domestic and foreign climate change policies (VIOLA, FRANCHINI and RIBEIRO, 2013), in the problem, policy and political streams. Until 2009, both policies and resources destined to climate agenda were limited, but the public attention drawn to this agenda endorsed by the international regime pressure on Brazil's conservative stance, nonetheless, started to change this deficiency in the problem and policy stream. Deforestation and carbon emissions had increased over the 2000's decade along with Brazilian growth rate (VIOLA, FRANCHINI and RIBEIRO, 2013), Brazil was then the 5th largest emitter, all of which helped set the problem stream, with a domestic recognition of the problem, for the possible impacts and because of Brazil's increased contribution to the problem. It is possible to say that finally the climate change problem had reached the domestic decision agenda.

In 2007, within the policy and political stream, ICGCC was in charge of negotiating within the government institutions new propositions for the climate change BFP and the new NPICC (VIOLA, FRANCHINI and RIBEIRO, 2013), the pre-salt oil layer discovery was welcomed with the promise to be exploited under sustainable guidelines (VIOLA, 2010) and several climate departments were created in important Brazilian institutions, as MER, ME and National Congress (BORGES, 2011).

Lula's ethanol diplomacy and production concerns were related to labour's disrepair, food security, soil depletion, misuse of pesticides and Amazon deforestation, which interfered in the problem stream, turning biofuels into a concern, and not where it was expected in the policy stream, as a possible solution to climate change and development; added to Brazilian climate negotiating position and cooperation with fossil fuels exporting countries, had biased the shifts in climate BFP towards COP-13 and with its outcomes afterwards (VIOLA, 2010). Brazil joined the "Bali Road Map" to decrease international regime concerns regarding

ethanol development and Amazonian deforestation, an action that encompassed problem, policy and political streams, strongly influenced by entrepreneurship of Marina Silva, demonstrating the starting alignment of problem, policy and political streams, resulting also in environmental and political movements in the domestic, international and multilateral sphere.

The progressiveness that was being developed in Brazil had encountered some obstacles, regarding the ethanol diplomacy. A controversial position in the political stream regarding Brazilian approximation with China, India and Indonesia in defence of environmental and climate policies can be observed, leaving it aside after the discovery of oil. The oil exploitation promised to be carried through in the most sustainable way as possible was not carried through (VIOLA, 2010), in practical terms, subsidies for both fuel and oil were conducted and this type prospection and exploration, with high technology and carbon capture and sequestration, has been proven unlikely (VIOLA, FRANCHINI and RIBEIRO, 2013).

Also in the political stream, opposite objectives between the Ministries, observed since 2005, were persistent and reached its critical point with Marina Silva's resignation in 2008. Marina's dissatisfaction mainly concerned the antithesis between Brazil's international progressive role on sustainable development and climate change and its national difficulties in implementing correlated measures, undermining, thus, the BFP efforts, and the shock between the conservative PAC, led by Dilma (Minister of the Civil House at that time), and the hazardous natural impacts of the new hydroelectric plants and other projects foreseen (COSTA and SILVA, 2011). Silva's resignation can be perceived as one of the most influential events in the political stream not only per se, regarding all the progressiveness fostered throughout her entrepreneurial administration, but also for the further impacts by her later presidential candidacy in 2009.

The progressiveness in climate change policies initiated in 2003 by Marina Silva, with robust development since 2007, was settled in 2008. Also in the political stream, the appointment of Carlos Minc to ME, in 2008, with an entrepreneur profile and fostering the continuation of Marina's progressive attempts, helped consolidate the path towards reaching important policy progressiveness. The reduction of controversies related to ethanol, by launching the environmental zoning of sugar cane production to ensure a sustainable production and its better image in the market, along with the creation of the Amazon Fund, to attract foreign investment to stop deforestation and endorse the national emissions reduction policy (VIOLA, 2009b), aligned the problem and policy streams. ME under Minc's

administration helped Brazil establish operationalisation goals of the recently launched NPICC and, as a consequence of the increased coordination between the three major institutions related to climate change, ME had a bigger influence in the climate BFP and the domestic policy increased its coherence (FREITAS, 2012; COSTA E SILVA, 2011), endorsing, once more, its entrepreneurial role in the political stream, aligned with the problem.

Still regarding political stream, Minc and the ME entrepreneurship were responsible for the introduction at COP-14 of the terms and goals of the NPICC, voluntarily establishing a commitment of 70% reduction on Amazon's deforestation until 2018, openly questioning the traditional conservative climate BFP adopted by the MER with support of the MCT (VIOLA, 2009b; VIOLA, FRANCHINI and RIBEIRO, 2013). And in COP-15, after some criticism of the 2008 proposal, Brazil announced voluntary mitigation commitments of 36 to 39% reductions of 2020 Brazilian emissions expectations (presented in table 4)⁵⁷. They were internalised, in the domestic political stream, as the NPoCC, unique climate policy in non-OECD countries until 2011 (VIOLA, FRANCHINI and RIBEIRO, 2013).

This important progressive change in Brazilian domestic and international climate change policies was pushed by several domestic and international factors, triggered by Minc's entrepreneurship: (1) Brazil had become the fifth largest emitter, which is one of the most influential factors in the problem stream; (2) another key event in problem and policy stream, was a favourable international regime atmosphere in 2008-2009 due to expectations around the COP-15, where voluntary commitments were announced, because of the possibility of a new binding agreement under UNFCCC - not successfully achieved; (3) reflections on the maintenance of a political branch prone for reforms, as observed with the candidature for 2010's elections, of Marina Silva, representing the Green Party, leading to electoral debate concerns around sustainability and low carbon economy's transition⁵⁸, one of the most

⁵⁷ The Copenhagen goals can be perceived in the country's political efforts in legitimizing its proactive and progressive role towards the KP, and in trying to gather non-member states into the process. They cannot be understood as the abandonment of the Brazilian stance or as a migration to towards an Annex I country. The progressive commitments are volunteer goals and not legally binding (VIOLA, FRANCHINI and RIBEIRO, 2013).

⁵⁸ During the electoral agenda in 2010, with Marina Silva running for president, announced in 2009, the environmental issues drew considerably more attention of the Brazilian public opinion with the awareness around a low carbon economy by the civil society. The importance of this context reflected on the inclusion of climate issue in the main presidential candidate's discourses: Dilma, which had low interest in climate issue during her minister period managing PAC; José Serra, which defended the growth increased acceleration but with a more thoughtful environmental approach; and, Marina Silva, candidate by the Green Party, denoting the

significant events in policy stream; (4) pressure from private sector that composed three coalitions, Brazilian enterprises alliance for the climate, Enterprises coalition's and an Open letter on climate change to Brazil, demanding shifts in the climate change policies, in the political stream; (5) a mandate for fostering a leadership position among developing countries, also in the policy stream; (6) proximity of Rio+20 that Brazil was chosen to host, another fact of the political stream; and, (7) drastic decline in deforestation patterns, also has pushed actions in the problem stream, in the real acknowledgment of the problem, but also as a the possibility to face it, in the policy stream (VIOLA, 2010, 2013a; VIOLA and FRANCHINI, 2011d, 2012; VIOLA, FRANCHINI and RIBEIRO, 2013).

From 2005 to 2009, Brazil reached the lowest deforestation rates (as presented in table 3) - with 75% of deforestation reduction and 25% of emissions. Regarding emissions reduction correlated reasons are: (1) deforestation rates reduction; (2) MDL project; (3) biofuels incentives; and (4) renewable energies incentives (VIOLA, 2010; 2013a; VIOLA and FRANCHINI, 2011d; VIOLA, FRANCHINI and RIBEIRO, 2013), in the policy and political streams.

Regarding deforestation, the reasons in the policy stream, cannot be related to new laws, but mainly to enforcement of those already ongoing in the government's environmental and climate change agendas. Additional reasons, are: (1) increased capacities of Brazilian government regarding implementation, monitoring, surveillance and enforcement in the political stream; (2) establishment of protected areas, related to policy and political stream; (3) pressure and public awareness created by domestic and international NGOs in the media and multi-stakeholders (resulting in awareness consolidation and a moratorium on soybean and beef from deforested areas) in the problem and political stream; (4) increased cooperation of government spheres, in the political stream; (5) periods of decline of soy and meat prices and (6) 2008's financial crisis; and, (7) the commitment of the ME under Silva's and Minc's administration, who focused on the enforcement of existing laws, in the political stream. As well as, (8) also in the political stream, the Amazon states and enterprises' alliances demanded a shift in forest policy and the acceptance of market mechanisms encompassing avoided deforestation, with the support of the Secretariat of Strategic Affairs of the Presidency of the Republic and the ME, which pushed both MER and MCT to rearrange climate change BFP

biggest difference in this elections, by presenting an electoral platform based on green ethics and sustainable development policies, fostering low carbon economy and reduction in deforestation (VIOLA, FRANCHINI and RIBEIRO, 2013) and who had 20% of the votes in the 2010 election (AKLING *et al*, 2013).

(VIOLA, 2010; 2013a; VIOLA and FRANCHINI, 2011d; VIOLA, FRANCHINI and RIBEIRO, 2013).

The control of deforestation helped, ultimately, to change international perception of Brazilian impotence regarding Amazon control and the short-term resources use posture and brought a significant change to the BFP, correlated to the problem and policy streams, which began accepting forests usage regulation, as avoided deforestation (REDD mechanism) instead of carbon market only. In addition, almost all the countries with largest forest areas realigned towards this proposition (VIOLA, FRANCHINI and RIBEIRO, 2013).

In this period, even more than between mid-1980's and 1992, great progressive change can be observed in Brazilian climate change domestic and foreign policies. The entrepreneurship played by the ME under Minc's administration (that had started with Marina) especially in the political stream, made possible the alignment of the three streams in a window of opportunity for a progressive change. Different from the first window, that the progressive change was related with the introduction of climate change concerns and international influencing factors, in this second one it is possible to observe that the concerns were grounded more in the domestic sphere and by this, enable suitable progressive changes. The main outcomes to highlight this progressive change are: the important role played by Minc's entrepreneurship; significant reductions in deforestation and acceptance of forest mechanisms; voluntary commitments under UNFCCC to reduce GHG; approval of the NPICC and NPoCC; increased coordination in national spheres and creation of several institutions correlated to the theme; pressure made by the Green party president candidate, Marina Silva, and private sector coalitions, increasing the climate change problem importance.

3.1.5. After 2010

In spite of all the progressiveness achieved with the changes in domestic and foreign climate policies, some contradictions were presented (since 2009). The progress achieved lasted less than expected, policies adopted domestically and internationally were unable to reach progress goals expectations so far and ambiguities with the progressive achievements started to show. Even that some attempts to restrain the conservative advance, as regulating NPoCC sector plans and designating ME to be in charge of the National Climate Fund.

Reasons related to reduced progressiveness are: Internationally, (1) in the political stream, Brazil kept traditional alliances with more conservative countries, with a heavy carbon reliant energy matrix, such as G-77/China and the recent BASIC⁵⁹ group, refusing to have obligatory commitments; and (2) in the policy stream, the Brazilian economic incentive packet designed to counterbalance the international crisis of 2008 had focused on avoiding the increasing fuel price and on incentives to carbon intensive industries, such as the automotive, and not in sustainable development or low carbon alternatives (VIOLA and FRANCHINI, 2012; VIOLA, FRANCHINI and RIBEIRO, 2012).

Domestically, (3) the main presented reason is that the progressive achievements did not encompass the whole society's interests and, therefore, were not able to get consolidated; (4) the NPoCC was not fruit of cooperation and convergence between ministries, nor did it propose creation of a central institution (with ministry status) to address the climate matter; (5) both rural and oil branches, more conservative groups, increased in power, in the political stream; (6) a law of landlordism regularization legalised prior to 2005 illegally appropriated lands, in the policy and political stream; (7) a reformulation of the Forest Code, with a more conservative approach, which affected policy and political streams; (8) economic growth and increased energy necessities and demand, including for fossil fuel, affecting all three streams; (9) advances in the sector action plans of the NPoCCC and in the domestic carbon market can be considered absent; (10) oil sector expansion and reduction of biofuel incentives and increase for individual transportations; and (11) increased emissions and deforestation rates (VIOLA, 2010; VIOLA and FRANCHINI, 2012; BORGES, 2011; FREITAS, 2012).

Additionally, the restraint of progressiveness can be observed (12) in the shifts among ministries' influence, since the outcomes of COP-15, the MER is tacitly leading Dilma's climate change BFP, the ME has minor participation, which also can be related to the its new minister's approach on the matter, Izabella Teixeira, who was biased by the conservative development approach of the PAC, prone to the exploration of the pre-salt oil layer, supporting oil companies' interests, and the construction of new hydroelectric plants, which would incur in the deforestation of large Amazon areas (VIOLA, 2013a). The above illustrates the interactions in the political stream, regarding the conflict between development goals and environmental concerns, and in the political stream, with proper abandon of the progressiveness of the Silva and Minc period ahead of the ME.

⁵⁹ Brazil, South Africa, India and China (BASIC) negotiation coalition/group, formally instituted during COP-15.

Regarding the divergence in the biofuels areas, Brazilian government has shown support to the oil sector with measures to stimulate their expansion. Despite the government and Petrobras' statements denying the conflict, evidence shows that this kind of government influence tends to slow down the transition to a low carbon economy and encourage more conservative policies in the field (VIOLA, 2013a), related to both policy and political streams. Individual transportation incentives, public transport obsolescence, oil export subsidies, withdrawal of biofuel incentives and stagnation of production (last two years), uncertainties around new hydroelectric power plants and flawed spoilage management need to be considered as divergence as well (VIOLA, 2013a; VIOLA and FRANCHINI, 2012)⁶⁰.

Dilma's government, which always had the environmental concerns under the economy and social issues (VIOLA and FRANCHINI, 2012; VIOLA, FRANCHINI and RIBEIRO, 2012), has contradictory political alliances with both conservative (oil and agribusiness) and progressive (environmental political approach) sectors, although the first group still has more influence on the government and decision agendas for its weight on Brazilian economy (VIOLA, FRANCHINI and RIBEIRO, 2013), which reveals the intricacies in both policy and political streams of this period. Moreover, the domestic climate policy has not advanced due to the unfulfillment of NPoCC sector plans and the harsh criticism over the ME's political passiveness (VIOLA, FRANCHINI and RIBEIRO, 2013).

The reform process of the Brazilian Forest Code figured major concern on the forests' future, since it has been more favourable to the rural sector by relieving forests' protection and prejudicing previous legal milestones, by the amnesty of deforested areas before 2008 and without the obligation with restoration. Approved in 2011, this project sanction proved the influence of the rural branch in the Congress over the policy-building process, incurring a deeper cleft between the government and environmental NGOs, which stated that Brazil has never environmentally receded so severely since the dictatorship period (VIOLA, FRANCHINI and RIBEIRO, 2013), which has worsened further the divergences and difficulties towards the reestablishment of the environmental progressiveness in both policy and political streams.

⁶⁰ These impacts can already be observed: the biofuel sector has been cast aside, and, recently, the price of fuels, in particular gasoline, has the increased price limited (VIOLA and FRANCHINI, 2011d). In 2012, the reduction to 0% occurred in economic dominance contribution for oil and its sub products, eliminating gas taxation.

In the problem stream, deforestation rates had increased again, signifying the transition to a low carbon economy having become more difficult, since the easy and cheap mitigation option of deforestation, Brazilian comparative advanced were almost done (BRASIL, 2010), affecting policy stream on the search for new alternatives. To succeed in emissions reductions, Brazil not only needs to have more resources, but also has to increase its capacity in all government stances, and better coordinate public policies (VIOLA and FRANCHINI, 2011d) in both policy and political streams. In addition, deforestation and its consequent GHG emissions from other economic sectors' expansion need to be considered and addressed in the new Brazilian emissions profile (as presented in table 3), in both domestic and foreign policies (VIOLA, FRANCHINI and RIBEIRO, 2013).

In the policy stream, mitigation efforts need to encompass more than tackling LULUCF, especially considering the country's new emissions profile. NPoCC sector plans involving the other sectors, apart from deforestation, need to advance in fostering the implementation efforts, which only occurred in several segments with little significance in terms of economic growth, and not bearing the political cost of emissions' mitigation, requiring, thus, strong coalitions in the political stream compromised with climate change (VIOLA, FRANCHINI and RIBEIRO, 2013).

Hosting Rio+20, an UN conference comparably less ambitious from its proposed objectives and with outcomes even less encompassing aggregated with the Brazilian position adopted, seeking for minimum consensus and addressing the social part of climate change as a separated issue (VIOLA and FRANCHINI, 2013b; VIOLA, FRANCHINI and RIBEIRO, 2013), the country continued with the less progressive stance and the international regime sphere continued to demonstrate the existing cleft between developed and developing countries, environmental problems and global responses.

In this period, since 2010 (as in the one before the mid-1980's and from 1992 to 2006), the changes in Brazilian climate change policies cannot be said to have occurred as a result of a window of opportunity, mainly because politicians were not favourable in addressing the problem stream in an environmentally conscious way due to its trade-offs regarding the economic interests of other conflictive actors and branches (rural and oil). The main different reasons from these two other moments are that: (1) no progressive advances could be observed in the three streams; and (2) changes were mainly conservative. The similarities are: (1) the streams did not to converge, especially regarding the clefts observed in the political stream; and (2) changes were mainly conservative, only minor progressive changes were able

to be achieved. In sum, in the political stream, the more conservative branch managed to exercise more influence within the new and environmentally less progressive domestic administration.

3.1.6. 2014-2015: A New Window of Opportunity Setting Up?

The next years (2014-2015) present an opportunity for Brazil to consolidate the progressiveness achieved in the past, as some characteristics presented in the 2007-2010 window of opportunity are presented again: (1) in the policy stream, domestic and international regime pressures due to recent deforestation increases; (2) candidates' propositions and coalitions in the upcoming presidential elections with the possibility of Marina Silva running for president, with the possibility for the climate and environment concerns to reach great importance once more on the agenda, in the political stream; and, (3) an overall dissatisfaction of the Brazilian society regarding economy, politics, social and cultural spheres has the potential to encompass the environmental and climate ones, in the problem stream with potential to affect both policy and political streams; and, (4) expectations for a new binding agreement to be signed under the UNFCCC, which has the opportunity to be fair, efficient and equitable, with favourable potential related to the REDD+ Framework, adopted in 2013. Lastly, it is still necessary to observe if some actors will develop the entrepreneurial posture inside and between streams towards their alignment.

Brazilian Forests have potential as global carbon sink providers and source of clean energy, which distinguishes Brazil from other countries, added to hydropower and biofuel capacities. By focusing its efforts on gathering more international prestige, leading a transition for low carbon economy, in a preventive way, Brazil could not only mitigate the imminent impacts, but also legitimate its environmental power role in the international scenario, reclaiming the progressiveness presented in previous political moments.

In sum, Brazil had so far two moments of standout progressive changes: (1) from mid-1980's to 1992 and (2) from 2007 to 2009, both characterised by the occurrence of a window of opportunity. In the other three moments: (1) before mid-1980's; (2) from 1993 to 2006 and (3) since 2010, observed changes were considerably less progressive and in some moments the changes can be described as conservative. The next two years (2014-2015) have potential to be another progressive change moment (and the occurrence of a new window of

opportunity) due to expected changes in the streams in domestic and climate change international regimes.

CONCLUSIONS

This research was an environmental policy study that tested the theoretical approach of Multiple Streams Framework in explaining the observed changes in the Brazilian climate change policies.

There was a lack of academic research oriented to develop a detailed survey of the causes of changes in countries' climate change mitigation policies, in both international and domestic spheres, due to the difficulty in comprehending the relationship between domestic and international variables over the years. In that sense, the analysis developed on the causes behind the shift in the Brazilian climate policies was relevant, especially since it regards a country with noteworthy environment, climate, economic and political importance.

In addition, the research was proven feasible due to the detailed analytic effort applied in order to combine the elected theoretical framework with the Brazilian climate policies trajectory, which has been proved coherent with the research question, hypothesis and proposed objectives.

The objectives were fulfilled altogether, as it was possible to conceptualise and comprehend Multiple Streams Framework and windows of opportunity concept - and expand its applicability encompassing influences from the climate international regime - in the first chapter; to examine how Brazilian environmental and climate mitigation policies has evolved since the 1970's, in both domestic and international spheres, in the second chapter; to correlate Multiple Streams Framework with the shifts in Brazilian climate change policies, in the third chapter; and, lastly, to comprehend that progressive changes in Brazilian climate change policies are correlated to windows of opportunities moments.

Throughout the proposed objectives and results achieved, it was possible to accomplish the thesis' general objective: to analyse progressive changes in the Brazilian domestic and foreign climate change mitigation policies based on the windows of opportunities concept.

After analyzing Brazilian domestic and international climate change policies over the past three decades through the lenses of windows of opportunity concept it is possible to conclude that Brazil had so far two moments of significant progressive changes: (1) from mid-1980's to 1992 and (2) from 2007 to 2009, both characterised by the occurrence of a

window of opportunity. In the other moments observed changes are considerably less progressive and in some moments they can even be described as conservative.

By all the argumentation, the research question was answered: **progressive changes in Brazilian domestic and foreign policies on climate change mitigation can be explained by the existence windows of opportunity.** Along with the rejection of the hypothesis, because - it is impossible to guarantee that domestic factors had more influence than international in the observed progressive changes. International influence played a important role also.

Nevertheless, the major drawback of this research was the short time available to develop the research. Regarding Brazilian climate change policies available literature, few authors were those with innovative papers and most of the works found grounded their analysis on these centric studies. To reduce the bias possibility, an extensive literature review was done, trying to cover most of different authors and ideas as possible.

Regarding the policy theories, there were some other frameworks available that try to explain political changes, such as Advocacy Coalitions Framework, Punctuated-Equilibrium Theory and Policy Community Approach; however, whatever the theoretical choice made, all of them are a simplification of the reality in the decision-making process as an attempt to better understand it. Either way, windows of opportunity concept fit to understand the Brazilian case.

Regarding Multiple Streams Framework and windows of opportunity, the difficulties found comprised observing how windows of opportunity had occurred in terms of similarities and differences; and, also regarding some cases of partial streams identification and to demonstrate separate streams importance in the windows.

Even though the theory had been designed to address domestic influence and interactions, the use of influencing factors from the climate change international regime helped to extrapolate Kingdon's limitations, considering that there cannot be an hermetic analysis of either domestic or international approaches in order to comprehend and explain the evolution of Brazilian climate policies. Thus, the use of concepts from different analytical framework increased the analyses complexity and explanatory capacity.

Finally, it must be evidenced that the next two years (2014-2015) have potential to be another progressive change moment (with the possibility of a new window of opportunity occurrence) due to expected changes in the streams in domestic and climate change international regimes. Brazil's current position is more reminiscent of the 1990's than the late

2000's. Thus, even if the national legislation favours reformist forces, conservative sectors are pressuring the government and increasing the uncertainty in relation to the Brazilian fulfilment of climate legislation and voluntary agreements, as well as the adoption of further progressive positions.

Hereupon future research should focus on: (1) new theoretical approaches focusing on explaining the Brazilian change trajectory in order to analyse which one is the more suitable to address its policy-building process in environment and climate change agendas; (2) suitability testing of this research's theoretical framework applied in other countries' climate change policies' trajectory; (3) observing the changes in the next two years, analyse whether Brazilian climate change policy will follow a conservative or progressive stance and if the windows of opportunity can explain it; and, (4) analyse windows of opportunity in the international level and compare with the windows found domestically, comparing if they are similar in time, in influencing factors within the streams or not.

BIBLIOGRAPHIC REFERENCES

- ACRYLL, Robert; KAY, Adrian; ZAHARIADIS, Nikolaos. (2013) Ambiguity, multiple streams, and EU policy. **Journal of European Public Policy**. 20:6, 871-887. 2013.
- AGUIAR, Cristiane Almeida. (1997) A formação do regime internacional de mudança **climática**. Master Thesis (MSc in International Affairs). 1997. University of Brasilia, Brasilia.
- AKLIN, Michaël; BAYER, Patrick; HARISH, S.P; URPELAINEN, Johannes. (2013) Understanding environmental policy preferences: New evidence from Brazil. **Ecological Economics**. Volume 94, October 2013, Pages 28-36. 2013.
- ALMEIDA, Paulo Roberto de. (2007) O Brasil como ator regional e como emergente global Estratégias de política externa e impacto na nova ordem internacional. **Revista Cena Internacional**. Brasilia: UnB-IREL, vol.9, nr 1, 2007, p.7-36
- AMORIM, Celso. (2010) Brazilian foreign policy under President Lula (2003-2010): an overview. **Revista Brasileira de Política Internacional**. Brasilia, v. 53, n. spe, Dec. 2010.
- ANNESLEY, Claire; GAINS, Francesca; RUMMERY, Kirstein. (2010) Engendering politics and policy: the legacy of New Labour. In **Policy and Politics**, vol. 38, nº 3, 389-406. 2010.
- BAKKER, H.; ASSELT, H. van. (2011) The future of the CDM: same, but differentiated. **Climate Policy**, 11 (1), 752-767. 2011.
- BARROS-PLATIAU, Ana Flávia. (2006) A política externa ambiental: do desenvolvimentismo ao desenvolvimento sustentável. In: OLIVEIRA, Henrique Altemani de.; LESSA, Antônio Carlos. (Org.). **Relações internacionais do Brasil: temas e agendas**, v.2. São Paulo: Saraiva, 2006.
- BETSILL, Michele M.; BULKELEY, Harriet. (2006) Cities and the multilevel governance of global climate change. **Global Governance**, Vol. 12, No. 2 (Apr.–June 2006), pp. 141-159. 2006.
- BIERMANN, F.; PATTBERG, P.H.; ZELLI, F. (Eds.). (2010) **Global Climate Governance Beyond 2012: Architecture, Agency and Adaptation**. Cambridge, UK: Cambridge University Press. 2010.
- BIESENBENDER, Sophie; TOSUN, Jale. (2014) Domestic politics and the diffusion of international policy innovations: How does accommodation happen?. **Global Environmental Change**, Available online 9 May 2014.
- BIODIESELBR. (2014) **Evolução nacional do álcool – Pró-álcool**. Available at: <http://www.biodieselbr.com/proalcool/pro-alcool/programa-etanol.htm> Accessed in: Jun/2014.
- BORGES, Laura Coelho Resende. (2011) **Redução das emissões por desmatamento e degradação – REDD: desafios e oportunidades para o Brasil no contexto das mudanças climáticas**. Master Thesis (MSc in Sustainable Development). 2011. Sustainable Development Centre, University of Brasilia. Brasilia.

- BOYLE, Jessica. (2013) Gathering in the gloom of Warsaw: assessing the outcomes of COP19. **IISD Commentary**. International Institute for Sustainable Development. December 2013.
- BRASIL. (1991) Presidência de República. Comissão Interministerial para Preparação da Conferência das Nações Unidas sobre Meio Ambiente e Desenvolvimento. **O desafio do desenvolvimento sustentável**. Brasília: CIMA, 1991.
- _____. (2010) **Perspectivas sobre as negociações de mudança climática e seus impactos na política brasileira**. Instituto de Pesquisas Econômica Aplicada - IPEA. 2010.
- BRAYBROOKE, David; LINDBLOM, Charles E. (1963) **A strategy of decision: policy evaluation as a social process**. New York: The Free Press of Glencoe, 1963.
- BRUNNER, Steffen. (2008) Understanding policy change: Multiple streams and emissions trading in Germany. In **Global Environmental Change**. Elsevier. Nº 18, 2008, pp. 501-507. 2008.
- BULKELEY, H.; KERN, K. (2006) Local government and climate change governance in the UK and Germany. **Urban Studies**, 43 (12): 2237-2259. 2006.
- BURSZTYN, Augusta; BURSZTYN, Marcel. (2012) **Fundamentos de política e gestão ambiental: os caminhos do desenvolvimento sustentável**. Rio de Janeiro: Garamond, 2012.
- CALSING, Renata de Assis. (2005) **O Protocolo de Quioto e o direito do desenvolvimento sustentável**. Porto Alegre: Sergio Antonio Fabris Ed., 2005.
- CERVO, Amado Luiz. (2002) Relações Internacionais do Brasil: um balanço da Era Cardoso. **Revista Brasileira de Política Internacional**. Rio de Janeiro, v. 45, n.1, p.5-35, 2002.
- _____. (2010) Brazil's rise on the international scene: Brazil and the World. **Revista Brasileira de Política Internacional**. Brasília, v. 53, n. spe, Dec. 2010 .
- _____; BUENO, Clodoaldo. (2008) **História da política exterior do Brasil**. 3. Ed. Brasília: Editora UnB. 2008.
- CINDES. (2011) Climate and industrial policies: the Brazilian case. **Brevíssimos cindes**. No.37, CINDES, September 2011.
- COSTA E SILVA, Francisco Nilson Moreira. (2011) **evolução da política externa brasileira para o regime internacional de mudanças do clima**. Post-Graduation Programme in International Affairs. 2011. Cândido Mendes University. Rio de Janeiro.
- DEPLEDGE, Joana. (2009) **Um Guia do Processo da Mudança do Clima**. Available at: <<http://www.mct.gov.br/index.php/content/view/49281.html>> Accessed in: Set/2009.
- DOLOWITZ, D.; MARSCH, D. (1996) Who Learns What from Whom: a Review of the Policy Transfer Literature. **Political Studies**, vol. 44, pp. 343 – 357. 1996.
- DOMINGOS, Nicole de Paula. (2007) **O Protocolo de Kyoto: a União Européia na liderança do regime de mudanças climáticas**. Master Thesis (MSc in International Affairs). 2007. Pontifical Catholic University of São Paulo, UNESP/UNICAMP. São Paulo.

- DUARTE, Lilian C. B. (203) **Política externa e meio ambiente**. Jorge Zahar, Rio de Janeiro, 2003.
- DUTSCHKE, M. (2000) O Brasil como ator no processo da política climática. **Cadernos do Instituto de Estudos Avançados da Universidade de São Paulo**. University of São Paulo. Série Ciências Ambientais, n. 26. São Paulo, Oct/2000.
- ESTEVO, Jefferson dos Santos. (2012) **Política Externa Brasileira para mudanças climáticas**. 2012. San Tiago Dantas Post-Graduation Programme in International Affairs (PUC-SP, UNESP e UNICAMP). São Paulo.
- EVERA, Stephen. (1977) **Guide to Methods for Students of Political Science**. Ithaca, Cornell University Press, 1977.
- FONSECA, Fúlvio Eduardo. (2006) **As organizações não-governamentais e a implementação dos acordos ambientais multilaterais: entre a participação formal e a influência informal**. 2006. PhD Dissertation (PhD in International Affairs). International Affairs Institute, University of Brasilia, Brasilia.
- _____. (2007) As negociações multilaterais sobre o aquecimento global: uma nova guerra fria?. In: **Encontro da Associação Brasileira de Relações Internacionais - ABRI**, 2007, Brasilia. Anais do I Encontro da Associação Brasileira de Relações Internacionais - ABRI, 2007.
- FREITAS, Lucas José Galvão Garcia de. (2012) **A evolução histórica do Brasil na agenda internacional das mudanças climáticas**. Master Thesis (MSc in International Affairs History). 2012. Foreign Affairs MSc Program. University of Brasilia.
- FREITAS, Luciano Charlita; KANEKO, Shinji. (2011) Decomposing the decoupling of CO2 emissions and economic growth in Brazil. **Ecological Economics**. Volume 70, Issue 8, 15 June 2011, Pages 1459-1469. 2011.
- G-20. (2014) The Group of Twenty. **About G20**. Available at: <www.g20.org/about_G20> Accessed in: June/2014.
- G-77. (2014) The Group of 77 at the United Nations. **About the Group of 77**. Available at: <<http://www.g77.org/doc/>> Accessed in: Jun/2014.
- GOMIDE, Alexandre de Ávila. (2008) **Agenda Governamental e Formulação de Políticas Públicas: o projeto de lei de diretrizes da política nacional de mobilidade urbana**. Jan/2008. Available at: <www.col.usp.br> Accessed in: Jan/2014.
- GRUBB, M.; LAING, T., COUNSELL, T., WILLAN, C., (2011) Global Carbon Mechanisms: Lessons and Implications. **Climatic Change**. 104: 539-573. 2011.
- GULDBRANDSSON, Karin; FOSSUM, Björn. (2009) An exploration of the theoretical concepts policy windows and policy entrepreneurs at the Swedish public health arena. In **Health Promotion International**, Vol. 24, Nº 4, ed. Oxford University Press. 2009.
- GUPTA, J. (2010) A history of international climate change policy, **Wiley Interdisciplinary Reviews: Climate Change**, 1(5): 636-653. 2010.

- _____. (2012) Negotiating challenges and climate change. **Climate Policy**, 12(5): 630-644. 2012
- HAAS, P. Do regimes matter? (1999) Epistemic communities and Mediterranean pollution control. **International organizations**, vol. 143, pp 233 -403. 1999.
- HARRISON, Kathryn; SUNDSTROM, Lisa McIntosh. Eds. (2010) **Global commons, domestic decisions: the comparative politics of climate change**, 2010. Cambridge: MIT Press. 2010. 312p.
- HENRIQUES, António Gonçalves; WEST, Cristina; MERTENS, Isabel; PIRES, Nádia. (2001) Estratégia para o desenvolvimento sustentável no contexto internacional. In: **Euro-ambiente**. Nov/2001.
- HOCHSTETLER, Kathryn Ann. (2012) The G-77, BASIC, and global climate governance: a new era in multilateral environmental negotiations. **Revista Brasileira de Política Internacional**. Brasília, v. 55, n. spe, 2012.
- _____; KECK, Margaret E. (2007) **Greening Brazil: environmental activism in state and society**. Durham (NC): Duke University Press, 2007.
- HOHNE, Niklas et all. (2011) Contributions of individual countries' emissions to climate change and their uncertainty. **Climate Change**. June 2011, Volume 106, issue 3, pp 359-391. 2011.
- HUITEMA, Dave; LEBEL, Louis; MEIJERINK, Sander. (2011) The strategies of policy entrepreneurs in water transition around the world. In **Water Policy**, nº 13, 717-733. 2011.
- HULME, M. (2010) Climate change: What do we know about the IPCC? **Progress in Physical Geography**, 34(5): 705-718. 2014.
- ICB. Instituto Carbono Brasil. (2014) **Mecanismo de Desenvolvimento Limpo (MDL)**. Available at: <http://www.institutocarbonobrasil.org.br/mecanismo_de_desenvolvimento_limpo_mdl_/p=1> Accessed in: May/2014.
- IEA. International Energy Agency. (2014) **Brazil Statistics**. Available in: <<http://www.iea.org/statistics/statisticssearch/>>, accessed in January 19th 2014.
- IISD. International Institute for Sustainable Development. (2013) **Earth negotiating bulletin. Several editions**. IISD and the UN Climate Change Negotiations. Available at: <<http://www.iisd.org/climate/unfccc/unccn.aspx>> Accessed in: Fev/2014.
- IPAM. Instituto de Pesquisa Ambiental da Amazônia. (2014). **ABC do Clima: Como os países têm participado no MDL? Qual é o cenário brasileiro na participação do MDL?**. Available at: <<http://www.ipam.org.br/saiba-mais/abc/mudancaspergunta/Como-os-paises-tem-participado-no-MDL-Qual-e-o-cenario-brasileiro-na-participacao-do-MDL-/25/15>> Accessed in: Apr/2014.
- IPCC. (1990) **Climate Change 1990: The IPCC Scientific Assessment**. Report prepared for Intergovernmental Panel on Climate Change by Working Group I. J.T. Houghton, G.J.

Jenkins and J.J. Ephraums (eds.). Cambridge University Press, Cambridge, Great Britain, New York, NY, USA and Melbourne, Australia, 410 p. 1990/

_____. (1999) **How the IPCC is organized:** 1999. Available at: <http://www.ipcc.ch/about/how-the-ipcc-is-organized.html>, Accessed in: nov/2009.

_____. (2000) **Emissions Scenarios:** A special report of IPCC Working Group III (SRES). Cambridge: Cambridge University Press, 2000.

_____. (2007) **Climate Change 2007: Impacts, Adaptation and Vulnerability.** Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Annex I., M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson, Eds., Cambridge University Press, Cambridge, UK, 976pp. 2007.

_____. (2009) **How the IPCC is organized:** 1999. Available at: <http://www.ipcc.ch/about/how-the-ipcc-is-organized.html>, Accessed in: nov/2009.

_____. (2013) **Summary for Policymakers.** In: Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. 2013.

_____. (2014). **How does IPCC work?.** Available at: http://www.ipcc.ch/organization/organization_structure.shtml> Accessed in: Jun/2014.

IRACHANDE, Aninho Mucundramo. (2002) **MERCOSUL e o meio ambiente:** uma integração sem agenda verde. 2002. PhD Dissertation (PhD in Sustainable Development). Sustainable Development Centre, University of Brasilia, Brasilia.

JESUS, Samuel de. (2014) A Geopolítica da Copa. **Mundorama.** Available at: <http://mundorama.net/2014/05/09/a-geopolitica-da-copa-por-samuel-de-jesus/>> Accessed in: May/2014.

KEOHANE, Robert. (1984) **After hegemony:** cooperation and discord in the world political economy. Princeton: Princeton University Press, 1984.

_____; NYE, Joseph. (1977) **Power and interdependence.** Boston: Little, Brown & Co., 1977.

_____; RAUSTILA, K. (2008) **Towards a Post-Kyoto Climate Change Architecture:** A Political Analysis. Discussion Paper 2008-1 Harvard Project on International Climate Agreements. 2008.

KESKITALO, E. Carina H.; WESTERHOFF, Lisa; JUHOLA, Sirkku. (2012) Agenda-setting on the environment: the development of climate change adaptation as an issue in European states. In **Environmental Policy and Governance**, n° 22, 381-394. 2012.

KINGDON, John W. (1984) **Agendas, alternatives and public policies.** Boston: Little, Brown & Co., 1984.

- KLEPPER, G. (2011) The Future of the European Emission Trading System and the Clean Development Mechanisms in a Post-Kyoto world. **Energy Economics**, 33(4), 687-698. 2011.
- KRASNER, S. (1983). **International regimes**. Ithaca: Cornell University Press, 1983.
- LAGO, André Aranha Corrêa do. (2007) **Estocolmo, Rio, Johannesburgo: o Brasil e as três conferências ambientais das Nações Unidas**. Brasília: Rio Branco Institute; Alexandre Gusmão Foundation, 2007.
- LIMA, Guilherme do Prado. (2012) **A atualização da Política Externa do Brasil na agenda internacional ambiental: a transformação da posição brasileira em mudança do clima**. Master Thesis (MSc in International Affairs). 2012. University of Brasilia, Brasilia.
- McCORMICK, John.(1992) **Rumo ao Paraíso**. A História do movimento ambientalista. Rio de Janeiro: Relume-Damará, 1992.
- MCT. Ministério da Ciência e Tecnologia. (2011) **Programa Nacional de Mudanças Climáticas**. Available at: <<http://www.mct.gov.br/index.php/content/view/77650.html>> Accessed in: Jan/2014.
- MENDES, A.P.A; COSTA, R.C. (2010) Mercado Brasileiro de biodiesel e perspectivas futuras. **BNDES Setorial**. Number 31, Biocombustíveis. 2010.
- MIRANDA, Giuliana. (2014) **Desmatamento na Amazônia sobe 28% em 2013**. Available at: <<http://www1.folha.uol.com.br/ambiente/2013/11/1371434-desmatamento-na-amazonia-sobe-28-em-2013.shtml>>, accessed in: Jan/2014.
- MONCEL, R.; ASSELT, H. van. (2012) All hands on deck! Mobilizing climate change action beyond the UNFCCC. **Review of European Community and International Environmental Law**, 21 (3): 163-176. 2012.
- MUCCIARONI, G. (1992). **The garbage can model and the study of policy making: a critique**. In **Polity**, 23 (3): 459-82, 1992.
- OYE, Kenneth A. (Ed.) (1986) **Explaining cooperation under anarchy**. Princeton University Press, 1986.
- PATTBERG, P.H.; MERT, A. (2013). The future we get might not be the future we want: Analyzing the Rio+20 outcomes. **Global Policy**, 4(3), 305-310. 2013.
- PINTO, Isabela C. M. (2008) Mudanças nas políticas públicas: a perspectiva do ciclo de política. In **Revista de Políticas Públicas**, vol. 12, núm. 1, jan-jun, 2008, pp. 27-36.
- PISTORIUS, T. (2012) From RED to REDD+: the evolution of a forest-based mitigation approach for developing countries. **Current Opinion in Environmental Sustainability**. 4(6): 638-645. 2012.
- POLSBY, N. (1984) Political Innovation in America: **The Politics of Policy Initiation**. New Haven e London: Yale University Press. 1984.

- PRADA, Paulo. (2013) **Brazil government figures confirm spike in Amazon deforestation.** Available at: <<http://in.reuters.com/article/2013/11/14/brazil-amazon-idINDEE9AD0E220131114>>, accessed in: Jan/2014.
- PUTNAM, Robert D. (1988) *Diplomacy and Domestic Politics: The Logic of the Two-Level Games.* **International Organization.** Boston, v. 42, n. 3, p. 427-460, Summer. 1988.
- RIBBELKE, Dirk T.G. (2011) International support of climate change policies in developing countries: Strategic, moral and fairness aspects. **Ecological Economics.** Volume 70, Issue 8, 15 June 2011, Pages 1470-1480. 2011.
- RICUPERO, Rubens. (2007) Em Bali, um plano contra o suicídio, **Estado de São Paulo**, São Paulo, 30 dez. 2007. Available at: <http://www.estadao.com.br/suplementos/not_sup102462,0.htm>, Accessed in: Jan/2014.
- _____. (2008) **Bali e o Futuro do Clima.** São Paulo: Armando Álvares Penteado Foundation, 2008.
- RONG, Fang. (2010) Understanding developing country stances on post-2012 climate change negotiations: Comparative analysis of Brazil, China, India, Mexico, and South Africa. **Energy Policy.** Volume 38, Issue 8, August 2010, Pages 4582-4591. 2010.
- SABATIER, P. A. (2007) **Theories of Policies Process.** Boulder, CO: Westview Press, 2007.
- SAINT-GERMAIN, Michelle A.; CALAMIA, Robert A. (1996) Three strikes and you're in: a streams and windows model of incremental policy change. In **Journal of Criminal Justice**, Vol. 24, Nº 1, pp. 57-70, 1996.
- SCHUTTE, Giorgio Romano. (2012) Avaliação crítica da Diplomacia do Etanol. **1º Seminário Nacional de Pós-Graduação em Relações Internacionais.** ABRI. Brasília, 2012.
- SERRA, Sérgio Barbosa. (2008) A mudança do clima na perspectiva do Brasil: negociações e ações futuras. **Plenarium**, v.5, n.5, p. 140 - 146, Oct., 2008.
- SILVA, Rodolfo Ilário. (2012) A política externa brasileira para o meio ambiente: antecedentes e evolução da agenda até a RIO+20. Monções: **Revista de Relações Internacionais da UFGD**, v. 1, n. 2, jul./dez., 2012.
- STERN, Nicholas. (2006) **Relatório Stern sobre os impactos das mudanças climáticas na economia.** [S.L.: S.N], 2006.
- STIGT, Rien van; DRIESSEN, Peter P.J.; SPIT, Tejo J.M.. (2013) A window on urban sustainability: Integration of environmental interests in urban planning through 'decision windows'. In **Environmental Impact Assessment Review**, Volume 42, Sept. 2013, Pg. 18-24.
- THEOBALD, Hildegard; KERN, Kristine. (2011) The introduction of long-term care policy schemes: policy development, policy transfer and policy change. In **Policy & Politics**, vol. 39 Nº 3, 325-42. 2011.
- THIOLENT, M. (1986) **Metodologia da pesquisa ação.** São Paulo: Cortez Editora, 1986.

- TOLEDO, Bruno. (2013) **COP-19: os resultados**. Available at: <<http://www.oc.org.br/index.php/page/52-COP-19%253A-Os-resultados%250A>> Accessed in: Nov/2013.
- TOLLEFSON, Jeff. (2013) A Light in the Forest. **Foreign Affairs**. February 11, 2013. Available in: <<http://www.foreignaffairs.com/articles/138849/jeff-tollefson/a-light-in-the-forest>>, accessed in: Jan/2014.
- TSP. The Shift Project Data Portal. (2014) **TOP 20 GHG Emitting Countries - Breakdown by Sector**. Available in: <<http://www.tsp-data-portal.org/TOP-20-emitter-by-sector#tspQvChart>>, accessed in January 16th, 2014.
- UNFCCC. (1992). United Nations. United Nations Conference on Environment and Development. **United Nations Framework Convention on Climate Change**. Rio de Janeiro, 1992.
- _____. (2014) United Nations. United Nations Conference on Environment and Development. **Kyoto Mechanisms – Background**. Available at: <http://unfccc.int/kyoto_protocol/mechanisms/items/2998.php> Accessed in: May/2014.
- VIEIRA, Marco A. Brasil (2013) Brazilian Foreign Policy in the Context of Global Climate Norms. **Foreign Policy Analysis**. Volume 9, Issue 4, pages 369–386, October 2013.
- VIOLA, Eduardo. (1988) The ecologist movement in Brazil (1974–1986): from environmentalism to ecopolitics. **International Journal of Urban and Regional Research**. 12: 211–228. June 1988.
- _____. (1998) A Globalização da política ambiental no Brasil.1990-1998. **XXI International Congress of the Latin American Studies Association**, Panel ENV 24, Social and Environmental Change in the Brazilian Amazon, The Palmer House Hilton Hotel, Chicago, USA, 24-26 de September 1998.
- _____. (2002) O regime internacional de mudança climática e o Brasil. **Revista Brasileira de Ciências Sociais**. Vol.17.No.50. October 2002.
- _____. (2004a) A evolução do papel do Brasil no regime internacional de mudança climática e na governabilidade global. Cena Internacional - **Revista de Análise em Política Internacional**. Ano 6, Número 1, p.82-105. June 2004.
- _____. (2004b) Brazil in the context of global governance politics and climate change, 1989-2003. **Ambiente e sociedade**. Campinas, v. 7, n. 1. June 2004.
- _____. (2004c) Brazil in the Politics of Climate Change and Global Governance 1989-2003. **Centre for Brazilian Studies**. University of Oxford, working paper 56. 2004.
- _____. (2008) **A globalização da política ambiental no Brasil, 1990-1998**. Available at: <<http://bibliotecavirtual.clacso.org.ar/ar/libros/lasa98/Viola.pdf>> Accessed in: Nov/2008.
- _____. (2009a) A política climática global e o Brasil: 2005-2010. **Revista tempo do mundo/Instituto de Pesquisa Econômica Aplicada**. v. 1, n. 1, (December 2009). – Brasília: Ipea, 2009.

- _____. (2009b) Brasil na Arena Internacional da Mitigação da Mudança Climática, 1996-2008. **Breves cindes**. No.14, CINDES, January 2009.
- _____. (2009c) Brazil in the global arena of mitigating climate change: National interest, global equity and ambivalence. 2009 IOP Conf. Ser.: **Earth Environ. Sci.** 2009.
- _____. (2010) Impasse e perspectivas da negociação climática global e mudanças na posição brasileira. **Breves cindes**. No.30, CINDES, March 2010.
- _____. (2013a) Brazilian Climate Policy since 2005: Continuity, Change and Prospective. **CEPS**. Centre for European Policy Studies working documents No. 373, February 2013.
- _____. (2013b) Transformations in Brazilian Deforestation and Climate Policy Since 2005. **Theoretical inquiries in law**. [1565-1509] 2013 vol:14 fasc:1
- _____; FERREIRA, Leila. (1996) **Incertezas de sustentabilidade na globalização**. CAMPINAS: UNICAMP, 1996.
- _____; FRANCHINI, Matías. (2011a) A mudança climática em 2011: governança global estagnada e o novo perfil de emissões do Brasil. **Breves cindes**. No.54, CINDES, July 2011.
- _____; FRANCHINI, Matías. (2011b) A mudança climática em 2011: Governança Global Estagnada e o Novo Perfil do Brasil. **TEXTOS cindes**. No.25, CINDES, July 2011.
- _____; FRANCHINI, Matías. (2011c) Climate change in 2011: stagnated global governance. **Brevísimos cindes**. No.33, CINDES, July 2011.
- _____; FRANCHINI, Matías. (2011d) Climate policies in Brazil (2009-2011): political economy in progress. **Brevísimos cindes**. No.34, CINDES, July 2011.
- _____; FRANCHINI, Matías. (2011e) Climate policies in Brazil 2009-2011. **Brevísimos cindes**. No.35, CINDES, July 2011.
- _____; FRANCHINI, Matías. (2012) Sistema internacional de hegemonia conservadora: o fracasso da Rio + 20 na governança dos limites planetários. **Ambiente e sociedade**. São Paulo , v. 15, n. 3, Dec. 2012 .
- _____; FRANCHINI, Matías. (2013a) Narrativas paralelas: a ciência e a política nas Cúpulas ambientais. **Breves cindes**. No.72, CINDES, April 2013.
- _____; FRANCHINI, Matías. (2013b) *Status Quo ou Reforma?* O Brasil na governança das fronteiras planetárias 2013-2018. **Breves cindes**. No.76, CINDES, August 2013.
- _____; FRANCHINI, Matías; RIBEIRO, Thaís Lemos. (2012) Climate governance in an international system under conservative hegemony: the role of major powers. **Revista Brasileira de Política Internacional**. 55 (special edition), 9-29. 2012.
- _____; FRANCHINI, Matías; RIBEIRO, Thaís Lemos. (2013) **Sistema Internacional de Hegemonia Conservadora**: governança global e democrática na era da crise climática. São Paulo: Annablume; Brasília: International Affairs Institute, 2013.

- WANG, Qiang; CHEN, Xi. (2013) Rethinking and reshaping the climate policy: Literature review and proposed guidelines. **Renewable and Sustainable Energy Reviews**, Volume 21, May 2013, Pages 469-477.
- ZAHARIADIS, Nikolaos. (2007) The Multiple Streams Framework: Structure, Limitations, Prospects. In **Theories of the Policy Process**, ed. Paul A. Sabatier, 65–92. 2007.
- ZHANG, ZhongXiang. (2009) How far can developing country commitments go in an immediate post-2012 climate regime?. **Energy Policy**. Volume 37, Issue 5, May 2009, Pages 1753-1757. 2009.

APPENDIX A

Frame 3: UN's Environmental Conferences.

General information	Main documents and outcomes	Importance
<p>United Nations Conference on the Human Environment (UNHCE)</p> <p>Local: Stockholm, Sweden</p> <p>Date: September 5th to 16th, 1972</p> <p>Public: 114 nations, 2 heads of state, 250 ONGs and UN organisms</p>	<p>Stockholm Declaration: 26 principles integrating development and environmental protection issues, pointing the limits of growth. The main ones are: “common but differentiated responsibilities” (highlights the differences between developed and developing countries profile in terms of growth and emissions throughout time - holding developed countries as the main responsible for environmental degradation); “polluter-pays” (encourages polluter countries with the possibility to revert the caused situation); and " right to develop".</p> <p>Creation of UNEP.</p>	<p>Considered the first international endeavour gathering developed and developing countries to discuss environmental issues.</p> <p>Main topics were acid rain pollution, radiation and oil spill. Developed countries focused on industrialization damage; and developing ones on hunger, poverty, unemployment and poor health and education hazards regarding low development rates.</p> <p>Tried to balance the dichotomy of conservationists (environmental planning and improvement) with preservationists (the maintenance of the nature away from human influence).</p> <p>Elevated environmental problems to a global concernment level, and development started to be addressed considering economic, demographic growth and environmental protection.</p>
<p>United Nations Conference on Environment and Development (UNCED, ECO-92, RIO-92 or Earth Summit)</p> <p>Local: Rio de Janeiro, Brazil</p> <p>Date: June 3rd to 14th, 1992</p>	<p>Rio Declaration on Environment and Development: 27 principles about environment and development interaction, to establish sustainable development harmonizing the best living conditions with environmental conservation and preservation;</p> <p>Agenda 21: importance of global and local reflections towards sustainable development solutions;</p> <p>Statement of Forest Principles;</p>	<p>Focused on the role of developed countries as the main responsible for hazardous consequences to the environment, and the developing countries' necessity of financial and technological support to achieve their development in a sustainable way.</p> <p>First international conference after the end of the Cold War, retaking the importance of multilateralism towards global governance, stimulating cooperation for consensus among countries despite their differences.</p>

Public: 172 nations, 108 heads of state, 7,000 delegates, 10,000 journalists and 1,400 environmental NGOs (7,000 NGOs in the Global Forum that was hosted in paralel)

UNFCCC; and
United Nations Convention on Biological Diversity.

Documents fostering strategies towards sustainable development capable of attending both developed and developing countries' needs, regarding their particularities in terms of economy, demography and emissions.

Set the hallmark of environmental crisis and the awareness with natural resources and ecosystems regeneration.

United Nations Conference on Sustainable Development (UNCSD or RIO+20)

Local: Rio de Janeiro, Brazil

Date: June 13th to 22nd, 2012

Public: 192 nations, 100 heads of state, 1,781 delegates, 5,000 workers and 1,500 volunteers.

The Future We Want declaration: renewing political commitments with sustainable development and evaluated advances and failures of its implementation and established the “Major Groups” (women, youth and children, NGOs and indigenous population) for its empowering role in sustainable development.

Less ambitious than the previous and did not succeed in creating an International Environmental Organization to solve UNEP's limitations or in establishing a consistent definition for green economy.

The cleft between global environmental limitations structures and their responses to scientific evolutions has increased, as well as developed and developing interests.

Addressed the future of the climate regime and managed to reduce the fossil fuels' subsidies.

Source: elaborated by the author with information from LAGO, 2007; BURSZTYN and BURSZTYN, 2012; DOMINGOS, 2007; CALSING, 2005; HENRIQUES *et al*, 2001; MCCORMICK, 1992; LEIS, 1996 *in* VIOLA E FERREIRA, 1996; VIOLA, FRANCHINI and RIBEIRO, 2013; CERVO, 2002; DUARTE, 2003.

APPENDIX B

Frame 4: IPCC's General information and Working Groups.

GENERAL INFORMATION	Origins	Established in 1988 (Toronto Conference on the Changing Atmosphere) is managed by both WMO and UNEP and it is open to members of these organizations to partake in its plenary sessions (decide framework, revise and approve reports). Aiming to help the promotion of human development when evaluating the scientific, technical and socioeconomic background of climate change. Its Trust Fund is responsible for financing the Panel's activities.
	Composition	Consists in hundreds of specialists of the member countries who work as authors and revisers of the reports, which are based on scientific researches designed not to defend their positions, but the societies' common interests and scientific community's understandings regarding the thematic.
	Authors	The AR's authors are selected between the most notable scientist and experts whose names are submitted to the Panel by WMO and UNEP members, selected by its scientific and academic reputation.
	Reports	<p>IPCC productions are: evaluation reports; special reports; methodological guidelines and technical documents, drawn from a thorough compilation, exam and revision of technical-scientific and socioeconomic information available worldwide.</p> <p>The AR drafts are delivered to the revisers and, after a preliminary analysis, governments, authors and revisers examine them again. After these modifications, the final text is carefully discussed, on a word basis, and the necessary alterations made in order to maintain the coherence between the text and its data and to avoid any too political or economic bias.</p>
WORKING GROUPS	WG-I: Physical Science Basis	Examines the scientific aspects of the climate and its changes.
	WG-II: Climate Change Impacts, Adaptation and Vulnerability	Evaluates vulnerability, consequences and adaptation possibilities on economic, social and natural systems.

WG-III: Mitigation of Climate Change	Analyses the options for mitigation and diminish impacts on the environment.
Task Force on GHG National Inventories	Responsible for the criteria adopted for registering GHG emissions.

Source: elaborated by the author with information from RICUPERO, 2008; IPCC, 2009; 2014; VIOLA, 2002;

APPENDIX C

Frame 5: IPCC's Assessment Reports.

Assessment Report/Year	Main conclusions
1st Assessment Report 1990	FAR proposed the interrelation between anthropogenic activities and GHG emissions along with the main problems that might result by CO ₂ emissions increase (VIOLA, 2002).
2nd Assessment Report 1995	SAR Confirmed the anthropogenic influence over climate's balance and foresee a temperature increase between 1 and 3,5 Celsius degrees until 2100, with results that may vary accordingly with societies' development.
Special Report on Emissions Scenario 2000	Presented 40 possible emission scenarios divided in 6 groups, from the most optimistic to the most pessimist climate possibilities for the first half of the XXI century.
3rd Assessment Report 2001	TAR proposed that Earth's medium temperature over the past 100 years was increased by 0,6 Celsius degrees, pushed by human activity on the last 50 years; also proposed a supplementary temperature increase between 1,4 and 5,8 until 2100.
4th Assessment Report 2007	AR4 presented scientific evidence of 90% reliability that the human influence over climate's balance and estimated an 0,2 Celsius degree increase per decade in the next 20 years.
5th Assessment Report 2013	AR5 presented data certifying that Earth's climate variability is 99% sure anthropogenic caused.

Source: elaborated by the author with information from BURSZTYN and BURSZTYN, 2012; BORGES, 2011; IPCC, 1990, 2000, 2007, 2013.

APPENDIX D

Frame 6: UNFCCC's COP's and KP's MOP's main outcomes.

General information	
COP/MOP, date and local	Outcomes
COP-1 (1995): Berlin, Germany;	Berlin Mandate, strengthening Annex I emissions reductions commitments and the necessity of a future protocol.
COP-2 (1996): Geneva, Switzerland;	Geneva Declaration, endorsing the necessity for legal obligations regarding GHG emissions from Annex I countries, as a impact of the SAR.
COP-3 (1997): Kyoto, Japan;	KP, establishing emissions reduction goals for Annex I countries of 5,2% for 2008-2012 period, considering 1990's levels.
COP-4 (1998): Buenos Aires, Argentina;	Buenos Aires Action Plan, a framework for operative rules of KP.
COP-5 (1999): Bonn, Germany;	Countries' capacity-building on LULUCF and JI activities.
COP-6 (2000): The Hague, Netherlands;	Definition of flexibilization mechanisms, including LULUCF issues, is postponed for next COP. Failure in reaching agreements between EU and USA positions.
COP-“6 ½“ (2001): Bonn, Germany;	USA formally withdraws from the KP.
COP-7 (2001): Marrakesh, Morocco;	Marrakesh Accord, establishing the legal basis of the flexibilization mechanisms and the eligibility criteria for LULUCF projects.

COP-8 (2002): New Delhi, India;	Defined the modalities and procedures for small-scale CDM projects.
COP-9 (2003): Milan, Italy;	Established the rules for afforestation and reforestation in CDM projects for KP's first period. First presentation REDD mechanisms. Considered the forest COP.
COP-10 (2004): Buenos Aires, Argentina;	Buenos Aires Programme and the 10-year evaluation of the UNFCCC, to consider goal's feasibility and implementation.
COP-11/MOP-1 (2005): Montreal, Canada;	KP enters into force. Coalition of Rainforest Nations proposed financial compensations for developing countries with reducing deforestation actions.
COP-12/MOP-2 (2006): Nairobi, Kenya;	Nairobi's Working Plan suggested a revision of the Protocol and the possibility of developing countries commitments. Brazil supported the REDD, suggesting the creation of an open fund open for volunteer contributions of developed countries, but not in the carbon market logic.
COP-13/MOP-3 (2007): Bali, Indonesia;	Bali Roadmap, listing the main actions towards a safe climate scenario and defining measures to be adopted for the post-2012 period, accordingly with the Bali Action Plan and the Ad Hoc Working Groups on Further Commitments for Annex I Parties under the Kyoto Protocol (AWG-KP) and on Long-term Cooperative Action under the Convention (AWG-LCA).
COP-14/MOP-4 (2008): Poznan; Poland;	The biggest international environmental meeting since the UNCED, but with no success in acquiring consensus over a binding agreement. Succeeded in REDD's inclusion on the post-Kyoto period.
COP-15/MOP-5 (2009): Copenhagen, Denmark;	Registered one of the most critical moments of the climate regime, representing almost the end of climate governance in this context, for not having been able to produce a new binding agreement that was expected and because of the impacts of the financial crisis. Also the Climate Gate IPCC's scandal, with mistaken data leakage, affected the credibility and impartiality of its publications and AR. Copenhagen Accord, despite being a non-binding document, set the possibility of Annex I to set, individually or in groups, their reductions goals until 2020. Non-Annex I countries should also indicate and submit for international analysis their mitigation efforts. Presentation of REDD+.
COP-16/MOP-6 (2010): Cancun, México;	Cancun Agreements encompassed the Copenhagen Accord commitments, created Climate Green Fund and Climate Technology Centre, along with the agreement of a 2°C safety increasing limitation of the temperature, but with no further achievements regarding KP's extension.

COP-17/MOP-7 (2011): Durban, South Africa;	Ad Hoc Working Group on Durban Platform for Enhanced Action (ADP), in charge of negotiations for a new binding agreement by 2015, the KP's extension a second commitment period and pre-2020 ambitions.
COP-18/MOP-8 (2012): Doha, Qatar;	The (non-binding) Doha Climate Gateway, regarding the second commitment period from 2013-2020. End of the first period of commitments, along with AWG-KP and AWG-LCA, now only the ADP is in charge of the negotiations regarding new commitments.
COP-19/MOP-9 (2013): Warsaw, Poland;	Beginning of the second period of commitments (until 2020), Warsaw Mechanism on loss and damage, Warsaw REDD+ Mechanism.
COP-20/MOP-10 (2014): Lima, Peru	It is expected a new binding agreement draft and the start of operation of Green Climate Fund.
COP-21/MOP-11 (2015): Paris, France	A new binding agreement is expected to be signed and to be enforced by 2020, setting a new commitment period.

Source: adapted by the author with information from VIOLA, FRANCHINI and RIBEIRO, 2013; BURSZTYN and BURSZTYN, 2012; BORGES, 2011; CALSING, 2005; several IISD bulletins.

APPENDIX E

Frame 7: KP's Flexibilization mechanisms.

Flexibilization mechanisms main characteristics	<p>Mechanisms introduced under KP's by Marrakesh Accord (COP-7, 2001) to lower Parties' costs in accomplishing the reductions commitments, by cost-effective opportunities or removing carbon from the atmosphere with initiatives in another country.</p>
Clean Development Mechanism	<p>Enable a non-Annex I Party to compensate carbon emissions' reductions for Annex I countries with difficulties with its fulfilment, which buy carbon certificates from the ones who succeeded in reducing or reforested depleted carbon sink areas.</p> <p>Non-Annex I countries implement projects which generate certificated emissions reductions measured, verified, legitimated and validated by the KP competent branches. It's a market mechanism since enterprises can negotiate carbon certificates, accordingly with market prices.</p> <p>Developed countries can endorse emissions reduction projects in other countries, which could enable an increase in their emissions.</p>
Joint Implementation	<p>Encompasses only Annex I countries that gathered with a joint implementation of policies and projects to increase their goals' feasibility. It is not obligatory for those hosting or receiving the project, thus both countries can earn carbon credits, whether the favoured country (host) may or may not host the project (benefactor).</p>
Emissions Trading	<p>Encompasses only Annex I countries, countries that succeed in reducing emissions sell the exceeding amount of Allowances or Assigned Amount Unit with countries with difficulties to meet their goals</p>

Source: elaborated by the author with information from UNFCCC, 2014; VIOLA, FRANCHINI and RIBEIRO, 2013; GRUBB *et al*, 2011; ICB, 2014.