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Human rights and the commodification of pollution

*- A genealogical study of the carbon
market with an intergenerational
justice perspective*

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Abstract

The carbon market promises cost-effective climate change mitigation and economic growth. However, it has been criticised as greenwashing and delaying necessary decarbonisation. This thesis examines the genealogy of the carbon market to address the human rights consequences for future generations. Approaching the issue from a theoretical framework of intergenerational justice enables an understanding of the protection and fulfilment of future human rights concerning environmental protection. The thesis asks: How did the carbon market become dominant as a mitigation technique, and what are the human rights consequences of relying on the carbon market to mitigate climate change? Using the genealogical approach by Michel Foucault and intergenerational justice theory allows an analysis of not only the genealogy of the carbon market but also how it is perceived today and how we have made assumptions based on what we hope it provides – even if the market itself is incapable of delivering on these promises. A multidimensional perspective is brought forth by examining the values and ideas that followed the market’s creation, trusting capitalist market forces to regulate our production and subsequent pollution. The study reveals the carbon market as the latest attempt to liberalise and privatise the last global commons, the atmosphere, while framing this as a “cost-effective” solution to climate change. The thesis finds that the carbon market is a social construct created to protect economic growth and concludes this will jeopardise future generations' lives and human rights if this is not acknowledged and challenged.

Keywords: Carbon market, human rights, climate change, intergenerational justice, genealogy.

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Table of Contents

Abstract.....	2
Acknowledgements	3
Table of Contents.....	4
Abbreviations.....	6
1 Introduction	8
1.1 Research Question and Purpose	11
1.2 The Current and Future State of the Climate.....	12
1.3 Literature Review	14
1.3.1 Human Rights and Climate Governance	14
1.3.1.1 Responsibility to Protect Against Climate Change	14
1.3.1.2 Human Rights Implications of <i>Responses to Climate Change</i>	16
1.3.2 “Fictive” Economies.....	17
1.3.3 The Ethics of Emissions Trading.....	19
1.4 Human Rights Contributions and Placement Within the Field	25
1.5 Delimitation	27
1.6 Ethical Considerations	28
2 Theory.....	30
2.1 Definitions	30
2.2 Intergenerational Justice	32
3 Methodology.....	37
3.1 Genealogy.....	37
3.2 Toolbox.....	41

3.3 Materials	44
4 Analysis & Discussion.....	46
4.1 Identifying the Dispositif.....	46
4.1.1 Cap-and-Trade	47
4.1.2 Carbon Offsets	47
4.2 Problematism	48
4.3 A Genealogical Study of the Carbon Market	50
4.3.1 The Early Scholarship of Emissions Trading	50
4.3.2 Genealogy of Key Events	54
4.3.3 Development of ETS – the early 1990s to 2001	59
4.4 Concluding Discussion	65
5 Conclusion	67
6 References	68
7 Appendix	79
7.1 Table of Primary and Secondary Material.....	79
7.2 Timeline of Significant Events 1960-2021.....	81

Abbreviations

AR6	Sixth Assessment Report
ARP	Acid Rain Program
BAU	Business as Usual
CAA	Clean Air Act
CFCs	Chlorofluorocarbons
CH ₄	Methane
CO ₂	Carbon Dioxide
COP	Conference of the Parties
CDM	Clean Development Mechanism
EPA	United States Environmental Protection Agency
ET	Emissions Trading
ETS	Emissions Trading System
EU ETS	European Union Emissions Trading System
G77	Group of 77
GHG	Greenhouse Gas
ICCPR	International Covenant on Civil and Political Rights
ICESCR	International Covenant on Economic, Social and Cultural Rights
IPCC	Intergovernmental Panel on Climate Change
JI	Joint Implementation
N ₂ O	Nitrous Oxide
NRDC	Natural Resources Defense Council
OECD	Organization for Economic Cooperation and Development
OHCHR	Office of the United Nations High Commissioner for Human Rights
ppb	Parts per billion
REDD+	Reducing Emissions from Deforestation and Forest Degradation
SPM	Summary for Policymakers
SO ₂	Sulphur Dioxide

tCO ₂ e	Tonne of Carbon Dioxide Emissions
UDHR	Universal Declaration of Human Rights
UN	United Nations
UNCED	United Nations Conference on Environment and Development
UNCTAD	United Nations Conference on Trade and Development
UNFCCC	United Nations Framework Convention on Climate Change
WG I	Working Group I
WG III	Working Group III

1 Introduction

“We are faced with the fact, my friends, that tomorrow is today. Procrastination is still the thief of time. Over the bleached bones and jumbled residues of numerous civilisations are written the pathetic words ‘Too Late’.”¹

Martin Luther King, Jr.

Anthropogenic climate change requires immediate action as the adverse effects of climate change threaten the enjoyment of human rights such as the right to life, adequate housing, food, the highest standard of health, and ultimately, the right to self-determination and development. Determining the consequences of human rights violations resulting from climate change proves problematic as it requires untangling complex causalities and projections of future impacts. Paradoxically, attempts to tackle the responsibility and difficulties associated with climate change, can also negatively impact human rights. Similarly, attempts to mitigate climate change can have limited to no effect on protecting the Earth and future generations will feel the consequences as their quality of life and human rights suffer.

This thesis critically examines the genealogy of the carbon market to ascertain the long-term impacts of the emissions trading system on human rights in terms of protecting the lives of those succeeding us. I question the causes and intentions of our climate change mitigation efforts and ask if they can be considered dangerous for future life and human

¹ From a speech delivered by Dr Martin Luther King, Jr., on April 4, 1967, at a meeting of Clergy and Laity Concerned at Riverside Church in New York City; King, Martin Luther, Jr., ‘MLK, Riverside Church Speech’, Inside.Sfuhs.Org, 1967, https://inside.sfuhs.org/dept/history/US_History_reader/Chapter14/MLKrivside.htm (accessed 20 May 2022).

rights. I argue that relying on the market instrument of carbon emissions trading will jeopardise the human rights of future generations.

The carbon market addresses the necessity to regulate the pollution of harmful gasses into the atmosphere using market mechanisms. The concept of the market is to define the total amount of pollution allowed and issue allowances which are then traded among the actors receiving allowances to produce the corresponding amounts of emissions.² The theory is that this will lead to the optimal allocation of emissions, providing a cost-effective solution to mitigate the climate crisis, as those who pay the most for carbon credits are those who face the highest cost of reducing their emissions.³

In contemporary debates, the carbon market is understood and treated as always having existed as if it was an “unhistorical generic form of governing the environment” only recently selected as the mitigation solution.⁴ This is a flawed understanding, which nevertheless presents the market as above reproach. There is nothing absolute or universal concerning the carbon market, as it is a construct designed with specific interests in mind, and we must analyse and discuss it as such. The primary mitigation efforts to protect the climate against harmful gasses have been and still are concentrated on preserving the capability to achieve continuous economic growth. We rely on cost-effective, neoliberal, market-based solutions to protect the environment. Little evidence is presented for the carbon market’s claimed achievements, and the question arises why the carbon market is viewed as essential to the climate crisis solution rather than challenged as a mechanism closely integrated and implicated in an economic and regulatory system that has ultimately led to the climate crisis.⁵

The thesis is divided into five chapters with accompanying subchapters. I present below a brief guide to assist the reader.

² J. P. Voss, ‘Innovation processes in governance: The case of ‘emissions trading’ as a new policy instrument’, *Science and Public Policy* 34 (5), 2007, p. 332.

³ Voss, 2007, p. 332.

⁴ Ibid.

⁵ I use the term climate crisis to demonstrate a greater sense of emergency and urgency about climate change.

The introductory chapter presents the thesis's topic, aims, and purpose and provides relevant contextual information about the current state of the climate. It discusses research in climate governance, the commodification of carbon, and the ethical considerations thereof, as I place the findings of this thesis within the field of contemporary theoretical and political climate research. Lastly, study scope and ethical concerns are addressed.

The second chapter presents the theoretical framework of intergenerational justice. I address central definitions of the framework and discuss the perspective through which I analyse the carbon market.

Chapter three outlines the methodology of genealogy, the course of action, and the material used to address the research question.

Chapter four consists of an analysis and discussion of the historical roots of the carbon market. This involves first identifying the structure of the carbon market and subsequent problematising before tracing the genealogy of the carbon market. The chapter is summarised by a final discussion in which I reflect on the implications of the theoretical framework of intergenerational justice.

In the fifth and final chapter, conclusions are drawn.

1.1 Research Question and Purpose

This thesis argues the importance of a human rights and intergenerational justice perspective in environmental protection, including political science, political ecology, and economics. I problematise the capitalist foundation of our primary mitigation solution – carbon markets – and how this relates to the prerequisite of sustainable development to protect the rights of future humans. The thesis aims to present an alternative narrative to the mainstream, which assumes the carbon market to be natural and legitimate. I instead ask if the protection of the environment can, and should, be secured by economic forces? Are we protecting the economy or the foundational climate necessary for protecting human rights? The marriage between the science of the climate crisis, the political interests, and the economics of emissions trading deserves analysis as carbon markets' theoretical framework and history are rarely questioned.

Policymakers and policy documents concerning the carbon market fail to advocate for or address the rights of future generations, instead valuing the right to continuous economic growth and securing a cost-effective solution to the climate crisis. Choosing the carbon market as the main mitigation option does not consider the impact of a weak mitigation measure on future generations and their powerlessness to hold previous generations accountable for the violations of their rights. The purpose is to understand the broader implications of choosing market-based solutions and address the necessity for an intergenerational justice perspective. In what follows, I will demonstrate how the carbon market emerged, how it has been marketed as a mitigation strategy, and why it was never intended to reduce greenhouse gas (GHG) emissions and global warming, which brings real human rights consequences, particularly in terms of the right to life, health, and subsistence, but also has implications for accountability for future rights violations.

The research question for this thesis is:

How did the carbon market become dominant as a mitigation technique and what are the human rights consequences of relying on the carbon market to mitigate climate change?

Two assumptions are made in this line of questioning. First, I argue that States have a responsibility to protect the human rights of future populations.⁶ Second, the business-as-usual (BAU) approach to the climate crisis will destroy the foundation, i.e., the environment future generations are dependent on, as it is essential for the enjoyment of human rights.

1.2 The Current and Future State of the Climate

To understand the importance of the issue at hand, it is necessary to provide a brief account of the need for adequate climate change mitigations. For this, I will draw on the Intergovernmental Panel on Climate Change (IPCC) 2021 Summary for Policymakers (SPM), which presents the key findings of the Working Group I (WG I) contribution to the IPCC's Sixth Assessment Report (AR6) on the physical basis of climate change and the third part of the AR6, on the mitigation of climate change, which is the contribution by the Working Group III (WG III).⁷

The AR6 states that it is “unequivocal that human influence has warmed the atmosphere, ocean and land”⁸ and that widespread and rapid changes have occurred to “the atmosphere, ocean, cryosphere and biosphere.”⁹ The WG I warns that global warming of 2°C will be exceeded during the 21st century, as each of the last four decades have been warmer than any decade preceding it since 1850, and argue that human influence has warmed the climate at an unprecedented rate in the previous 2000 years.¹⁰ In 2019, the

⁶ I address this further in the second chapter.

⁷ IPCC, 2021, Summary for Policymakers. In: *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [Masson-Delmotte, V., P. Zhai, A. Pirani, S.L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M.I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T.K. Maycock, T. Waterfield, O. Yelekçi, R. Yu, and B. Zhou (eds.)]. In Press. p. 4; IPCC (2022) Summary for Policymakers. In: *Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [P.R. Shukla, J. Skea, R. Slade, A. Al Khouradajie, R. van Diemen, D. McCollum, M. Pathak, S. Some, P. Vyas, R. Fradera, M. Belkacemi, A. Hasija, G. Lisboa, S. Luz, J. Malley, (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA.

⁸ IPCC, 2021, p. 4.

⁹ Ibid.

¹⁰ Ibid. p. 5-6, 14.

Earth's atmosphere was at a concentration level of 410 parts per million for carbon dioxide (CO₂), 1866 parts per billion (ppb) (for methane (CH₄), and 332 ppb for nitrous oxide (N₂O)).¹¹ The atmospheric CO₂ concentrations have risen to a level higher than in the least 2 million years, with CH₄ and N₂O reaching levels higher than in at least 800.000 years.¹² The global mean sea level is rising faster than any preceding century in the last 3000 years, coupled with increasing ocean acidification, due to the warming of the global upper ocean, which has not been seen in the previous 2 million years.¹³ This has a cumulative effect as it increases the chance of compound events, such as the frequency of concurrent global scale droughts and heatwaves, fire weather in regions of all inhabited continents, and flooding.¹⁴

The WG III stated that to limit global warming to 1.5°C, global GHG emissions must, at the latest, peak before 2025 with no or limited overshoot, or to limit global warming to 2°C immediate action is required after peaking in 2025.¹⁵ To achieve this, rapid and deep GHG reductions are needed throughout 2030, 2040, and 2050.¹⁶ Without GHG peaking in 2025 followed by these reductions, GHG emissions are expected to lead to median global warming of 3.2 [2.2 to 3.5] °C by 2100.¹⁷ Furthermore, the WG III claim that the continued use of unabated fossil fuels will “lock in” GHG emissions, and only reducing emissions across the whole energy sector will affect this.¹⁸ According to the SPM of the WG III, in 2020, more than 20 % of global GHG emissions were covered by ETS (emissions trading systems) or carbon taxes but did not achieve deep reductions due to insufficient coverage and prices.¹⁹ Additionally, challenges remain around the concepts of proving the integrity and the additionality of projects combined with the limited applicability of carbon markets to developing countries.²⁰

¹¹ IPCC, 2021, p. 4.

¹² Ibid. p. 8.

¹³ Ibid. p. 5, 8.

¹⁴ Ibid. p. 9.

¹⁵ IPCC, 2022 p. C.1.

¹⁶ Ibid.

¹⁷ Ibid.

¹⁸ Ibid. p. C.4.

¹⁹ Ibid. p. B.5.2.

²⁰ Ibid. p. B.5.4.

1.3 Literature Review

The realities and consequences of the climate crisis have received increasing attention in academic scholarship in the last decade.²¹ In the following, I present some critical thoughts and arguments of this scholarship. I will not be able to illustrate the whole field due to its size and the limited scope of this thesis. However, in attempting to represent the relevant fields of interest, I have divided this review into three categories listed below: human rights and climate governance, “fictive” economies, and the ethics of emissions trading (ET).

1.3.1 Human Rights and Climate Governance

As I conduct genealogical research on the commodification of carbon and its impact on human rights, a review of the scholarship on the development of human rights mainstreaming into the climate discourse is particularly relevant. The literature concerning the carbon market and its consequences on human rights is divided; some focus on the responsibility to reduce carbon emissions to prevent adverse human rights consequences of climate change and others on the human rights implications of the *responses to* climate change. I present both below.

1.3.1.1 Responsibility to Protect Against Climate Change

Several critics agree that the relationship between human rights and the environment is under-theorised, which is indicative of taking environmental goods for granted.²² Gear argues that this is due to the individualistic nature of human rights and the collective concerns of environmental law being at odds with one another. Gear argues that there is no independent self without connection to the world – and neither can claim priority.²³ Woods problematises human rights as undeniably anthropogenic, assuming the individual

²¹ S. Duyck, S., S. Jodoin & A. Johl, (Eds.). *Routledge Handbook of Human Rights and Climate Governance* (1st ed.). Routledge, 2018, p. 3.

²² A. Gear, ‘The Vulnerable Living Order: Human Rights and the Environment in a Critical and Philosophical Perspective’, *Journal of Human Rights and the Environment*, 2(1), 2011, p. 23-4; K. Woods, ‘The State of Play and the Road Ahead: The Environment and Human Rights’, In *Human Rights and 21st Century Challenges: Poverty, Conflict, and the Environment*, Oxford University Press, 2020, p. 298.

²³ Gear, 2011, p. 44.

human to be the only relevant unit of moral concern.²⁴ Falkner and Buzan claim that the responsibility for the global environment has not been anchored in international environmental politics and thus remains only an expectation.²⁵ They instead argue that it has proved difficult to establish this architecture for environmental purposes to engage “great power” management. This is due to the difficulty of establishing significant power rights and privileges with great power responsibilities.²⁶

Numerous scholars argue that States bear the moral responsibility of reducing carbon emissions to prevent adverse human rights consequences.²⁷ However, challenges and disputes present themselves when examining the legal obligations of States to protect against current and future damages, and further division exists between emphasising the individual, collective, or institutional responsibility.

Atapattu agrees with the previous authors and argues that because the International Bill of Human Rights²⁸ does not contain any references to environmental protection and article 24 of the Convention on the Rights of the Child (1989) is singular in addressing any issues of consequences and protection against environmental pollution, this has created a lacuna in which environmentalists invoke human rights to address environmental injustices.²⁹ Atapattu argues that the time has come to think of a right to sustainable development to settle the discussion of the right to development or the right to the environment. It must be defined in terms of sustainability to protect the rights of future generations as

²⁴ Grear, 2011, p. 23-4; Woods, 2020, p. 298.

²⁵ B. Buzan & R. Falkner, 'Great Powers and Environmental Responsibilities: A Conceptual Framework', In *Great Powers, Climate Change, and Global Environmental Responsibilities*, Oxford University Press, 2022, p. 39.

²⁶ Buzan & Falkner, 2022, p. 39.

²⁷ Duyck, et.al., 2018, p. 6; D. Brown, 'Using the Paris Agreement's ambition ratcheting mechanisms to expose insufficient protection of human rights in formulating national climate policies', In S. Duyck, S. Jodoin & A. Johl, *Routledge Handbook of Human Rights and Climate Governance*, Routledge, 2020; M. Wewerinke-Singh, 'State responsibility for human rights violations associated with climate change', In S. Duyck, S. Jodoin & A. Johl, *Routledge Handbook of Human Rights and Climate Governance*, Routledge, 2020.

²⁸ The International Bill of Human Rights consists of the UDHR (1948), the ICESCR (1966), the ICCPR (1966) and its two Optional Protocols. See UN Office of the High Commissioner for Human Rights (OHCHR), Fact Sheet No. 2 (Rev.1), The International Bill of Human Rights, June 1996, No. 2 (Rev.1), <https://www.refworld.org/docid/479477480.html> (accessed 1 May 2022).

²⁹ S. Atapattu, 'The Right to a Healthy Life or the Right to Die Polluted?: The Emergence of a Human Right to a Healthy Environment Under International Law', *Tulane Environmental Law Journal*, 16(1), 2002, p. 98.

sustainable development integrates environmental protection into the development process.³⁰

Gardiner explains the global environmental crisis as the perfect moral storm, which aptly summarises the critiques of the previous scholars.³¹ Gardiner stresses that the possibilities for taking advantage are great, as future people cannot respond. Gardiner calls this storm a mutually reinforcing effect and our lack of moral sensibilities to facilitate the ongoing exploitation of global and intergenerational position as “the problem of moral corruption.”³²

1.3.1.2 Human Rights Implications of *Responses to Climate Change*

As the climate crisis threatens the security and livelihood of individuals around the world, carbon projects can cause substantial harm to individuals. Although the necessity of responding to climate change is severe and urgent, this does not provide a legal justification for violating binding human rights obligations as a matter of international law.³³

Olawuyi describes how the international climate change regime should be reformed to address issues of human rights violations caused by carbon projects and thus suggests mainstreaming a human rights-based approach to carbon finance.³⁴ Gearty takes a step further and asks whether human rights benefit or hinder environmental protection. He argues that as human rights and environmentalism both strive to improve the world for the sake of all living beings, they share a close bond and are therefore help to each other rather than a hindrance.³⁵ Gearty, like Olawuyi, argues for the importance of a human rights approach to meeting the climate crisis challenges.³⁶

³⁰ Atapattu, 2002, p. 125-6.

³¹ S. Gardiner, *A Perfect Moral Storm*, Oxford University Press, 2011.

³² Gardiner, 2011, p. 8.

³³ Duyck, et.al., 2018, p. 7.

³⁴ D. S. Olawuyi, *The human rights-based approach to carbon finance*, Cambridge University Press, 2016.

³⁵ C. Gearty, ‘Do Human Rights Help or Hinder Environmental Protection?’, *Journal of Human Rights and the Environment*, 1(1), 2010, p. 15.

³⁶ Gearty, 2010, p. 21.

Caney argues that the right to a healthy environment is a human right and that the current consumption of fossil fuels undermines certain fundamental rights.³⁷ He argues for a zero-discount rate to protect rights, meaning that future peoples have no lesser rights than their contemporaries.³⁸ Page agrees that human activity threatens the well-being of future generations and that this is both unjust and unethical.³⁹ Connor and Marshall explain the future as never being observed or directly acted upon but constantly interacting with us. Understanding how our present actions impact future generations' lives often escapes us as the future never arrives due to us always living in the present.⁴⁰ They explain that the future is “*felt now, lived now, imagined now* even if it does not eventuate as expected” as our views of the future shape our expectations and our dispositions toward it.⁴¹

1.3.2 “Fictive” Economies

Whether concerned with the economics of the market, the pricing of carbon, the promises versus the realities of offsetting, or even the moral question of paying for continued production and economic growth, the development in scholarship is reflective of a fast-moving field of sustainable transition and transformation.⁴²

Polanyi defines commodities as objects produced for sale and markets being the contract between buyer and seller.⁴³ He famously argued that the commodity description of land, labour, and money are fictitious, and selling these fictitious commodities allows market mechanisms to control the fate of humanity – ultimately ending in the destruction of society.⁴⁴ Furthermore, arguing that this market is self-regulating perpetuates a world in

³⁷ S. Caney, ‘Human rights, climate change, and discounting’, *Environmental Politics*, 17(4), 2008, p. 537.

³⁸ Caney, 2008, p. 540, 551-2.

³⁹ E. Page, *Climate change, justice and future generations*, Edward Elgar Publishing Limited, 2006, p. 9.

⁴⁰ J.P. Marshall & L.H. Connor (Eds.), ‘Ecologies, ontologies and mythologies of possible futures’, In *Environmental Change and the World's Futures: Ecologies, ontologies and mythologies* (1st ed.), Routledge, 2015, p. 7.

⁴¹ Connor & Marshall, 2015, p. 7 (original emphasis).

⁴² For a discussion of the concepts transition and transformation and how they differ see B. Linnér & V. Wibeck, *Sustainability Transformations: Agents and Drivers across Societies*, Cambridge, Cambridge University Press, 2019, p. 6.

⁴³ K. Polanyi, *The Great Transformation. The Political and Economic Origins of Our Time* (2nd Beacon Paperback ed.), Beacon Press, 2001, p. 75.

⁴⁴ Polanyi, 2001, p. 75-6.

which culture, ethics, and morals are inferior to and formed by markets.⁴⁵ The concept of fictive economies regarding the carbon market has been researched considerably in the past decade as the green economy has emerged and gained more economic and political traction and interest.

Bracking engages with the question of performativity in the green economy and whether this generates material or virtual assets.⁴⁶ Bracking concludes that pollution is territorialised in concentrated areas in the Global South. In contrast, the care and repair and pollution trade performance are being re-territorialised in the Global North. She claims that since economic value can be made with little or no relation to material assets, further theorisation is needed on the social construction of importance as the carbon market runs on the performance of the non-material and ephemeral.⁴⁷ Forster and Clark agree with Bracking and further claim that we must transcend the system to avoid profiting off the planet's destruction.⁴⁸ The commodification of nature has no feedback mechanism to check capitalism's destruction of nature and the necessary conditions of life itself. Forster et al. argue that these markets are offered as ad hoc "solutions" for problems created by capitalism's laws of motion.⁴⁹

Much of the scholarship concerning these fictive economies and commodities can be summarised as analysing the social and political processes behind the constitution of value.⁵⁰ Asiyani made an interesting contribution to this field of carbon commodification as he explored the connections between financialisation⁵¹ in the green economy and

⁴⁵ N. Fraser, *Can society be commodities all the way down? Polanyian reflections on capitalist crisis*, 2012.

⁴⁶ S. Bracking, 'Performativity in the green economy: How far does climate finance create a fictive economy?', *Third World Quarterly*, 36(12), 2015, p. 2237-8.

⁴⁷ Bracking, 2015, p. 2352-3.

⁴⁸ J.B. Foster & B. Clark, 'The paradox of wealth: Capitalism and ecological destruction', *Monthly Review*, 61(6), 2009, p. 16.

⁴⁹ J.B. Foster, B. Clark & R. York, *The Ecological Rift: Capitalisms War on the Earth*, NYU Press, 2010, p. 69-70.

⁵⁰ D. MacKenzie, 'The Credit Crisis as a Problem in the Sociology of Knowledge', *American Journal of Sociology*, vol. 116, no. 6, 2011, p. 18780-1; Bracking, 2015, p. 2339.

⁵¹ "Financialisation refers to the phenomenon marked by the rise of capital markets, their intermediaries, and processes in contemporary economic and political life and the various conceptualisations of this phenomenon by scholars." See A.P. Asiyani, 'Financialisation in the green economy: Material connections, markets-in-the-making and Foucauldian organising actions', *Environment and Planning A: Economy and Space*, 50(3), 2018, p. 545.

the material commodification processes underpinning this economy.⁵² Asiyambi links to what Fletcher et al. and Borup et al. call the “economies of expectation.”⁵³ This concept understands the often empty promises of financialisation, such as progress in environmental governance and protection, but instead only promotes the existing power asymmetries in resource governance. To avoid this disillusionment, Asiyambi argues that we must understand the ongoing neoliberalisation of the environment to understand how it is created and governed from below, how it functions, and what it affects.⁵⁴

To finish the discussion of Polanyi, Wood argues that Polanyi fails to treat the market itself as a specific social form. She argues that Polanyi could not appreciate the radical transformations of the societal relations that preceded industrialisation, the revolutionising forces that presupposed a transformation of property relations, and the increased exploitation that created the need to improve productivity.⁵⁵ Wood agrees that Polanyi’s *The Great Transformation* was a departure from the conventional historiography but points to the book’s incapability to affect the dominant model of capitalism, as the questions of capitalism are dominated by the rhetoric of why capitalism has failed in some places, rather than questioning the philosophical and social, and historical background of capitalism itself.⁵⁶

1.3.3 The Ethics of Emissions Trading

Leonardi questions why policymakers rely on carbon markets when the empirical evidence demonstrates that they do not work. He argues that carbon markets are useless, if not nefarious, as they prevent proper climate change mitigation achievements. However,

⁵² Asiyambi, 2018.

⁵³ Asiyambi, 2018, p. 534; R. Fletcher, W. Dressler, B. Büscher et al., ‘Questioning REDD+ and the future of market-based conservation’, *Conservation Biology*, 30, 2016, p. 673–675; M. Borup, N. Brown, K. Konrad, et al., ‘The sociology of expectations in science and technology’, *Technology Analysis & Strategic Management*, 18(3–4), 2006, p. 285–298.

⁵⁴ Asiyambi, 2018, p. 534, 544.

⁵⁵ E.M. Wood, *The Origin of Capitalism: A Longer View*, Verso, 2002, p. 26.

⁵⁶ Wood, 2002, p. 26.

the paradox is that the supposed solution contributes to environmental degradation but presents itself as a gold mine for financial traders and heavy polluters.⁵⁷

Anderson argues that buying carbon offsets is worse than doing nothing, as offsets are “without scientific legitimacy”, “dangerously misleading”, and almost definitely contribute to a net increase in global emissions.⁵⁸ He claims that offsetting weakens contemporary drivers for change and innovation.⁵⁹ Graham recognises the similarity between offsetting one’s carbon footprint and the medieval tradition of paying the church for your indulgences to receive absolution and compares this to the ontology of Newtonian reversible time as the currently emitted CO₂ will be reversed by the later absorption. He argues this makes nature a product of the culture, threatening the existence of nature and further subsuming nature to social and cultural demands to the advantage of Western consumerism.⁶⁰

Goodin agrees with Graham and equates environmental pollution with sin, arguing that while a zero-emission standard seems unrealistic, so are the Ten Commandments.⁶¹ Goodin disagrees with Anderson in that if the alternative is not that the polluters desist from polluting, then the more permissive option is that the polluter pays.⁶²

Hyams and Fawcett argue that the motivation to buy carbon offsets in the voluntary market is not only a technicality of interest but has serious consequences.⁶³ They argue that if one buys offsets to greenwash their image or to clear their conscience, they are less likely to be critical regarding the validity or effectiveness of their purchased offsets – and the projected reductions will only be imagined. Most interestingly, as voluntary carbon offsetting is a consequence of “weak” motivations such as self-image and self-promotion,

⁵⁷ E. Leonardi, ‘Carbon trading dogma: Theoretical assumptions and practical implications of global carbon markets’ *Ephemera: Theory & Politics In Organization*, 17(1), 2017, p. 71.

⁵⁸ K. Anderson, ‘The inconvenient truth of carbon offsets’, *Nature*, 484(7392), 2012.

⁵⁹ Anderson, 2012.

⁶⁰ M. Graham, ‘Official optimism in the face of an uncertain future – Swedish reactions to climate change threats’, In D. Harvey & J. Perry, *The Future of Heritage as Climates Change Loss, Adaptation and Creativity* (1st ed.), 2015, p. 237.

⁶¹ Goodin, 1994, p. 575-6; Graham, 2015, p. 237.

⁶² *Ibid.* p. 592.

⁶³ The voluntary carbon market is, contrary to the mandatory market, not regulated by governments and is instead ruled by private corporate initiatives.

carbon offsetting can never be a general solution to climate change.⁶⁴ Page disagrees with this argument, as he argues that there is only limited evidence of this effect – and it can be mitigated by instituting schemes targeting organisations rather than individuals and through education or public measures to ensure the protection of social norms concerning the environment. Page, instead, suggests addressing the many issues caused by the trading schemes and concludes that the underlying logic of all these suggestions is to acknowledge the profound injustice of continuing to emit GHGs that are not sustainable if we are to protect the Earth for the sake of future generations.⁶⁵ Sheridan and Jafry highlight the absence of a climate justice framework as they argue that “[a] system designed to create justice cannot do so if justice principles are not adhered to.”⁶⁶

Spiekermann agrees with Page and claims that voluntary offsets should not be rejected in principle as they can efficiently control emissions. He argues that the problem with offsets under partial compliance is that the “robustness” of the motivation to offset is questionable. This, according to Spiekermann, raises doubts about the motives of the “offsetters” and is an issue as the current price of offsetting might not reflect the future price – which would then cause them to stop offsetting their emissions.⁶⁷ Dhanda and Hartman also agree and argue that the suggested changes to the climate market, and the aim for increased environmental sustainability, will only be successful if accompanied by educating ourselves and the community. However, they argue that if the purchaser of carbon credits does not understand the different elements of the market, they will likewise not understand the severe consequences of those actions. Dhanda and Hartman argue that neither the right to health and a sustaining physical environment nor the benefits of an equitable, fair, and balanced global carbon emission standard will ever be realised.⁶⁸ The current carbon offset regime discourages accountability for one’s carbon footprint, as it allows one to pay another to accept the responsibility of that footprint. This de-incentivises one

⁶⁴ K. Hyams & T. Fawcett, ‘The ethics of carbon offsetting’, *Wiley Interdisciplinary Reviews: Climate Change*, 4(2), 2013, p. 96-7.

⁶⁵ E. Page, ‘The ethics of emissions trading’, *Wires Climate Change*, 4(4), 2013, p. 241-2.

⁶⁶ T. Sheridan & T. Jafry, ‘Climate finance and justice in the UNFCCC’, In T. Jafry, M. Mikulewicz & K. Helwig, *Routledge Handbook of Climate Justice*, Routledge, 2018, p. 181.

⁶⁷ K. Spiekermann, ‘Buying Low, Flying High: Carbon Offsets and Partial Compliance’, *Political Studies*, 62(4), 2013, p. 926-7.

⁶⁸ K. Dhanda & L. Hartman, ‘The Ethics of Carbon Neutrality: A Critical Examination of Voluntary Carbon Offset Providers’, *Journal Of Business Ethics*, 100(1), 2011, p. 136.

to change the polluting actions and contributes to global economic discrimination – both geopolitically and personally.⁶⁹

Newell and Paterson argue that it is possible to pursue a form of climate capitalism that combines decarbonisation and a fair way of handling that transformation globally and a well-governed system of carbon markets. They argue that the choice between despotism and anarchy is a false one.⁷⁰ However, Böhm et al. disagree with Newell and Paterson. They argue that the commodification of carbon does not signal a transformative “greening” of capitalism but is instead representative of the most recent expression of environmental and ecological commodification and expropriation. This exacerbates existing inequality, supporting destructive environmental activities, dispossession, and uneven development.⁷¹ They argue that while carbon markets “might wear ‘green’ clothes”, they are anything but green. The hope that capitalism might decarbonise itself is contradictory, as capitalism reproduces and deepens unequal relations by protecting the interests and capital of the North while dispossessing those in the South.⁷² Some, like Newell and Paterson, argue that economic growth is needed to push a greener transformation, to decarbonise the economy; others claim that while the market is faulty, is it still necessary to keep working within a capitalist system, and lastly, some argue that we can never achieve market-based environmentalism.⁷³

Peet et al., similarly to Böhm et al., contend that market prices of carbon do not reflect the actual social, environmental, or long-term consequences of the market itself, and the carbon market is therefore socially irresponsible and environmentally destructive. They stress that pricing and commodifying carbon cannot solve the problems created by

⁶⁹ Dhanda & Hartman, 2011, p. 121.

⁷⁰ P. Newell & M. Paterson, *Climate capitalism: global warming and the transformation of the global economy*, Cambridge, Cambridge University Press, 2010, p. 183.

⁷¹ S. Böhm, M. Misoczky & S. Moog, S. ‘Greening Capitalism? A Marxist Critique of Carbon Markets’, *Organization Studies*, 33(11), 2012.

⁷² Böhm, et al., 2012.

⁷³ L. Lohmann, ‘Neoliberalism and the calculable world: The rise of carbon trading’, In S. Böhm and S. Dabhi (Eds.), *Upsetting the offset: the political economy of carbon markets*, London, Mayfly, 2009, p. 25.

commodity markets in the first place.⁷⁴ The capitalist system intends to generate profit, and thus “nature is destroyed in the prior interest of profit.”⁷⁵

Sandel rejects emissions trading, as he argues it creates a loophole for wealthy countries to evade obligations and that turning pollution into a commodity removes the stigma associated with polluting. He compares this to able-bodied people paying to park in a disabled parking place and simply having an expensive parking spot. He further objects to carbon offsets as undermining the shared responsibility the increased global corporation requires.⁷⁶ Ervine challenges the “taken-for-granted” narratives of the superiority of ET to achieve the price discovery as the “purest expression of value.”⁷⁷ She argues that such narratives are conditional in that they offer an ideal; they tell us how the market would behave and how prices would emerge if only the shackles that bind the invisible hand could finally be broken. Therefore, this narrative suggests that the exceptionally low prices that have plagued the world’s emissions trading systems are primarily a consequence of interference in the market – meaning that policy (i.e., interference) is at fault rather than fundamentals driving the price. The goal is thus to liberate the market so that its real potential might be realised.⁷⁸

Böhn and Dabhi argue that carbon markets will not reduce our addiction to fossil fuels but instead provide the incentive to continue our growing usage of fossil fuels and thus continue with a BAU approach. They claim that climate change is not the main problem – our lifestyle and addiction to fossil fuels are, and climate change is only a symptom. Carbon markets can never be an adequate mitigation option for climate change, as it does not deal with the cause of the problem.⁷⁹ Bäckstrand and Lövbrand agree that the technocratic greening of industrial production overlooks poverty and equity issues in developing countries. The focus has been on the opportunities for continued economic growth rather

⁷⁴ R. Peet, P. Robbins & M. Watts (Eds.), *Global political ecology*, Routledge, 2011, p. 14.

⁷⁵ Peet, et al., 2011, p. 14.

⁷⁶ M. Sandel, *Public Philosophy: Essays on Morality in Politics*, Harvard University Press, 2005, p. 94-5.

⁷⁷ K. Ervine, ‘How Low Can It Go? Analysing the Political Economy of Carbon Market Design and Low Carbon Prices’, *New Political Economy*, 23(6), 2018, p. 691.

⁷⁸ Ervine, 2018, p. 691-2.

⁷⁹ S. Böhm & S. Dabhi, *Upsetting the offset: the political economy of carbon markets*, MayFlyBooks, 2009, p. 20.

than social justice.⁸⁰ They argue that the Clean Development Mechanism (CDM)⁸¹ is deeply embedded in global power structures that marginalise local actors and reproduce patterns of inequity.⁸² They, however, disagree with the rejection of all market instruments and instead argue for a reform agenda in which democratisation of international climate policy with green governmentality and ecological modernisation needs to occur.⁸³

Böhm and Dabhi argue that carbon markets are merely a market fix, and if we rely on a market, the fossil fuel elites will only use this to their advantage.⁸⁴ Bachram agrees that the carbon market approach is highly problematic as it does not challenge the damaging consumption principle that creates and sustains the fossil fuel industry. She argues that it is instead a “moral cover” for consumers, while they criticise the needed changes for a sustainable future as being pipe dreams and unrealistic.⁸⁵ Bachram argues that trading in pollution serves those with the most to lose from resolving the climate crisis. The fossil fuel corporations and industrialised countries will not lose their power to pollute, and ET serves as a distraction.⁸⁶ Leonardi agrees and argues that carbon trading has and is offered its own remedy, its own techniques, as the only way of overcoming its continuous failure, as the supposed failure is a part of its function.⁸⁷

⁸⁰ K. Bäckstrand & E. Lövbrand, ‘Planting trees to mitigate climate change: Contested discourses of ecological modernization, green governmentality and civic environmentalism’, *Global Environmental Politics*, 6(1), 2006, p. 53.

⁸¹ See chapter 4.2 about CDM.

⁸² Bäckstrand & Lövbrand, 2006, p. 70.

⁸³ Ibid. p. 71.

⁸⁴ Böhm & Dabhi, 2009, p. 22.

⁸⁵ H. Bachram, H. ‘Climate fraud and carbon colonialism: The new trade in greenhouse gases’, *Capitalism Nature Socialism*, 15(4), 2004, p. 11.

⁸⁶ Bachram, 2004, p. 19.

⁸⁷ Leonardi, 2017, p. 72; L. Lohmann, ‘Financialization, commodification, and carbon: The contradictions of neoliberal climate policy’, In L. Panitch, G. Albo and C. Vivek (eds.), *Socialist register 2012: The crisis and the left*, New York, Monthly Review Press, 2011, p. 102.

1.4 Human Rights Contributions and Placement Within the Field

Most scholars address the ethical questions of burdening future generations with the consequences of our actions and whether this is right or wrong. However, this thesis goes beyond moral claims as it argues for the human rights of future generations. Naturally, current generations should be interested in living in an environment without being affected by climate change and extreme weather events. Furthermore, I claim that the environment should similarly be protected for future generations and that the burden to do so falls upon nation-states.

The literature review demonstrates that contemporary scholars have conducted extensive research on climate governance, human rights, and the carbon market. However, existing research does not adequately address the future human rights consequences of prioritising flawed climate crisis mitigation in the present. Thus, current critiques of the carbon market are not connected to its future consequences, which, arguably, need attention if alternative solutions are to be suggested. There is an implicit assumption in the scholarship concerning environmental protection that it looks to the future. However, the dangers of not protecting the environment and the basis for human life are thus implicit, and it becomes easy to overlook the actual consequences. Articulating the protection of the environment for the sake of the following generation, I argue, creates a change in discourse necessary for crucial action.

Scholars studying the carbon market often shy away from explicitly discussing the human rights implications of such a market system. That is not to say that human rights scholars do not debate intergenerational justice. Still, the rights of future humans are understood as collective rights and thus not anchored in the UN human rights edifice (except for rights of minorities and the right to self-determination), as it belongs to the third generation of rights.⁸⁸ This acts as a metaphorical roadblock to environmental scholars.

⁸⁸ S.A Atapattu & A. Schapper, *Human rights and the Environment: Key Issues*, Routledge, 2019, p. 326.

Numerous scholars argue that the rights of future peoples constitute group rights.⁸⁹ While invoking group rights is often done to avoid a discussion on abortion rights, its continued usage has consequences, as group rights or collective rights are not universally accepted. Group rights, collective rights, and solidarity rights are conceptualised as the third generation of human rights. Still, they often face critique as the argument is that human rights are inherently individual and, therefore, group rights cannot be considered human rights.⁹⁰

Atapattu argues that excluding group rights overlooks the dynamic nature of human rights. Even those arguing for the inclusion of third-generation rights might be against the inclusion of environmental rights.⁹¹ As I explain in detail in the second chapter, intergenerational rights are human rights. Another issue often brought up when considering intergenerational justice is locating duty-bearers. Intergenerational rights are often understood as conflicting with the desires of present generations. By not prioritising the rights of future human beings, we are essentially denying them the right to access clean drinking water, the right to adequate food, and the highest attainable standard of health.⁹² The question then becomes whether we should prioritise future generations and how this can be done without denying the human rights of present generations.

As I question how the carbon market became dominant as a mitigation technique and the human rights consequences thereof, my combination of an intergenerational justice perspective and a genealogical method to answer this question reinforces this study as a considerable human rights contribution. I essentially argue for the protection of the foundation necessary for future human life – without which no human right can be protected.

⁸⁹ R. Hiskes, *The Human Right to a Green Future*, Cambridge University Press, 2009, p. 49.

⁹⁰ Atapattu, 2002, p. 109-10.

⁹¹ *Ibid.* p. 110-1.

⁹² Atapattu & Schapper, 2019, p. 326.

1.5 Delimitation

As shown in the later analysis, I begin my exploration in the 20th century and trace the genealogy to the beginning of the 21st century. However, it is relevant to note that the carbon market can be traced back to the beginning of capitalism, such as the Enclosure Movements of the early Tudor period in England, which refers to the appropriation of land and waste.⁹³

The mandatory global carbon market value has been estimated at US \$851 billion. In comparison, the voluntary carbon market had a revenue of \$1 billion in November 2021, and therefore I mainly emphasise the human rights consequences of the mandatory market.⁹⁴ However, studying the impacts of the mandatory and voluntary market, or focusing on a single market, such as the EU ETS or the Chinese ETS, is beyond the scope of this thesis.

As I have chosen to analyse the genealogy of the carbon market, an analysis of the function of the Kyoto Protocol and the later European Union Emissions Trading System (EU ETS) would not serve my purpose; thus, I limit my study to the 20th century and early 21st century (1920-2003). While there are relevant events, regulations, and decisions in later developments, I trace the market's conception and early development; further analysis of recent developments requires a broader scope.⁹⁵

⁹³ See G. Hardin, 'The Tragedy of the Commons', *Science*, 162, 1968; Polanyi, 2001, p. 36-9; Wood, 2002, p. 3; Bachram, 2004, p. 13; B.R. Scott, *Capitalism. Its Origins and Evolution as a System of Governance*, Springer, 2011, p. 143, 145.

⁹⁴ N. Chestney, 'Global carbon markets value surged to record \$851 bln last year-Refinitiv', *Reuters*, 2022, <https://www.reuters.com/business/energy/global-carbon-markets-value-surged-record-851-bln-last-year-refinitiv-2022-01-31/> (accessed 9 May 2022).

⁹⁵ See appendix 7.2 for a timeline of significant events 1960-2021.

1.6 Ethical Considerations

As I reflect on my positionality, it has become clear that the questions brought forth in this thesis fall into the category of “green radicalism.”⁹⁶ I not only suggest that human rights and justice are central to addressing climate change but that the problem of climate change cannot be solved by the model that created it and serves to benefit the interests of those in power.⁹⁷ However, as I am aware of my biases, I will follow the established framework to provide a thorough analysis and avoid colouring my result. In reflecting on my positionality, admittedly, other historical documents and events might have been questioned and thus led to different conclusions. Nevertheless, the contributions of this study are relevant for the general scholarship on the climate crisis and political interests and economics of ET.

As the chosen methodology of genealogy does not suggest projecting present-day cultural and social understandings onto the past or engaging with “presentism” in any way, this allows me to avoid such risks. Instead, analysing the history of the present involves diagnosing the current situation – the analysis begins from a question posed in the present and focuses on the genealogy of that issue.⁹⁸ While I will not be able to provide a comprehensive presentation of carbon markets and all functions and intentions, I will attempt to give a relatively objective perspective of the power relations previously neglected in most carbon market literature.⁹⁹

By choosing to analyse the recognised “mainstream” understanding of the market’s history, I can diagnose and problematise the assumed legitimate narrative. Avoiding reproducing a Eurocentric perspective has been a key concern throughout the thesis. However, as Wood argues, “(...) there is no more effective way to puncture the Western sense of

⁹⁶ J.S. Dryzek, *The Politics of the Earth: Environmental Discourses*, 3. ed., Oxford University Press, 2013, p. 185

⁹⁷ P.M. Lawrence, *Justice for future generations: Climate change and international law*, Tilburg: Tilburg University, 2013, p. 183

⁹⁸ Garland, 2014, p. 367.

⁹⁹ Inspired by the research of Price; R. Price, ‘A Genealogy of the Chemical Weapons Taboo’, *International Organization*, 49(1), 1995, p. 89.

superiority than to challenge the triumphalist conviction that the Western path of historical development is the natural and inevitable way of things.”¹⁰⁰

Finally, the arguments made for an intergenerational justice perspective should not be taken out of context to be applied to the anti-abortion debate. The claims of intergenerational justice do not extend to the right to be born; the anti-abortion actors are primarily interested in controlling women’s bodies and not the protection of an environment in which human rights are respected.

¹⁰⁰ Wood, 2002, p. 32

2 Theory

A standard definition of intergenerational justice and sustainability is found in the Brundtland report. It argues that we should meet the needs of the present without compromising the ability of future generations to meet their own needs.¹⁰¹

In the following, I present the critical thoughts and discussions of intergenerational justice and the theoretical framework of this thesis. I will be discussing intergenerational justice concerning environmental issues and the climate crisis – but it is important to note that intergenerational justice does not only concern the environmental state for future generations as economy, language, culture, etc., are intergenerational concerns.¹⁰²

2.1 Definitions

Considering our obligations to future generations is not a new concept. Gosseries refers to the Native American saying: “Treat the Earth well: it was not given to you by your parents, it was loaned to you by your children. We do not inherit the Earth from our Ancestors; we borrow it from our children.”¹⁰³ This understanding is at the core of intergenerational justice. However, it is never quite as simple when considering the global scale of the issue and incorporating this concept in practice. In the following, I present and explain some key concepts of intergenerational justice. I will primarily use the work of Tremmel and establish definitions for the ambiguous concepts of “intergenerational” and “justice” before continuing.

¹⁰¹ Brundtland, G., *Report of the World Commission on Environment and Development: Our Common Future*, United Nations General Assembly document, A/42/427, 1987, p. 53.

¹⁰² A. Gosseries, ‘Theories of intergenerational justice: a synopsis’, *Surveys And Perspectives Integrating Environment And Society*, 1(1), 2008, p. 62.

¹⁰³ Gosseries, 2008, p. 62.

Tremmel differentiates between family generations, societal generations, and chronological generations. The first understanding of “generation” is undisputed due to its etymological roots in procreation and is used in conjunction with “genealogical” generations.¹⁰⁴ Tremmel defines “societal generation” as a group of people whose beliefs, problems, or attitudes are homogenous, as they have undergone and experienced similar political, economic, or cultural events.¹⁰⁵ Thus, we have experienced the “Flower-Power Generation,” “Baby Boomers,” “Millennials,” and “Generation Z.” These collective generational identities can exist among people of different ethnicities, languages, and religious affiliations and creates a cohort of shared experiences and peer personality due to the shared characteristic of sharing a generation.

Tremmel presents two chronological meanings of “generation,” distinguishing between chronological-temporal and chronological-intertemporal. Chronological-temporal is comparable to societal generations as it refers to an age group in society, as people are divided into “young,” “middle-aged,” and “old” generations.¹⁰⁶ Several generations, therefore, live at the same moment in time, which is also true for societal generations. Chronological-intertemporal generation, however, refers to everyone alive at the same time.¹⁰⁷

Tremmel argues that societal generations are irrelevant for intergenerational justice theories as societal generations cannot be clearly distinguished from one another, as genealogical generations can, i.e., a generation can have more than one label. This complicates a potential common identity and subsequent call for action to protect the lives and rights of future peoples, as Tremmel argues that generational justice theories need comparisons between clearly defined generations.¹⁰⁸ Tremmel instead finds the definition of family generations relevant to the discussion of intergenerational rights. There has always been a discourse on what parents owe their children and what world we are leaving after us for the future.¹⁰⁹ As mentioned above, Tremmel differentiates between intertemporal and

¹⁰⁴ J. Tremmel, *A Theory of Intergenerational Justice*, London, Earthscan, 2009, p. 19.

¹⁰⁵ Tremmel, 2009, p. 20.

¹⁰⁶ Ibid.

¹⁰⁷ Ibid.

¹⁰⁸ Ibid. p. 21.

¹⁰⁹ Ibid.

temporal generational justice. The former refers to the total world population and the latter to the different age groups, i.e., young, middle-aged, and old.¹¹⁰

There is a need to define what we mean by “future” generations. I will use a distinction like that of Tremmel, in that a generation is referred to as a “future generation” if none of its members are alive at the time of writing the thesis.¹¹¹ Anyone born after this thesis was written will belong to the future generation. Tremmel furthermore adds that if one reads the statement made two years after it was made, then the people born in those two years will not belong to the future generation anymore as instead, the future generation will encompass all those after the time of reading the statement. He instead defines “future generations” as generations that did not exist at a particular time.¹¹² However, it is significant to stress that the younger generations alive at the time of writing this thesis will experience severe climate crisis effects if no immediate action is taken.

I agree with Caney’s argument that three core human rights are essential for future generations to survive and further access other rights. These are the human right to life, health, and the right to subsistence.¹¹³

2.2 Intergenerational Justice

De-Shalit argues that the environmental issue is the most crucial element in intergenerational justice. Almost every aspect of international justice is related to or dependent on the capability for life and the ecological burdens we transfer to future peoples.¹¹⁴ This ethical burden not only focuses on ecology but also on other areas. We continuously face threats to the environment and our shared future. As such, we must question the shared

¹¹⁰ Tremmel, 2009, p. 21.

¹¹¹ Ibid. p. 24.

¹¹² Ibid.

¹¹³ S. Caney, ‘Climate change, human rights and moral thresholds’, In M. Robinson (Author) & S. Humphreys (Ed.), *Human Rights and Climate Change*, Cambridge, Cambridge University Press, 2009, p. 75; see pages 75-82 of same source for clarification as to why these were chosen.

¹¹⁴ Tremmel, 2009, p. 4; A. De-Shalit, *Why posterity matters: Environmental policies and future generations*, London, Routledge, 2006, p. 7.

responsibility between generations and whether the current generations can be held duty-bound towards people not yet born – and can we be held accountable for the actions of those before us. The resources available to us are not a given and can be denied to those succeeding us if we do not protect them. “The equal and inalienable rights of all members of the human family”¹¹⁵ expands beyond the current period and includes all generations of humanity.¹¹⁶

Climate change, if not mitigated, is likely to eradicate the natural environments and needs of human societies considerably.¹¹⁷ Passing on the ever-growing bill of consumerism to the next generation seems, according to Brandstedt, like a paradigmatic case of injustice.¹¹⁸ Not knowing the specific identity of future peoples does not provide sufficiently rational legal grounds for not extending democratic justice to future peoples. While the dominant traditional liberal interpretations of rights emphasise the living human subject, there is a growing interest in acknowledging the validity of defence of climate rights to a “non-identifiable group of persons needing protection” or humanity's general present and future claims.¹¹⁹

I agree with Tremmel in that any reasonable theory of intergenerational justice must be applicable for overlapping and non-overlapping generations, and a comprehensive theory of generational justice must not be limited to only one political field, such as environmental policy; it should apply to labour market policy, financial policy, or educational policy. The theory of generational justice cannot only focus on environmental issues.¹²⁰

There are several critiques to address when utilising an intergenerational justice theory. Intergenerational justice has long been viewed critically, as the classical liberal ideas of the social contract between government and its people have dominated political and legal thinking. The people enjoy the benefits, such as protection, given by the state and, in turn,

¹¹⁵ UN General Assembly, Universal Declaration of Human Rights, 10 December 1948, 217 A (III).

¹¹⁶ T. Skillington, *Climate Change and Intergenerational Justice* (1st ed.), Routledge, 2019, p. 6.

¹¹⁷ E. Brandstedt, ‘The Circumstances of Intergenerational Justice’, *Moral Philosophy and Politics*, 2(1), 2015, p. 1.

¹¹⁸ Brandstedt, 2015, p. 1.

¹¹⁹ Skillington, 2019, p. 9.

¹²⁰ Tremmel, 2009, p. 11.

follow the law. However, intergenerational justice is viewed sceptically as it argues that future citizens can place similar demands on the state. Additionally, the question becomes who speaks for future generations, how are these people represented, and how do we discover and assess their interests? If we are to protect the interests of future lives, then demands are placed on the state and its current citizens. It means reshaping existing political and economic institutions and value systems.

Questioning what the living owes to those who come after them is a familiar problem among environmentalists. Hiskes even claims that the real cause of environmentalism is to presume a connection and a claim between present and future persons.¹²¹ It is no surprise that this is the focus of much scholarly debate. At the heart of the concept of intergenerational justice is the political and moral ideal of equality – and thus, we will begin the discussion of the intergenerational justice literature. Rawls argues that the distinct role of conceptions of justice is to identify the basic rules and duties to determine the appropriate distributive shares and how the concepts of justice affect problems of stability, coordination, and efficiency.¹²² As Rawls' theory is an account of the distributive principles for the basic structure of society; this is highly relevant in considering which principles are to be distributed to future generations.¹²³

It is fascinating to consider Rawls' argument that the principles of justice are chosen behind a veil of ignorance - in that they, therefore, ensure that no one is advantaged or disadvantaged as all are similarly situated.¹²⁴ This theory arguably transcends time and is carried into a discussion of the intergenerational justice perspective, as we question the fairness of having been born with less equality and distributive shares available due to being born in the future. The Rawlsian theory of justice describes the philosophy of a just and fair society and that distribution issues connected with utilitarianism could be avoided by instead distributing what Rawls called "primary goods." These are generalised resources to be dispersed evenly.¹²⁵ Brandstedt calls attention to how Rawls considers the

¹²¹ Hiskes, 2009, p. 5.

¹²² J. Rawls, *A Theory of Justice*, Harvard University Press, 1971, p. 6, 8.

¹²³ Rawls, 1971, p. 9.

¹²⁴ Ibid. p. 11-12.

¹²⁵ Page, 2006, p. 59-60; R. Dworkin, 'What is Equality? Part 2: Equality of Resources', *Philosophy & Public Affairs*, 10(4), 1981, p. 338-9.

lack of reciprocity an obstacle to justice in the intergenerational setting due to the asymmetrical power relation between this and a non-existing generation.¹²⁶ According to Brandstedt, Rawls argues that the question of justice regarding future generations does not arise due to the lack of reciprocity, the asymmetrical power relation, or the apparent shortage of natural resources.¹²⁷ Brandstedt considers Rawls' "circumstances of justice," particularly the possibilities for their intergenerational applicability, and argues that not only the question of intergenerational justice appears – but that the circumstances for the emergence of justice are different from what Rawls assumed.¹²⁸ Rather than accepting the literal sense of Rawls's theory, Brandstedt claims that circumstances matter when discussing intergenerational justice, in that reciprocity is not needed in cases of justice. He instead argues that there exists a practical problem for contemporaries about future generations and that this problem can be solved.¹²⁹

The equality of impersonal resources is vital in understanding intergenerational equality of resources. The intergenerational aspect of climate change has been characterised in many ways. Gardiner has explained this as worse than the Prisoner's Dilemma and Tragedy of the Commons, as the current generation is interested in continuing economic growth and thus pollution.¹³⁰ Gardiner argues that since the future generations do not live in the present, they have no control over current actions – creating the incentive to exceed capacity and change the climate.¹³¹ The issue of intergenerational environmental justice is thus worse than the Prisoner's Dilemma and Tragedy of the Commons.¹³² It is impossible for one generation to ensure the cooperation of another generation – even if their generation is acting beneficially towards future generations.¹³³ This concept of reflexive

¹²⁶ Brandstedt, 2015, p. 1.

¹²⁷ Ibid. p. 1-2.

¹²⁸ Ibid. p. 2.

¹²⁹ Ibid. p. 13-4.

¹³⁰ S. Gardiner, 'The Real Tragedy of the Commons', *Philosophy & Public Affairs*, 30(4), 2001.

¹³¹ Gardiner, 2001, p. 404.

¹³² The Prisoner's Dilemma states that individual decision-makers always have an incentive to make decisions that creates a less than optimal outcome for the individuals as a group. The Tragedy of the Commons describes a situation where short-term self-interest leads to tragedy for all. It refers to the conflict for resources between the common good and individual interests.

¹³³ Gardiner, 2001, p. 404-5.

reciprocity is an action that advances both the interests of the future recipient and the current performer.¹³⁴

As explained earlier, Brandstedt disagrees with Rawls regarding intergenerational justice. He argues that the circumstances of justice are necessary presuppositions for the advancement of accommodating the interests of future generations.¹³⁵ While Gardiner and Rawls argue that future people cannot reciprocate, Hiskes contends that the environmental interests of present generations are shared with future generations – and that the protection of future generations is symbolic of the guarding of current generations, a theoretical framework repeated in this study.¹³⁶

¹³⁴ Hiskes, 2009, p. 49.

¹³⁵ Brandstedt, 2015.

¹³⁶ Hiskes, 2009, p. 48-9.

3 Methodology

My research aims to question the apparent neutral and independent, critically analysing and revealing the important – but hidden – in our contemporary experience. As I wish to trace the power struggles that shaped the carbon market, which is motivated by a critical concern to understand the present for the sake of the future, I find Foucault’s genealogical research method of writing “a history of the present” beneficial for my purposes.¹³⁷ I will first present and explain the concept of genealogy. Following this, I discuss the concept of “a history of the present”. The chapter will likewise culminate in presenting my toolbox for the following analysis for final clarification.

3.1 Genealogy

*What is present reality? What is the present field of our experiences?
Here it is not a question of the analytic of truth but involves what
could be called an ontology of the present, of present reality, an on-
tology of modernity, an ontology of ourselves.*¹³⁸

Foucault’s method of using history to critically engage with the present was developed after focusing on archaeology and therefore shares many elements with his previous work. However, one crucial difference is the addition of analysis of power, which is

¹³⁷ Recognising allegations of sexual abuse of Tunisian children by Foucault, see H. Guesmi. ‘Reckoning with Foucault’s alleged sexual abuse of boys in Tunisia’, *Aljazeera.com*, 2021, <https://www.aljazeera.com/opinions/2021/4/16/reckoning-with-foucaults-sexual-abuse-of-boys-in-tunisia> (accessed 9 May 2022).

¹³⁸ M. Foucault, *The Government of Self and Others (Lectures at the College de France 1982–1983)*, New York, Palgrave, 2010, p. 21.

manifested as an analysis of the “history of the present”, making genealogy useful for this thesis. The genealogical research traces how present-day institutions and practices have emerged. How (often forgotten) struggles, alliances, and power exercises created the contemporary that we take for granted today.¹³⁹ As Garland argues, the point of genealogical research is not to search for the origins of the contemporary but rather a search for processes of *descent* and *emergence* – to trace the discontinuous process of how the past became the present.¹⁴⁰

Kendall and Wickham cite Rose’s explanation of genealogy, as he argues genealogy concerns itself with the “disreputable origins and unpalatable functions.”¹⁴¹ Kendall and Wickham compare genealogy to that of a clever child at a dinner party – at which the child makes the adults feel uncomfortable by drawing attention to things they would rather remain hidden.¹⁴² By tracing the genealogy of the carbon market it is possible to shine light upon the supposed “normal” and instead view it with a critical lens that does not assume its existence to be natural or predestined. Another difference is that while Foucault’s archaeology provides a snapshot of the discursive connections, genealogy analyses the processual aspects of the discursive connections’ and their ongoing, changing character.¹⁴³ Additionally, similar to that of archaeology, genealogy does not judge as it makes no claims of what is wrong or right.¹⁴⁴ Foucault explained, “[t]he search for descent is not the erecting of foundations: on the contrary, it disturbs what was previously thought immobile; it fragments what was thought unified; it shows the heterogeneity of what was imagined consistent with itself.”¹⁴⁵

Genealogy is concerned with *the body*, which is the material surface marked by the *microphysics of power*. The task is to expose a body imprinted by history.¹⁴⁶ To During, genealogy is an *erudite* knowledge in that erudition is required to release forgotten documents

¹³⁹ Garland, 2014, p. 372.

¹⁴⁰ Ibid.

¹⁴¹ G. Kendall & G. Wickham, ‘Using Foucault’s methods’, *SAGE Publications Ltd*, 1999, p. 29.

¹⁴² Kendall & Wickham, 1999, p. 29.

¹⁴³ Ibid p. 30.

¹⁴⁴ Ibid.

¹⁴⁵ Garland, 2014, p. 372; M. Foucault, ‘Nietzsche, genealogy, history’, In: P. Rabinow (ed.) *The Foucault Reader*. New York, Pantheon, 1991, p. 83.

¹⁴⁶ Garland, 2014, p. 373.

and memories.¹⁴⁷ But it is also an “insurrection of subjugated knowledges”, as it not only retrieves buried texts of silenced peoples but uses *methods* previously ignored by historical procedures.¹⁴⁸ Following genealogy, discursive formations and institutions cannot be understood in their role in continuing their social stability, cultural or social reproduction.¹⁴⁹

As the genealogical research is dependent on the prior established problem to be examined, it does so only because of that original question. In the words of Garland: “the historical record yields up its secrets only to those who know precisely how to ask.”¹⁵⁰ The history of the present operates within the framework of genealogy, as it identifies the contemporary practices invisible to a critical lens as they are taken for granted. They can, however, still be very problematic, and this analysis of the power struggles that produced the contemporary is needed.¹⁵¹ The main goal of this research approach is to disturb the present-day conceptions. While Foucault focused on the modern prison, a diagnosis can similarly be made of the carbon market and thus reveal the important but hidden in the contemporary experience: what is the constitutive of the contemporary?¹⁵² I believe this to be revealed in a genealogical analysis of the carbon market.

When we question our present, we must encompass an experimental attitude in which we critique what we are and the historical limits imposed on us while experimenting with the possibility of going beyond this.¹⁵³ To diagnose the present, we need to dislocate ourselves from this space.¹⁵⁴ As Garland explains, writing a history of the present might at

¹⁴⁷ S. During, *Foucault and literature. towards a genealogy of writing*, Routledge, 1992, p. 123.

¹⁴⁸ During, 1992, p. 123.

¹⁴⁹ Ibid.

¹⁵⁰ Garland, 2014, p. 379.

¹⁵¹ Ibid. p. 373.

¹⁵² Garland, 2014, p. 368; M. Foucault, *Discipline and punish: The birth of the prison*, New York, Vintage Books, 1995.

¹⁵³ S. Fuggle, Y. Lanci & M. Tazzioli, *Foucault and the history of our present*, Palgrave Macmillan, 2015, p. 1.

¹⁵⁴ Fuggle, et.al., 2015, p. 1, 3; As Foucault did not elaborate on the pronoun “our”, and “our” present does not exist in a vacuum, I agree with Fuggle et al. in that “we” are situated in the gap between the existing space of power relations. The “our” and “we” is left intentionally vague as it allows all analyse and redefine their possible differences, as it can be undertaken individually (see Fuggle, et.al, 2015, p. 2).

first seem paradoxical and provocative. It suggests a reading of the past with the eyes and language of the present and thus performing “the mortal sin of anachronism.”¹⁵⁵

Genealogy is distinguishable from other forms of critical theory by focusing on nominalism, contestability, and contingency.¹⁵⁶ Bevir claims that genealogy operates primarily as a naturalising type of critique. It denaturalises the assumed natural by suggesting that these categories, techniques, and terms have risen from contingent historical processes.¹⁵⁷ As with any method, genealogy, too, has its limitations. Genealogy can neglect the role of human agency and thus give the impression that politics result from only governmental strategies and elites.¹⁵⁸ Agency exists within contexts; as genealogy argues, agency happens within contingent forms of local reasoning.¹⁵⁹

It is necessary to begin my exploration and subsequent use of Foucault’s work with a disclaimer. The goal is to shine a light on how a study of the past relates to the present, specifically how mechanisms of power and accidents of history have led us to the present. How this was not predetermined but instead is a fragile case of contingencies. To put Foucault to work in the present, a rethink of the original toolbox is needed to distinguish which tools help grasp the transformations and struggles at stake.

As Foucault left no ready-made system, we are left to decide which tools help address the problem at hand. Developing a custom-made toolbox, however, brings up several issues worth interest. First, this approach requires revising existing concepts to “make them fit”; second, only the relevant concepts will be utilised, as not all are relevant to the problem at hand; and third, while I will attempt an analysis free of judgement, this will, nevertheless, not be entirely possible, and some judgement and interpretation will inevitably be reflected in the analysis.

¹⁵⁵ D. Garland, ‘What is a “history of the present”? On Foucault’s genealogies and their critical preconditions’, *Punishment & Society*, 16(4), 2014, p. 367.

¹⁵⁶ M. Bevir, ‘Rethinking Governmentality: Towards Genealogies of Governance’, *European Journal of Social Theory* 13(4), 2010, p. 429.

¹⁵⁷ Bevir, 2010, p. 429.

¹⁵⁸ Ibid. p. 432, 438.

¹⁵⁹ Ibid. p. 432.

Regarding the first disclaimer, I will naturally present the existing conceptual framework by Foucault before tailoring it to fit the needs of the thesis. This is partly inspired by Garland's explanation of Foucault's "theory" as a toolbox of instruments to work on specific problems rather than a "grand theoretical edifice."¹⁶⁰ Instead, Foucault provides a customisable methodology to address theoretically defined problems from strategic angles.¹⁶¹ Therefore, I have customised a Foucauldian toolbox for my use.

3.2 Toolbox

In the following, I present the two introductory tools to a genealogical analysis. Garland presents the preliminary aspects of Foucault's genealogical method and argues that much of the worth and efficacy of Foucault's analysis is attributed to these first steps.¹⁶² First, one must identify the *dispositif*. The *dispositif* is defined as the apparatus of regulation through which we experience the world. It is a complex ensemble of norms, knowledges, practices, and power relations and creates this apparatus.¹⁶³ Garland suggests that the *dispositif* might be better understood as the "power-knowledge regime" or "regulatory ensemble."¹⁶⁴ Foucault explained the term as a heterogeneous ensemble of "discourses, institutions, architectural forms, regulatory decisions, laws, administrative measures, scientific statements, philosophical, moral and philanthropic propositions" and a system of relations established between these components.¹⁶⁵

Reckwitz identifies four distinctive social elements of the *dispositif*:

"(...) practices and everyday technologies informed by implicit knowledge; forms of discursive truth production, imaginary and collective problematization or thematization; artefacts (instruments, architecture, media technology, accessories, vehicles, etc.); and patterns

¹⁶⁰ Garland, 2014, p. 366.

¹⁶¹ Ibid.

¹⁶² Ibid. p. 376-7.

¹⁶³ Ibid. p. 378.

¹⁶⁴ Ibid. p. 368.

¹⁶⁵ Ibid. p. 378.

of subjectivization – that is to say, ways in which people are shaped, and the way people adapt their abilities, identities, sensibilities and desires to the dispositif and so help to carry it.”¹⁶⁶

The second element is the identification of the historically specific *problematization*. It asks how the problem in question was deemed a problem in the first place.¹⁶⁷ Regarding the issue of the carbon market, I ask how the carbon market came to be considered the solution for the climate crisis? Following the genealogical framework, this initial diagnosis and problematisation provide me with my research question rooted in writing the history of the present: *How did the carbon market become dominant as a mitigation technique, and what are the intergenerational human rights consequences?*

As I believe the creation of the carbon market, and society’s apparent reliance on it, is taken for granted as a “natural” solution, this will be the starting point of my inquiry. To understand the relationship between the carbon market and intergenerational justice, we must understand the genealogy of the carbon market and how it became identified as the primary mitigation solution to the climate crisis. The research will thus involve a critical distancing from the contemporary, an analytical inquiry and description of the *dispositif*, a problematisation of the object in question, and the subsequent use of the toolbox provided by Foucault, which I address further below.¹⁶⁸

One of the main advantages of Foucault’s genealogy is the concepts, attitudes, and possible tools available for allowing space for freedom, transformation, and refusal of any present.¹⁶⁹ Through a genealogical account of the descent and emergence of the past for the understanding and possible reconfiguration of the present, one must address the implicit space of belonging and effectively decolonise the political and cultural space to be opened for the belonging of all. The politics of the Global North are underpinned by binary divisions and function accordingly as divisions of inclusion/exclusion permeate

¹⁶⁶ A. Reckwitz, *The Invention of Creativity: Modern Society and the Culture of the New*, Polity Press, 2017, p. 34.

¹⁶⁷ Garland, 2014, p. 377-9.

¹⁶⁸ Ibid. p. 379.

¹⁶⁹ Fuggle, et.al., 2015, p. 5.

politics and, consequently, past, and present. How does one make grand statements about the present and past while only addressing hegemonic knowledge and practices?

Fuggle et al. argue that Foucault's analytics of power allows us to separate the analysis from the "(...) political and conceptual field in which movements and discordant practices of freedom are encapsulated into the language of representation."¹⁷⁰ In this thesis, I adopt Foucault's attitude of fundamental contestability and his analytic tools to explore the possibilities created in this process.¹⁷¹ The analysis will consist of an identification of the contending discourses and how they have developed over time, a marker of the perceived essential features of the carbon market, the rules and regulations, the intended purposes and ambitions, and the standards of judgement of such a market. Lastly, the identification of the mechanisms and strategies to create and sustain a discourse and the connected political space.¹⁷²

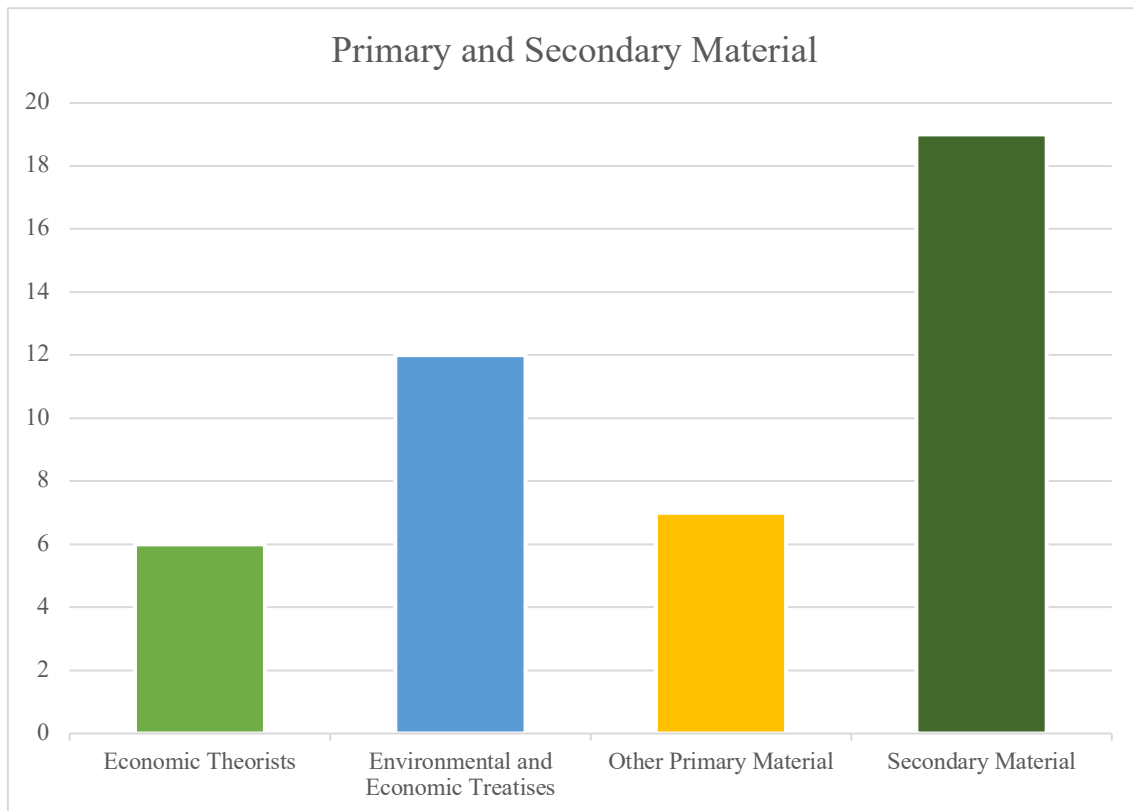
¹⁷⁰ Fuggle, et.al., 2015, p. 8.

¹⁷¹ J.F. Keeley, 'Toward a Foucauldian Analysis of International Regimes', *International Organization*, 44(1), 1990, p. 96.

¹⁷² Price, 1995, p. 89.

3.3 Materials

I have chosen my material from several sources. To assist the reader, I have illustrated the division of primary and secondary material with a diagram. As I am conducting a genealogical analysis, I rely on primary material and discuss the work of several scholars. The division of the primary material is threefold: economic theories, environmental and economic treatises (international agreements), and other primary material which in total is 25 primary sources. I additionally also use the work of 19 secondary sources.



While genealogy analyses historical materials with a different intent and framing than conventional historical research, it does still analyse historical materials. However, to demonstrate the role of history in shaping our present, I, without engaging with “presentism,” view the historical documents considering the creation of the carbon market to diagnose the present.

The subsequent chapters concerning the early genealogy and later development of the carbon trading system examine the history of those key events by analysing the documents produced in conjunction with their respective individual accounts and the later creation of the market. As such, I use primary material from several UN sources, speeches of officials, and reports and relate this to the understanding of contemporary scholars to ascertain their influence and, ultimately, the “disreputable origins and unpalatable functions” of the carbon market.¹⁷³

See appendix 7.2 to view a table of the sources categorised.

¹⁷³ Kendall & Wickham, 1999, p. 29.

4 Analysis & Discussion

As stated in the previous chapter, a genealogy of the carbon market begins with identifying the *dispositif*. Foucault described this apparatus as being a formation, the primary function of which corresponds to an urgent need at a given historical moment.¹⁷⁴ The urgent need is the climate crisis. The corresponding apparatus is the financialisation of the carbon market, since the carbon markets function as apparatuses for producing and capturing value outside productive processes.¹⁷⁵ Following the identification of the *dispositif*, I identify the historically specific problematisation. It involves asking how certain functions or phenomena became a problem.

4.1 Identifying the Dispositif

Carbon pricing mechanisms are separated into three categories: Emissions trading systems, carbon taxation, and a hybrid tool combining elements of both trading and tax.¹⁷⁶ However, the last two options have historically been challenging to implement, and instead, carbon trading has become the dominant climate mitigation choice.¹⁷⁷ While a complex system, carbon trading has a simple goal: to provide a cost-effective (i.e., cheaper) method for companies and States to meet their emissions reduction targets. Carbon trading is divided into two systems, explained below.

¹⁷⁴ Original emphasis; M. Foucault & C. Gordon, *Power/Knowledge: Selected Interviews and Other Writings 1972-1977*, New York, Pantheon Books, 1980, p. 195.

¹⁷⁵ C. Marazzi, 'The Violence of Financial Capitalism', *Semiotext(e)*, 2011, p. 54; Leonardi, 2017, p. 71.

¹⁷⁶ E. Narassimhan, K.S. Gallagher, S. Koester & J.R. Alejo, 'Carbon Pricing in Practice: A Review of Existing Emissions Trading Systems', *Climate Policy*, 18(8), 2018, p. 968.

¹⁷⁷ L. Gulbrandsen & J. Wettstad, *The Evolution of Carbon Markets: Design and Diffusion*, Routledge, 2018, p. 1.

4.1.1 Cap-and-Trade

Governments or intergovernmental bodies (such as the European Commission) grant licenses to pollute to industries under the cap-and-trade scheme.¹⁷⁸ The government or intergovernmental body determines a limit on emissions (“cap”) for a particular period.¹⁷⁹ The system incentivises polluters to reduce emissions more efficiently than those with higher costs by selling unused allowances to other heavy polluters, thus achieving economic gains.¹⁸⁰ Allowances are therefore either auctioned off or allocated according to the criteria. As the market determines the carbon price, the cap-and-trade system is supported due to the carbon market being significantly more inexpensive than non-market regulations.

The theory of this scheme is that the availability of carbon permits will gradually reduce to force a reduction in pollution while retaining the value of the market.¹⁸¹ Nevertheless, the World Bank has stated that the limited ambition is reflected in the low carbon prices, as only 3.76% of global emissions are covered by a carbon price and are above the US\$ 40–80/tCO₂e (tonne of carbon dioxide emissions) range needed in 2020 to meet the 2°C temperature goal of the Paris Agreement. Even higher prices are required to reach the 1.5°C target.¹⁸²

4.1.2 Carbon Offsets

Compliance entities such as governments and companies can meet a portion of their emission reduction obligations by purchasing carbon offsets outside of allowances generated within the cap and instead finance “emissions-saving projects.”¹⁸³ Carbon projects produce offsets of which carbon credits are awarded per tCO₂e. It, therefore, functions as the source of supply within the market by inflating the number of available carbon credits within the cap beyond its legislative level.¹⁸⁴ The project-based emission reduction

¹⁷⁸ Gilbertson & Reyes, 2009, p. 9.

¹⁷⁹ The World Bank, ‘State and Trends of Carbon Pricing 2021’ (May), *World Bank*, Washington, DC., 2021, p. 18.

¹⁸⁰ Ervine, 2018, p. 691.

¹⁸¹ Gilbertson & Reyes, 2009, p. 10.

¹⁸² The World Bank, 2021, p. 25.

¹⁸³ Ervine, 2018, p. 699; Gilbertson & Reyes, 2009, p. 11.

¹⁸⁴ Ervine, 2018, p. 699.

measures have several objectives, such as assisting developing countries in achieving progress in environmental issues such as cleaner water and air, reducing deforestation, soil conservation, and protecting biodiversity, in addition to several social and economic benefits such as increased employment, poverty alleviation, and rural development.¹⁸⁵

4.2 Problematisation

The ETS gives companies the freedom to navigate around actual emissions reductions and is therefore referred to as a “flexible mechanism.” However, as Gilbertson and Reyes argue, this flexibility comes at a cost. While it is cheap, it will not continue to be so environmentally or socially just in the future, as we are pushing the burden forward.¹⁸⁶

Carbon offsets tend to be sold at discount rates since reductions are moved to where they are cheaper, i.e., the Global South. Joint Implementation (JI) and the CDM are the main offsets to the EU ETS. JI produces projects in countries with economies in transition but has adopted targets under the Kyoto Protocol, and CDM produces projects in the Global South. The relationship between offsets and the carbon price functions in several ways in the EU ETS. By significantly contributing to market oversupply, offsets have placed and continue to put downward pressure on the price – making the price for polluting cheaper. Additionally, the offset market itself is subject to distinct market dynamics that tie into market dynamics in the ETSs they supply.¹⁸⁷

There are additional concerns regarding placing the decision of hosting such projects with the national authorities of such countries as this has resulted in the approval of projects with uncertain outcomes and has resulted in the loss of lives and human rights violations, as the national authorities have been more interested in the monetary gain of the project.

¹⁸⁵ Olawuyi, 2016, p. 7.

¹⁸⁶ Gilbertson & Reyes, 2009, p. 10.

¹⁸⁷ Ervine, 2018, p. 699.

The rush to host such projects has resulted in lower sustainability standards and human rights protections.¹⁸⁸

Pricing carbon is an essential part of climate policy as it can be both fair and efficient if done well. However, the creation of offsets is neither fair nor efficient concerning the environment, as the very objective of offsets is to put the lowest possible price on GHG emissions by choosing the cheapest reductions possible.¹⁸⁹ Pricing carbon through cheap offsets is harmful in multiple ways as it can mask the size of the climate challenge by offering cheap solutions. This gives the impression that the challenge is inexpensive and easily overcome, whereas the reality is inherently different. According to the IPCC, a deep and rapid transformation is needed in all sectors – which carbon offsets do not account for and can instead create increased resistance to the measures required.¹⁹⁰

Ervine argued that to spur serious low-carbon investment, a price of at least \$100 per tCO₂e was needed to generate the aggressive emission reductions that the IPCC suggested were required to stay below 2°C warming above pre-industrial levels.¹⁹¹ This narrative, therefore, indicates that the low prices that have plagued the world’s ETSs (ranging from US\$0.50 per tCO₂e in the UN’s Clean Development Mechanism (CDM) to upwards of \$16 per tCO₂e in South Korea’s ETS) are in large part a consequence of interference in the market – meaning that policy (i.e., interference) is at fault rather than fundamentals driving the price. The goal is thus to liberate the market so that its real potential might be realised.¹⁹²

¹⁸⁸ Olawuyi, 2016, p. 12-13.

¹⁸⁹ Carbon Market Watch, ‘Above and Beyond Carbon Offsetting - Alternatives to Compensation for Climate Action and Sustainable Development’ *Carbon Market Watch*, 2020, p. 5.

¹⁹⁰ Carbon Market Watch, 2020, p. 5.

¹⁹¹ Ervine, 2018, p. 691; IPCC, *Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Edenhofer, O., R. Pichs-Madruga, Y. Sokona, E. Farahani, S. Kadner, K. Seyboth, A. Adler, I. Baum, S. Brunner, P. Eickemeier, B. Kriemann, J. Savolainen, S. Schlömer, C. von Stechow, T. Zwickel and J.C. Minx (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. 2014, p. 187.

¹⁹² Ervine, 2018, p. 691-2.

4.3 A Genealogical Study of the Carbon Market

A genealogy of the carbon market takes us beyond the term itself and instead originates questions of privatising the commons and protecting the hegemon's economic interests. In the following analysis, I argue against the legitimisation of the carbon market. In terms of intergenerational justice, this climate mitigation strategy requires us to think about conceptions of capitalism's past in terms of future alternatives. Much like the carbon market, capitalism is a human construct, a system of governance – and not a natural approach.¹⁹³ The history of the carbon market is a history of the economy and private property. However, as Mitchell comments: “The history of private property is rather silent on the conditions that produced it and the precedents incorporated into it.”¹⁹⁴

4.3.1 The Early Scholarship of Emissions Trading

The divide between the carbon market mechanisms of taxation or ET can be traced back to Pigou and Coase, i.e., the Pigouvian tax regulation and the argument for tradable permits.¹⁹⁵ Coase proposed a new form of controlling excessive pollution as an argument against the Pigouvian tax. He believed the course of action suggested by Pigou was inappropriate and could lead to unnecessary and undesirable actions.¹⁹⁶ Pigou argued that a reckoning of the cost and benefits of any activity must include the uncompensated losses resulting from that activity, experienced by those impacted but not participating in it.¹⁹⁷

¹⁹³ Scott, 2011, p. 142.

¹⁹⁴ T. Mitchell, *Rule of Experts: Egypt, Techno-Politics, Modernity* (1st ed.), University of California Press, 2002, p. 57.

¹⁹⁵ Pigou argued that negative externalities of pollution can be internalized in a competitive market by setting a tax equal to the social marginal damage caused by environmental degradation, i.e., the tax is thus considered to be equal to the value of the negative externality; A. Pigou, *The Economics of Welfare*, Macmillan, 1920; R.H. Coase, ‘The Problem of Social Cost’, *The Journal of Law & Economics*, 3, 1960; I agree with Calel, 2013, as he traced the history of pollution markets to the scholarship of Adam Smith (1776), John Stuart Mill, and Henry Sidgwick (1883), however, due to the external limitations, I trace the scholarship of externalities of pollution and not the broader conceptualization of externalities. See R. Calel, ‘Carbon markets: a historical overview’, *Wiley Interdisciplinary Reviews: Climate Change*, 4(2), 2013, p. 9.

¹⁹⁶ Coase, 1960, p. 1-2; Voss, 2007, p. 333; Gorman & Solomon, 2002, p. 296; Gilbertson & Reyes, 2009, p. 18; Calel, 2013.

¹⁹⁷ M.H. Kramer, ‘A Coda to Coase’, *The Cambridge Law Journal*, 56(2), 1997, p. 276.

Whereas Pigou, and economists following this line of thinking, suggested the problem (of social cost) as the difference between private and social products, Coase instead argued that this failed to account for the suppression of harm one inflicts on the other.¹⁹⁸ Instead of applying taxes to cover the social cost, Coase argued for a change in approach. In ideal economic conditions, in case of a property rights conflict, the involved parties can bargain or negotiate terms that accurately reflect the total costs and underlying values of the property rights. This will result in the most efficient outcome, i.e., the initial allocation of legal entitlements does not matter from an efficiency perspective when they can be freely exchanged (the centrality of transaction costs).¹⁹⁹ I will demonstrate the differences in the arguments of Pigou and Coase by referencing the example of liability concerning sparks from a railway engine. Coase summarises Pigou's position as follows:

“In Britain, a railway does not normally have to compensate those who suffer damage by fire caused by sparks from an engine. Taken in conjunction with what he says (...) I take Pigou's policy recommendations to be, first, that there should be State action to correct this “natural” situation and, second, that the railways should be forced to compensate those whose woods are burnt.”²⁰⁰

Coase disagrees with Pigou's argument and counters by arguing that if the railway could bargain with everyone having property adjacent to the railway without any transaction costs, then liability would not matter.²⁰¹ If bargaining is too expensive, then the desirability of liability arises. Coase argues that the liability of the railway can hinder the profitability of production, and therefore the railway should not be held liable for any damage.²⁰² However, Coase did so carefully as he recognises situations in which liability is desirable, as it depends on the specific circumstances.²⁰³ Coase argues that the victim of pollution might be able to reduce the cost of pollution at a lower price than the polluter.²⁰⁴ In summary, Coase argues that the internalisation of all externalities can derail the

¹⁹⁸ Coase, 1960, p. 2, 24-30.

¹⁹⁹ Coase, 1960, p. 5-6; R.D. Cooter, 'The Coase Theorem', In: Eatwell, J., Milgate, M., Newman, P. (eds), *Allocation, Information and Markets*, Palgrave Macmillan, London, 1989, p. 64.

²⁰⁰ Coase, 1960, p. 29.

²⁰¹ Ibid. p. 31.

²⁰² Ibid. p. 33-4

²⁰³ Ibid.

²⁰⁴ Ibid. p. 41-2.

economic analysis and progress, as it only focuses on certain features and not the potential implications of creating liability.

Coase references Stigler, as Stigler considers the private and social costs of the pollution of a stream by a chemical plant.²⁰⁵ Stigler asks: “when social and private costs diverge appreciably, will competition lead to correct amounts (and prices) of goods?” He further questions whether the chemical plant simply will, under competition, sell its goods at a price which do not cover the costs of its pollution.²⁰⁶ Stigler refers to the Coase theorem²⁰⁷ and echoes that private and social costs will be equal under perfect conditions.²⁰⁸ However, the Coase theorem is not readily applicable to the current case of ET and climate crisis. It is essential to state that the abovementioned economic theorists often present their arguments in terms of “perfect competition”, which rarely exists in the real world. Coase is singular in arguing for the robustness of the market and the instability of the government. Therefore, he is fervently against interventionism and argues that actions made by a fallible administration are widely inappropriate.²⁰⁹ The argument made by Coase is the opposite of the polluter pays principle, which makes the polluter nonaccountable for his pollution.

Crocker, who focused on air pollution in the US, and Dales, who focused on water pollution in Canada, are recognised as presenting the theoretical framework for tradable permits. In 1968, Crocker recommended tradable permitting, arguing that trading could provide opportunities that could generate externalities and the importance of constraints and control for this to be a viable option.²¹⁰ He argued that the essence of the air pollution problem is the conflict between *homo oeconomicus* and *homo sapiens* as the former pollutes while the latter attaches an infinite value to having “clean” air.²¹¹ He argues that the economic man has acquired too much power at the expense of the biological man, and

²⁰⁵ Coase, 1960, p. 2; Coase references the 1952 edition of Stigler’s *The Theory of Price*. Therefore, it is likewise possible for Stigler to reference Coase, as I refer to his later 3rd edition of the same title (1966).

²⁰⁶ G.J. Stigler, *The theory of price* (3. ed.), Macmillan, 1966, p. 110-1.

²⁰⁷ A term coined by Stigler.

²⁰⁸ Stigler, 1966, p. 114.

²⁰⁹ Coase, 1960, p. 17-8.

²¹⁰ T.D. Crocker, ‘Some Economics of Air Pollution Control’, 8 *Nat. Resources J.*, 236, 1968, p. 253.

²¹¹ Crocker, 1968, p. 238.

this is the root of the climate issues we face.²¹² This contribution stands in significant opposition to the preceding economic scholars, as Crocker suggests controlling the “rampant nature” of the economic man – rather than relying on perfect market competition.²¹³ Dales is often credited with developing the theory of cap-and-trade in his 1968 book *Pollution, Property, and Prices*.²¹⁴ Dales, similarly to Crocker, suggests a system of tradable permits.²¹⁵ Dales is much more explicit in his argument. He suggests an independent pollution control authority, which calculates the permissible levels of pollution for a given area, and tradeable permits corresponding to the pollution for sale.²¹⁶

Montgomery is the final scholar I present in this analysis of the early carbon market scholarship. Montgomery provided the first mathematical argument that claimed the overall cost of achieving an environmental standard could be diminished through marketable permits being traded among firms trying to reduce total production costs.²¹⁷ He suggests two free, transferable licenses: a “pollution license” and an “emission license.”²¹⁸ According to Montgomery, “[t]he emission license directly confers a right to emit pollutants up to a certain rate. The pollution license confers the right to emit pollutants at a rate which will cause no more than a specified increase in the level of pollution at a certain point.”²¹⁹ Montgomery argues against pollution taxation, as he finds this a cumbersome and politically unattractive procedure.²²⁰ Instead, he finds his suggested licensing scheme a better solution. It makes the necessary calculations independently – which makes it superior to taxation, as taxing is subject to a regulatory authority.²²¹ As both Crocker and Montgomery argued for the benefits of selling the rights to pollute to the highest bidder, they both agreed that this would reflect the social value of the pollution.

²¹² Crocker, 1968, p. 238.

²¹³ Ibid.

²¹⁴ D.H. Cole, ‘Origins of emissions trading in theory and early practice’, In Weishaar, S. E. (Eds.) *Research Handbook on Emissions Trading*, Cheltenham, UK, Edward Elgar Publishing, 2016, p. 10; J. Dales, *Pollution, Property, and Prices*, University of Toronto Press, 1968.

²¹⁵ Dales, 1968, p. 92-100.

²¹⁶ Ibid.

²¹⁷ W.D. Montgomery, ‘Markets in Licences and Efficient Pollution Control Programs’, *Journal of Economic Theory* 5(3), 1972; Gorman & Solomon, 2002, p. 298.

²¹⁸ Montgomery, 1972, p. 296.

²¹⁹ Ibid. p. 396.

²²⁰ Ibid. p. 411.

²²¹ Ibid.

After an analysis of the scholarship above, several similarities become apparent. They all share a purely theoretical frame. They do not consider how to allocate the opening pool of credits, how significant this pool of credits would be, or how to measure pollution or safeguard against misuse in tracking and measuring emissions. As presented above, the first discussions of using tradable permits to manage pollution occurred in the 1960s and 1970s, driven by the realisation that the seeming “free goods”, e.g., air and water, had deteriorated over time as pollution grew. While economists considered utilising market strategies to limit pollution, policymakers similarly debated how to control water and air pollution.²²² Meanwhile, a growing environmental movement demanded more robust environmental protection while businesses responded that this would hinder economic growth. The contribution by the early authors on tradable permits offered a solution to the problem at hand.²²³ However, letting “economics” control the pollution levels received resistance, as critics initially feared that pollution levels would be determined by the market system and not the wish of those wanting clean air and water.²²⁴ As the economists argue from a “perfect market” perspective, this left many uncertainties as the transition from theory to practice happened suddenly, as I explain below.

4.3.2 Genealogy of Key Events

In 1970 the US Congress adopted the Clean Air Act (CAA). This law defines the United States Environmental Protection Agency's (EPA) responsibilities of protecting and improving the nation's air quality and the stratospheric ozone layer.²²⁵ The CAA was adopted due to dense smog in many cities and industrial areas and required States to “adopt enforceable plans to achieve and maintain air quality meeting the air quality standards.”²²⁶ Nevertheless, as the CAA was designed ad hoc, initially enacted in 1963 with no enforceable systems for monitoring and tracking emissions, its effect was limited. The

²²² Gorman & Solomon, 2002, p. 294.

²²³ Calel, 2013, p. 109.

²²⁴ Gorman & Solomon, 2002, p. 294.

²²⁵ Clean Air Act (CAA), Public Law 88–206 [42 U.S.C. 7401 et seq.], 1970.

²²⁶ US EPA, *Clean Air Act Requirements and History*, 2022, <https://www.epa.gov/clean-air-act-over-view/clean-air-act-requirements-and-history> (accessed 11 May 2022).

EPA was the first to use offsets practically, as they specified that a facility had to offset their additional emissions in areas with high emission levels.²²⁷

The theoretical issues discussed by economists such as Coase, Stigler, and Crocker became discussions of practical problems. The dilemma concerned what to do if a facility wished to expand its production but could not due to the already sizeable pollutants it emitted. Or if a facility was not allowed to relocate to an area due to existing pollution from other facilities.²²⁸ This problem was criticised by the industrial States as it limited their expansion and economic growth options. In 1976 the Interpretative Ruling for California was passed (codified by the EPA in 1977), which specified that “new stationary sources of emissions in nonattainment areas (...) must meet the lowest achievable emission rate and offset their emissions with a greater than one-to-one trade-off rate elsewhere within the air shed.”²²⁹ Nevertheless, ET only consisted of an abstract model with tradable permits, described as a “hopeful monstrosity (...): full of promise, but not able to perform very well.”²³⁰

This was the first creation of tradable offsets with a flexible mechanism. However, Gorman and Solomon claim that the new mechanism's potential positives were negated. Most firms replaced their equipment with less efficient ones to secure their offsets above their actual previous level.²³¹ As all existing companies received offsets, new companies had to secure their offsets from elsewhere, i.e., paying a competitor to emit less. This meant that potential cleaner facilities could not compete with older, less efficient facilities due to acquiring a license to emit. Additionally, because no demand for offsets existed, firms had to secure them internally and pay a high transaction cost for the careful review of all emissions.²³²

²²⁷ Gorman & Solomon, 2002, p. 299.

²²⁸ Ibid.

²²⁹ Ibid.

²³⁰ A. Rip & J. Schot, ‘Identifying Loci for Influencing the Dynamics of Technological Development’, In K. H. Soerensen, & R. Williams (Eds.), *Shaping Technology. Guiding Policy; concepts Spaces and Tools*, Edward Elgar, 2002, p. 162.

²³¹ Gorman & Solomon, 2002, p. 300.

²³² Ibid. p. 300-1.

Many environmental groups were opposed to ET in the first years but later became advocates for trading pollution permits. In the first years, the EPA faced legal challenges from the Natural Resources Defense Council (NRDC), which opposed the firms' options to avoid requirements for additional emissions reductions.²³³ The U.S. Supreme Court sided with the EPA, and the EPA finalised their ET policy in 1986.²³⁴ The design of the EPA programme is not transferable but rather a “laboratory creation” from fragmented elements of the legislation, discourse, regulatory practices, and skills, which survived in the political space created by the offset mechanism.²³⁵

In 1982 a market for lead credits was created as part of down-phasing and eventual elimination of leaded gasoline.²³⁶ Even though the market traded the right to use lead and not the right to emit leaded exhaust, this is still a key historic event, as the EPA put a cap on tetraethyl lead. Thus, a government system enforced limits, usage rights that could be traded, and rules for owning and using credits were established.²³⁷ While the elimination of lead is generally considered successful; refiners still exaggerated their production to achieve more credits, as the market was susceptible to exploitation.²³⁸

The Reagan administration in the 1980s signified an additional shift towards flexible environmental market mechanisms, part of the greater pro-market predisposition.²³⁹ The Vienna Convention in 1985 and the 1987 Montreal Protocol both made legally binding commitments to reduce substances responsible for the depletion of the ozone layer – such as chlorofluorocarbons (CFCs).²⁴⁰ The teachings from credit trading with leaded gasoline

²³³ Possible to bubble emissions in non-attainment areas. It allowed firms to receive credit for reducing emissions beyond state-required levels at emission points which means they could do so more cost-effective than otherwise; Gorman & Solomon, 2002, p. 301-2; Calel, 2013, p. 109.

²³⁴ Gorman & Solomon, 2002, p. 302.

²³⁵ Voss, 2007, p. 334.

²³⁶ Today, leaded fuel can be used only in aircraft and off-road vehicles; Gorman & Solomon, 2002, p. 303-4.

²³⁷ Gorman & Solomon, 2002, p. 306.

²³⁸ Ibid., p. 306-7.

²³⁹ Voss, 2007, p. 335.

²⁴⁰ United Nations, *Vienna Convention for the Protection of the Ozone Layer*, 1985; United Nations, *Montreal Protocol on Substances that Deplete the Ozone Layer*, 1987; Chlorofluorocarbons are known as Freon and have a strong ozone depleting effect, see F.A. Carey, 'Freon', *Encyclopedia Britannica*, <https://www.britannica.com/science/Freon> (accessed 20 May 2022).

served as the foundation for the phaseout of CFCs and other chemicals harmful to the ozone layer.²⁴¹

So far, the historical events have only covered tradable permits of the right to produce, not the right to emit. The Brundtland Commission, formerly known as the World Commission on Environment and Development, in 1987 published its report “Our Common Future.” The Brundtland Commission was created in 1983 to investigate environmental and development issues. It took advantage of the environment-economy stalemate and argued that sustainable development was the future through which conflicting societal goals could be settled.²⁴² For the first time, the report articulated the concept of sustainable development and argued that economic and environmental issues were interrelated.²⁴³

The emissions market was established as a result of trying to control acid rain, and therefore the Acid Rain Program (ARP) became the world’s first cap-and-trade program.²⁴⁴ This issue was fiercely debated for years until a bipartisan report, “Project 88,” recommended ET as a policy mechanism to control emissions.²⁴⁵ This proposal was followed by solid support from policy-makers and environmental groups such as the Environmental Defense Fund.²⁴⁶ The bill following the proposal only entered into force in 1995 after prolonged debate.²⁴⁷ The trading program involves two phases to reduce total sulphur dioxide (SO₂) emissions.²⁴⁸ The first phase involved capping the total quantity released by coal-fired power plants (i.e., determining the baseline of actual emissions), creating allowances to cover this quantity, and gradually reducing this cap. The program only

²⁴¹ Trading with CFCs begun in 1989 and lasted until 1996, as the production of CFCs in developed nations was phased out; Gorman & Solomon, 2002, p. 307.

²⁴² Brundtland, 1987; Voss, 2007, p. 335.

²⁴³ Brundtland, 1987; B. Lewis, *Environmental human rights and climate change: Current status and future prospects*, Springer, Singapore, 2018, p. 80.

²⁴⁴ Acid rain is caused by power plants releasing sulphur dioxide and nitrogen oxides, when they burn fossil fuels, as they produce electricity. Also exhaust from cars, trucks, and buses releases nitrogen oxides and sulphur dioxide into the air; Gorman & Solomon, 2002, p. 308.

²⁴⁵ Voss, 2007, p. 335; R.N. Stavins, *Project 88 - Harnessing Market Forces to Protect Our Environment: Initiatives for the New President. A Public Policy Study sponsored by Senator Timothy E. Wirth, Colorado, and Senator John Heinz, Pennsylvania*, Washington, D.C., 1988; Gorman & Solomon, 2002, p. 308.

²⁴⁶ Gorman & Solomon, 2002, p. 308.

²⁴⁷ U.S. EPA, *Acid Rain Program: Overview*, EPA 430-F-92-019, April 1996; Gorman & Solomon, 2002, p. 308-9.

²⁴⁸ Phase I initiated in 1995, with phase II initiated in 2000; Gorman & Solomon, 2002, p. 309; Title IV of the 1990 Amendments to the Clean Air Act (CAA) (also known as Title IV-Acid Deposition Control).

capped the 110 power plants with the highest SO₂ emissions during its first phase.²⁴⁹ In its second phase, the EPA further reduced the cap of available credits and added all remaining coal plants to the program.²⁵⁰ This, in conjunction with several compliance options and a substantial penalty, if not adhering to the regulations, created the incentive to lower emissions faster than required.²⁵¹ The success of the ARP is slightly misleading as the reasons for its success were not accounted for when later replicating the structure of the ARP. Without prior knowledge of this, the program benefitted from having access to widely available low-sulphur coal – which heightened the program’s perceived success and thus led to promoting the ARP structure in later projects.²⁵²

The CAA, specifically the Clean Air Act Amendments of 1990, were a clear inspiration for other States to introduce regional programs in the US, as the ARP acted as a prototype.²⁵³ It is essential to draw attention to the differences between the ARP and the current ETS. Firstly, SO₂, being the target pollutant of ARP, is more easily identifiable than GHGs.²⁵⁴ Additionally, GHGs are emitted from multiple sectors and cannot be traced to a single source, e.g., power plants. They have a cumulative effect that adds to the complexity of the issue of the climate crisis, as being gradual in its damage.

In contrast, acid rain has an immediate economic consequence while causing severe health issues, such as heart attacks, death for people with increased heart disease risk, effects on lung function, and breathing difficulties for people with asthma.²⁵⁵ CO₂, on the other hand, does not cause direct adverse health or economic risks, and it is more difficult to prove the cause and effect of GHGs. As stated above, the cumulative impact of the emission of GHGs creates the climate crisis, which poses severe effects. There is no

²⁴⁹ As measured in 1985; A.I. Barreca, M. Neidell & N.J. Sanders, ‘Long-run pollution exposure and mortality: Evidence from the Acid Rain Program’, *Journal of Public Economics*, 200, 2021, p. 2.

²⁵⁰ Gorman & Solomon, 2002, p. 309; Barreca, et al., 2021, p. 2.

²⁵¹ Gorman & Solomon, 2002, p. 310.

²⁵² Voss, 2007, p. 336.

²⁵³ Gorman & Solomon, 2002, p. 311; Voss, 2007, p. 334.

²⁵⁴ Greenhouse gases consists of carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O) in addition to perfluorocarbons, sulphur hexafluoride, nitrogen trifluoride, hydrofluorocarbons, and the Montreal Protocol gases (CFCs and HCFCs). See IPCC, 2021.

²⁵⁵ US EPA, *Effects of Acid Rain*, 2022, <https://www.epa.gov/acidrain/effects-acid-rain>, (accessed 11 May 2022).

scepticism surrounding the scientific validity of whether acid rain is harmful, whereas the same cannot be said for the climate crisis.

In tracing the early genealogy of the carbon market, it becomes clear that the descent and emergence of the carbon market were not concerned with human rights or intergenerational justice. Instead, what is made visible by the analysis and discussion so far, is the importance of protecting economic growth while attempting to manage externalities created caused by that same economic system. Rather than questioning the source of these externalities, policy dictates repeating the same structure based on flawed assumptions. The carbon market was not the first of its kind, as we attempt to solve different problems with identical solutions repetitively.

Many of the carbon market origins can be traced to the US. This is not by coincidence, as resistance to ET continued internationally – particularly in Europe, as the few projects for ET that were proposed failed to gain support. General scepticism towards the market-based model endured as there were concerns about shifting the responsibility for emission reduction away from the polluters.²⁵⁶ Coupled with a history of strong command-and-control policies, rather than a tendency to prefer free self-regulating markets, are significant reasons why ET was not considered as a solution to the environmental issues in Europe.²⁵⁷ However, as the EU currently do partake in ET on a global scale, we must also trace the genealogy of this.

4.3.3 Development of ETS – the early 1990s to 2001

The creation of the United Nations Framework Convention on Climate Change (UNFCCC) is often argued to have brought human rights into the field of climate change.²⁵⁸ The UNFCCC was a clear result of the negotiations of 1992, The United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro.²⁵⁹ During the

²⁵⁶ Voss, 2007, p. 336.

²⁵⁷ Ibid.

²⁵⁸ Duyck, et al., 2018, p. 4.

²⁵⁹ Known as “Earth Summit”; see United Nations, *United Nations Conference on Environment and Development, Rio de Janeiro, Brazil, 3-14 June 1992, 1992.*

drafting of the UNFCCC, the G77²⁶⁰ proposed that “the right to development is an inalienable human right. All peoples have an equal right in matters relating to reasonable living standards”²⁶¹ to be incorporated, but this was rejected by the US. Instead, the UNFCCC states that “the parties have a right to, and should, promote sustainable development.”²⁶² However, the UNFCCC declared the concern “that human activities have been substantially increasing the atmospheric concentrations of greenhouse gases (...) and that this will result on average in an additional warming of the Earth's surface and atmosphere and may adversely affect natural ecosystems and humankind.”²⁶³ The references to human rights were absent from discussions of climate governance in policy matters.²⁶⁴

The creation of the UNFCCC does, at first glance, not seem noteworthy to the history of the carbon market. Nevertheless, its relevance stems from the neoliberal assumptions of the Convention, as it defended “the need to maintain strong and sustainable economic growth.”²⁶⁵ The Organisation for Economic Co-operation and Development (OECD) and the United Nations Conference on Trade and Development (UNCTAD) laid the foundation for negotiations of a global carbon market, as the OECD considered the teachings of the ARP and the applicability of this, while UNCTAD promoted a similar structure for international ET.²⁶⁶ The Environmental Defense Fund²⁶⁷ published a study in which they promoted ET as a solution to protect the rainforest.²⁶⁸ Gilbertson and Reyes draw attention to the various UNCTAD actors, which later significantly benefitted from the ETS in terms of economic gains. They argue this to be symbolic of the inherent conflict of interests by the carbon market advocates.²⁶⁹ Perhaps surprisingly, the oil industries similarly

²⁶⁰ UN coalition of 134 developing countries, see ‘About The Group Of 77’. G77.Org, 2022, <https://www.g77.org/doc/> (accessed 11 May 2022).

²⁶¹ UNFCCC, *Report of the Intergovernmental Negotiating Committee for a Framework Convention on Climate Change on the Work of Its Fourth Session, Held at Geneva From 9 to 20 December 1991*, 29 January 1992, UN Doc.A/AC.237/15.

²⁶² Duyck, et al., 2018, p. 4.

²⁶³ UNFCCC, 1992.

²⁶⁴ Academia still referenced human rights obligations in relation to climate crisis matters.

²⁶⁵ UN General Assembly, *United Nations Framework Convention on Climate Change : resolution / adopted by the General Assembly*, 20 January 1994, A/RES/48/189.

²⁶⁶ Gilbertson & Reyes, 2009, p. 22.

²⁶⁷ US-based NGO, now called Environmental Defense.

²⁶⁸ Gilbertson & Reyes, 2009, p. 22.

²⁶⁹ Ibid. p. 22.-3.

had an interest in furthering climate policy and advocated specifically for a carbon market.²⁷⁰

The first Conference of the Parties (COP) in Berlin in 1995 began negotiations on legally binding targets to reduce GHG emissions. These negotiations increased as the OECD, and the UNFCCC Annex 1 Expert Group, guided by the International Energy Agency, proposed a carbon market, and the US initiated the design of a carbon trading proposal.²⁷¹ After lengthy negotiations, the Kyoto Protocol was adopted due to the third COP, held in Kyoto in 1997.²⁷² The Kyoto Protocol operationalises the UNFCCC by committing industrialised nations and economies to limit and reduce their GHG emissions to reach their binding individual targets.²⁷³ The Convention itself only asks countries to report periodically on adopted policies and measures on mitigation.²⁷⁴ The Kyoto Protocol provides flexible, project-based mitigation mechanisms through which the countries in question could achieve their emission reduction objectives.²⁷⁵ These mechanisms are ET, Joint Implementation (JI), and the Clean Development Mechanism (CDM). As defined in Article 17 of the Kyoto Protocol, ET allows countries with commitments under the Kyoto Protocol to buy emission units from other countries with obligations and use them towards meeting a part of their targets.²⁷⁶

The offsetting schemes of JI and CDM are different in that JI allows offsetting in countries that already have binding GHG reduction targets. In contrast, the CDM, as contained in Article 12 in the Kyoto Protocol, will enable countries with emission targets to earn credits toward achieving their targets by participating in emission reduction schemes or removal projects in developing countries. The goal of the CDM is to assist developing

²⁷⁰ Gulbrandsen & Wettestad, 2018, p. 7; BP is credited for having coined the term “carbon footprint”; see R. Solnit, ‘Big oil coined ‘carbon footprints’ to blame us for their greed. Keep them on the hook’, *The Guardian*, 2021, <https://www.theguardian.com/commentisfree/2021/aug/23/big-oil-coined-carbon-footprints-to-blame-us-for-their-greed-keep-them-on-the-hook> (accessed 27 January 2022).

²⁷¹ Gilbertson & Reyes, 2009, p. p. 23.

²⁷² UNFCCC, *Kyoto Protocol to the United Nations Framework Convention on Climate Change adopted at COP3 in Kyoto, Japan, on 11 December 1997*, 1997; The Kyoto Protocol was adopted on 11 December 1997. However, owing to a complex ratification process it first entered into force on 16 February 2005. Currently there are 192 Parties to the Kyoto Protocol. See UNFCCC, *What is the Kyoto Protocol?*, 2022, https://unfccc.int/kyoto_protocol (accessed 18 May 2022).

²⁷³ UNFCCC, 2022.

²⁷⁴ Ibid.

²⁷⁵ Olawuyi, 2016, p. 6.

²⁷⁶ Ibid. p. 33.

countries without emission targets in achieving sustainable development and to help those countries with emission reduction targets set under the Kyoto Protocol achieve compliance by purchasing carbon offsets created by CDM projects. The CDM is an emission “offset” instrument in that it allows countries with emission reduction commitments to invest in countries without such commitments.²⁷⁷

A key concern of carbon offsetting projects is the lack of robust legal safeguards and frameworks to ensure that international financial institutions and governments do not fund carbon projects that violate human rights.²⁷⁸ Carbon offsetting projects do not always create real reductions as they only generate real reductions if the credits earned have high environmental integrity. If they do not, they only postpone the problem, as domestic removals will have to be cut later if we are to protect the environment for future use. This will have severe environmental and human rights consequences, which will only be exacerbated with time and thus will make future generations vulnerable to having limited to no human rights. The intergenerational justice perspective is essential in understanding the consequences of these systems, as we might currently benefit from them. Still, the cost of being idle rises exponentially for future generations.

A crucial element of the design of the Kyoto Protocol is that the flexible mechanisms presented industrialised countries with opportunities to invest and earn emission reduction credits anywhere in the world at the lowest cost possible.²⁷⁹ The basic idea is to find the cheapest location possible. Studies have confirmed that while the cost of mitigating one tCO₂e in developed countries is US\$50, the same tCO₂e only costs US\$15 in developing countries – thus being a US\$35 difference in the price of emission reduction credits.²⁸⁰ According to the UN, there are several advantages to the Kyoto Protocol as carbon projects can attract capital for infrastructural development, which can create a prosperous but less carbon-intensive economy, boost both the private and public sectors, provide the basis for a technology transfer from fossil fuel technology to new clean technology, and lastly define investment priorities in projects that meet the sustainable development

²⁷⁷ Olawuyi, 2016, p. 7-8.

²⁷⁸ Ibid. p. 32.

²⁷⁹ Ibid. p. 6.

²⁸⁰ Ibid.

goals.²⁸¹ However, the famous “Summers memo” summarises some of the critiques of the later created CDM. In a 1991 memo written while he was the World Bank’s chief economist, Larry Summers said:²⁸²

*"A given amount of health-impairing pollution should be done in the country with the lowest cost, which will be the country with the lowest wages (...) I think the economic logic behind dumping a load of toxic waste in the lowest-wage country is impeccable and we should face up to that."*²⁸³

Though perhaps the statement was sarcastic, the sentiment has remained as the essence of paying the cheapest amount possible for pollution is indicative of specific values. This later translated to the CDM, which became the “backdoor through which rich countries can get away by paying other countries instead of doing their homework.”²⁸⁴ The CDM has been criticised for not delivering on its sustainable development promises and has even been blamed for approving projects that violate fundamental human rights in developing countries. It is estimated that mitigation and adaptation projects displace several million people per year as projects target developing countries because of the lower cost of the projects and the limited safeguards to protect the citizens of those countries. Some issues concerning the CDM projects include pollution due to the transfer of outdated and inefficient technologies for credits; concerns of lack of opportunities for stakeholders in project planning and implementation of projects; placing projects in socially and economically vulnerable communities; lack of governmental accountability; and the absence of judicial remedies for victims of such concerns. There have been multiple studies on the adverse effects of REDD+ projects on traditional lands, and this has all contributed to REDD+ and CDM projects being placed under severe scrutiny.²⁸⁵ Some now question

²⁸¹ Ibid. p. 6-7.

²⁸² Previously served as the 71st Secretary of the Treasury for President Clinton and the Director of the National Economic Council for President Obama.

²⁸³ *Furor on Memo At World Bank (Published 1992)*, Nytimes.com, 1992, <https://www.nytimes.com/1992/02/07/business/furor-on-memo-at-world-bank.html> (accessed 18 May 2022).

²⁸⁴ Statement by Ritt Bjerregaard, formerly European Commissioner for the Environment, after a September 1998 informal meeting in Japan, quoted in Gilbertson & Reyes, 2009, p. 28.

²⁸⁵ REDD+ (Reducing Emissions from Deforestation and Forest Degradation in Developing Countries) was adopted in 2013 and operates under the CDM. See *Warsaw Framework for REDD+*, REDD+, 2022, <https://redd.unfccc.int/fact-sheets/warsaw-framework-for-redd.html> (accessed 11 May 2022); D. Brown,

whether climate mitigation and adaptation strategies are more of a threat to human rights than climate change itself, as the CDM has been retitled as a “Cheap and Corrupt Development Mechanism” by advocacy groups while being condemned by indigenous communities.²⁸⁶

While the US administration initially pushed for the creation of the loopholes, i.e., flexible mechanisms, in the JI and CDM. In 2001, the Bush administration confirmed its decision to exit the Kyoto Protocol altogether.²⁸⁷ President George W. Bush presented a letter to the Senate stating his opposition to the Kyoto Protocol as he claimed it would cause serious harm to the US economy.²⁸⁸ Bush further argued against limiting CO₂ emissions, as they were not considered a “pollutant” under the CAA.²⁸⁹ This opposition reflects a broader political agenda of valuing the economic system over protecting the environment and thus the future of humankind. Undermining and delegitimising the Kyoto Protocol as part of a more extensive process of descent and emergence in creating a market harmless to economic growth and without means to escape the capitalist agenda.

Having established the first central pillar of international climate policy, the EU went on to design the EU ETS, and in 2003 the European Emissions Trading Directive was passed into law, making the EU ETS the largest carbon market until 2021 when China launched its first ET scheme, overtaking the EU ETS in size.²⁹⁰

This concludes my genealogical analysis of the creation of the carbon market. See appendix 7.3 for a timeline of significant events concerning the carbon market 1960-2021. Below I present a final discussion of the findings and further relate this to the theoretical framework of intergenerational justice.

‘Climate justice and REDD+’, In T. Jafry, M. Mikulewicz & K. Helwig, *Routledge Handbook of Climate Justice*, Routledge, 2018.

²⁸⁶ Olawuyi, 2016, p. 8-11.

²⁸⁷ Gilbertson & Reyes, 2009, p. 24, 28.

²⁸⁸ Original emphasis; G.W. Bush, *Letter to Members of the Senate on the Kyoto Protocol on Climate Change*, The American Presidency Project. Presidency.ucsb.edu, 2001, <https://www.presidency.ucsb.edu/documents/letter-members-the-senate-the-kyoto-protocol-climate-change> (accessed 18 May 2022).

²⁸⁹ Bush, 2021.

²⁹⁰ The World Bank, 2021, p. 14, 21.

4.4 Concluding Discussion

The analysis has made it clear that the creators and proponents of the carbon market argue for the market as a self-regulating system instead of seeing the actual consequences in terms of entrenched power dynamics and continued pollution. The flexible mechanism of emissions trading was embraced as it was viewed as a source of profit rather than a regulatory tool. The analysis shows a neo-liberal economic discourse, as the EPA and CAA are overrated and misinterpreted by many as environmentally conscious instead of reflecting weak ecological modernisation and economic interests hindering change. Arguing for a discourse concerned with the primary concern of economic growth rather than environmental issues is symbolic of this time.

The findings show limited interest in social justice and intergenerational rights, as only the Brundtland report stated the needs of the future generations without later negating this statement by referring to the protection of the economy.²⁹¹ Every consideration to move towards sustainability was negated by instead arguing for the value of economic growth. While some statements by industrialised countries did reflect conceptions of intergenerational justice, such as global responsibility and the concept of “common but differentiated responsibilities” as part of the Kyoto Protocol, this was ultimately overshadowed by a more significant need for flexible mechanisms and avoidance of severe emissions reductions.²⁹² The analysis also finds a poor correlation between the “simpler” Protocols, such as the Montreal Protocol, which only concerned a limited number of chemicals with affordable substitutes, and the creation of the carbon market to mitigate GHG emissions. A similar argument can be made against using the CAA or the ARP as the blueprint for the Kyoto Protocol.

I cannot argue whether reforming the existing capitalist system or an entirely new economic model is needed to limit global warming to 1.5°C or 2°C. However, I can conclude that the grounds on which the current carbon market system is based do not translate into

²⁹¹ Brundtland, 1987.

²⁹² UNFCCC, 1997.

a practical system concerning the protection of future generations, as the flexible mechanisms negate the concept of liability and disincentivise minimising production. Future generations will be sacrificed for the sake of economic growth. Time is of the essence, and the continuous reworking of the same market system without questioning its genealogy, will not provide a suitable solution for anyone but those benefitting from the existing power structures. This naturally excludes the rights of those who must live with the consequences of those actions.

I have recommended an intergenerational justice perspective to be incorporated into the fields of human rights, economics, political science, and environmental protection. The research question asked: *How did the carbon market become dominant as a mitigation technique, and what are the human rights consequences of relying on the carbon market to mitigate climate change?*

The genealogical approach to this question proved valuable. It enabled an analysis of the descent and emergence of the carbon market, which illuminated a path of continuously valuing economic growth and flexible mechanisms over that of accountability and environmental protection. Every attempt to address issues of the climate crisis was exchanged as opportunities to circumvent the system and design it to promote rather than hinder productivity. The carbon market became the dominant mitigation approach due to its intended predisposition to manipulation and exploitation. This is currently the cheapest and most desired option in the short term.

Nothing about the carbon market was predestined, and it cannot be considered a “natural” progression to effective climate mitigation, as that is not its function. We have seen that the analysis of the early scholarship is a debate on prices being the objective representation of the actual social cost. Still, prices have historically not reflected the “true cost”, in addition to being obscure and flawed. The carbon market is conceptualised as neutral, value-free, and a win-win for the climate and the economy. The faith in the pure market price hinders any attempt to impose a “correct” cost for polluting. Instead, it allows the dominant forces to further their agenda of continuous economic growth and only pay the price of someone else’s future, as the price fetishises the ecological and social costs.

5 Conclusion

The thesis originated from a desire to understand the creation of the carbon market and how it impacts intergenerational justice considerations and human rights violations of future generations. By utilising a genealogical approach, I first provided insight into the emissions trading system and subsequently problematised its origins. Second, in the genealogical analysis of the carbon market, I uncovered the following: The carbon market is created for purposes outside of environmental protection, based on models with different scopes and capabilities than what the carbon market promises. It is designed to allow high emitters continuous pollution; it does not exist in a vacuum and is highly susceptible to influence from industrial lobbyists. The carbon market cannot be an accepted mitigation strategy in its current form, as it does not push emitters to reduce emissions. It does the opposite by offering a market distraction from the need to mitigate and instead promotes more production and economic growth. The carbon market fuels global warming and disproportionately risks the lives and human rights of future generations.

By investigating the genealogy of the carbon market with an intergenerational justice perspective, the stakes on which we buy and sell pollution rights have become increasingly dire. This “history of the present” has presented how the struggles, alliances, and exercises of power in the past created the carbon market, which we take as being the natural and primary option for climate mitigation. The analysis shows that this “invention” was not predestined and is, in fact, based on false premises unsuitable for the protection of future generations and their access to the core human rights of a right to life, health and subsistence. The thesis concludes that the carbon market does not support the protection of intergenerational justice, as neither its intention, foundation, nor design is concerned with human rights.

6 References

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7 Appendix

7.1 Table of Primary and Secondary Material

Primary material		
Economic Theories	Environmental and Economic Treaties	Other material
Coase, R. H. (1960)	Clean Air Act (1970)	Bush, G.W. (2021).
Crocker, T.D., (1968)	IPCC (2014)	Carbon Market Watch (2020).
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Pigou, A. (1920)	United Nations (1987) <i>Montreal Protocol</i>	Furor on Memo At World Bank (1992). Ny-times.com.
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7.2 Timeline of Significant Events 1960-2021

- Pre 1960: The discipline of economics could offer only Pigou’s suggested method of controlling excessive pollution to policymakers: levy a tax on polluters for each unit of emissions.
- 1959-1960: Coase publishes two articles on tradable permits.
- 1966: Crocker suggests using tradable permits to regulate air pollution.
- 1968: Dales argues for emissions trading with a government-imposed cap.
- 1968-1969: EPA predecessor, the former Environmental Health Divisions of the U.S. Public Health Service, studies emissions trading.
- 1970s: EPA experiments with flexible regulations as part of the Clean Air Act.
- 1979: Emission reduction credits were introduced as a currency for emissions amounts below standards.
- 1979-1987: EPA initiates primitive emissions trading program to phase out leaded gasoline.
- 1985: Helsinki Protocol mandates a 30 % SO₂ emissions reduction. Vienna Convention for the Protection of the Ozone Layer.

- 1986: Emissions trading provisions of the EPA supported by US Supreme Court.
- 1987: The Montreal Protocol on Substances that Deplete the Ozone Layer.
- 1990: Clean Air Act amended to include a cap-and-trade program for SO₂ emissions.
- 1991: EU carbon tax proposed.
- 1992: UNFCCC was formed at Earth Summit.
- 1995: ARP launched (restricted to air pollutants (SO₂ and NO_x)).
- 1997: Kyoto Protocol and EU carbon tax proposal formally withdrawn.
- 1999: the UK announces Climate Change Levy (environmental tax).
- 2001: the US officially withdraws from Kyoto Protocol.
- 2002: UK ETS launched.
- 2003: EU ETS directive.
- 2005: EU ETS launched. The ETS covers emissions from power plants and industry. Nearly all emissions permits are handed out for free in this phase.
- 2006: The emissions permits are over-allocated, as countries' emissions are far lower than the permits suggest (oversupply of permits). The carbon price drops from around 30 to approx. 8 euros. This was not handled, and prices fell to near zero in 2007.
- 2007: International Carbon Action Partnership launched.
- 2008-9: First commitment period of the Kyoto Protocol and Phase 2 of EU ETS begin. Emissions credits from the first phase are not into this phase, which deals with the oversupply of permits. The carbon price rises to nearly 30 euros. The financial crisis caused reduced polluting economic activity, affecting the demand for emissions permits and causing another market oversupply, causing the price to drop below 10 euros in early 2009.
- 2009: Copenhagen Climate Change Conference (Copenhagen Accord), RGGI launched, EU launched a goal for Organisation for Economic Cooperation and Development (OECD)-broad carbon market.
- 2010: China's National Development and Reform Commission (NDRC) designated 13 low-carbon zones and referred to emissions trading.
- 2011: China NDRC and State Council announced ETS pilots in five cities and two provinces, to be followed by a national market.

- 2012: Emissions from international aviation are added to the ETS. After criticism from countries including China and the United States, this was later limited to only European flights. Airlines get more than 80% of their carbon permits for free—Sustainable Development Goals (SGD #13). California ETS launched.
- 2013: Start of the third trading phase of the Kyoto Protocol, from 2013 to 2020, more sectors are added, and the number of free permits available is reduced. Tony Abbott halted the ETS process in Australia, generally lower prices of the EU ETS, the European Parliament voted down a temporary postponement of the auctioning of some allowances ('backloading') in the spring of 2013, ETS was launched in Kazakhstan, the Chinese ETS pilot projects started operating, with similarities as well as differences in their designs.
- 2014: European Commission launches a proposal for a price-stabilizing mechanism: the Market Stability Reserve (MSR). The EU postpones the auctioning of 900 million permits, which will be released into the market from 2014-2016 until 2019-2020 ('backloading').
- 2015: Launching a South Korean ETS, The Paris UN summit in December 2015 resulted in the Paris Agreement. The MSR is introduced, and the 900 million "backloaded" permits will be placed in the MSR rather than being released back into the market.
- 2016: China announced that a national ETS would be launched. Plans for establishing a Chinese national ETS in 2017 became more specific, an ETS twice as big as the EU ETS. But the EU ETS again experienced falling carbon prices, and Kazakhstan put its system on hold.
- 2017-8: ETS prices began to rise from 7 euros in Nov. 2017 to a high of 25 euros by Sept. 2018.
- 2019: By mid-2019, the EU carbon price is close to a record-high of 30 euros.
- 2020: The EU and Switzerland formally link their carbon markets, enabling trading credits between the two schemes. UN Carbon Offset Platform is launched. The European Commission proposes a new EU climate target for 2030, including reforms to the ETS (expanding the ETS to cover, shipping

fewer free permits for airlines, and measures to cut the market's supply of permits further).

2021: Britain left the carbon market after the Brexit transition period. The fourth trading phase of the Kyoto Protocol begins. The supply cap will be tightened each year, and free permits and compensation for carbon costs will be given fever-free handouts. International offset credits will be banned; CERs and ERUs are no longer compliance units within the EU ETS.

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