

**Swiss State-owned enterprises and selected private companies: a
compliance analysis with the CO₂ Act as a legal basis for the
achievement of SDG 13**

Master thesis delivered at the University of Bern

Mentoring professors: **Prof. Dr. Susanne Hadorn and Dr. Caroline Schlauffer**

Kompetenzzentrum für Public Management
Schanzeneckstrasse 1
CH-3001 Bern

from:

Gauthier Dorthé from Bossonnens (FR), 16-321-531

Nita Neziri from Massagno (TI), 16-425-829

Le Mont-sur-Lausanne and Taverne-Torricella, 11.10.2021

Abstract

Having been identified as one of the major risks of the 21st century, climate change is a pressing issue with global repercussions, negatively affecting national economies and lives and creating increased costs for people, communities and countries. Formulation, negotiation and compliance with green regulation appears as one of the most challenges in the 21st century, at least in the countries where the population and its political representatives are relatively concerned with this global phenomenon. Switzerland's 2015 adoption of the 2030 Agenda bears solid witness to the country's will to pursue a framework for advancing sustainable development, other than in the economic and social, in the environmental direction as well. State-owned enterprises and private companies both play a crucial role in the application of the existing and future green legislations as well as in intercepting macro-trajectories towards sustainable development and adapting them at their organizational microlevel. As Swiss State-owned enterprises play a preponderant role by providing what is known as the "service public" (telecommunication, postal services, and public transports) through a one-of-a-kind structure of outsourced State competence (known as Public Corporate Governance), the possible difference in compliance to specific green regulation among private and public companies operating in the same domains - as a poorly addressed subject in the literature - appears of a great interest. The green legislation under consideration within this paper, namely the CO₂ Act appears of great relevance, not only as legal basis contributing to the national achievement of SDG 13, but also because of its recent revision, which was refused in June 2021 by the Swiss people despite being a relatively wide compromise between different interests while remaining ambitious.

An analytical framework which differentiates between *economic, social and normative motives, characteristics and capacities* and *deterrence dimensions* as factors determining compliance with a regulation was applied to the 3 State-owned enterprises and to 4 private companies in Switzerland exercising similar activities. Through its application, it was possible to find that while *social and normative motives* and *characteristics and capacities* were more strongly determining for compliance with the regulation under consideration in the case of State-owned enterprises, the same factors positively determined the private companies compliance with the regulation under consideration. On the contrary, *deterrence dimensions* proved as not having an influence in this regard. The contrast is greater regarding the revision of the CO₂ Act, in

that State-owned enterprises showed a hypothetical higher ability to comply than private companies.

Table of contents

Abstract	1
1. Introduction	5
1.1 Structure of the thesis.....	9
2. Research background.....	11
2.1 Transforming our World: the 2030 Agenda for Sustainable Development.....	11
2.2 The threat of Climate change: SDG 13's and the Paris Agreement's call for action	12
2.3 The Agenda 2030 in Switzerland: the Swiss Sustainable Development Strategy	13
2.4 Swiss Sustainable Development Strategy 2016-2019: Goal 3.1 and SDG 13.....	15
2.5 The Federal Act on the Reduction of Greenhouse Gas Emissions (CO ₂ Act)	16
2.5.1 The revised CO ₂ Act	17
2.6 The Swiss Public Corporate Governance and the role of State-owned enterprises in the path towards sustainable development.....	19
2.7 The private companies on the path towards sustainable development	21
2.8 Sustainability reporting in public and private sector companies	23
2.9 Public and private companies: differences and similarities	25
3. Theoretical background	29
3.1 Compliance: a crucial element assuring the effectiveness of a regulation	29
3.1.1 Focus on the companies' compliance with environmental regulations.....	30
3.2 Theoretical framework: Parker and Nielsen's 14 compliance-questions	31
3.2.1 Derived hypotheses	35
4. Methodology and empirical proceedings.....	43
4.1. Semi-structured interviews	43
4.1.1 Interview guideline.....	44
4.1.2 Setting of the semi-structured interviews.....	45
4.1.3 Selection of the sample	46
4.1.4 Access to the sample and organization of the interviews.....	47
4.2 Data Analysis.....	48
4.2.1 Analysis of the interviews	48
4.2 Analysis of specific contents of the companies' websites	50
5. Results.....	52
5.1 Introductory remarks.....	52
5.2 Companies' inclination towards SDG 13	53
5.2.1 The case of State-owned enterprises	53
5.2.2 The case of private companies	55
5.3 The role of economic, social and normative motives with regards to the compliance with the CO ₂ Act	58
5.3.1 The case of State-owned enterprises	58
5.3.2 The case of private companies	61

5.3.3 Answer to the first hypothesis (H1)	64
5.4 Characteristics and capacities of State-owned enterprises and the selected private companies and compliance with the CO ₂ Act.....	65
5.4.2 The case of private companies	67
5.4.3 Answer to the second hypothesis (H2).....	69
5.5 Deterrence dimensions' impact on the compliance with the CO ₂ Act.....	70
5.5.1 The case of State-owned enterprises	70
5.5.2 The case of private companies	70
5.5.3 Answer to the third hypothesis (H3)	71
5.6 Companies' hypothetical adaptations to the revised CO ₂ Act	71
5.6.1 The case of State-owned enterprises	71
5.6.2 The case of private companies	73
6. Discussion of the results	76
6.1 Focus on social, economic and normative motives for compliance	76
6.3 Focus on the deterrence dimensions of compliance	77
6.4 Further discussion	77
7. Limitations of the study	80
8. Conclusion	84
Appendixes	86
References.....	101
Legal references	118

1. Introduction

Providing a new definition for the term “sustainable development”, the World Commission on the Environment and Development (WCED), chaired by Gro Harlem Brundtland, stated in what came to be known as the “Brundtland Report” that development is only ‘sustainable’ if it “meets the needs of the present without compromising the ability of future generations to meet their own needs” (World Commission on Environment and Development (WCED), 1987, p. 43).

Representing a fundamental shift in international development thinking, the United Nations (UN)' 2030 Agenda “Transforming Our World: The 2030 Agenda for Sustainable Development” (Agenda 2030) sets 17 interconnected Sustainable Development Goals (SDGs), which are further divided in 169 targets, encouraging “action over the next 15 years in areas of critical importance for humanity and the planet” (UN General Assembly, 2015, p. 1).

The 17 SDGs address interrelated challenges reflecting important aspects of sustainability (see Appendix 1) and portray sustainable development as reposing on the interconnectedness of economy, society and the environment (The SDG Partnership Guidebook, 2020). In particular, the acknowledgment that people cannot realize their potential "in dignity and equality" unless they live in a "healthy environment" (UN General Assembly, 2015, p. 2) is crucial.

The threat of climate change, as an environmental issue, is explicitly addressed in SDG 13 “*Take urgent action to combat climate change and its impacts*” and is overlapping with the majority of the other SDGs. It appears highly topical: combating climate change via adaptation and mitigation is critical and constitutes a powerful means of driving sustainable development achievements in the above-mentioned Agenda 2030's core sectors (UNDP, 2016 in Doni et al., 2020). Having been identified as one of the major risks of the 21st century, climate change is a pressing issue with global repercussions, negatively affecting national economies and lives and creating increased costs for people, communities and countries. The adverse consequences of this phenomenon could potentially be irreversible if countries and governments do not urgently take action. This awareness is highlighted by the UN, warning that “if the world does not act now and forcefully [emphasis added], the catastrophic effects of climate change will be far greater than the current pandemic [of COVID-19]” (2020, in Wolde-Rufael & Mulat-Weldemeskel, 2021).

Global greenhouse gas (GHG) emissions from human activities are a major contributor to climate change (Doni et al., 2020; Gulluscio et al., 2020): these include methane, nitrous oxide, and carbon dioxide (CO₂), all of which are steadily rising, now more than 50% higher than they were in 1990, causing an expected rise in the average surface temperature of the Earth throughout the 21st century, possibly exceeding 3°C in some areas of the globe.

Even though the 17 SDGs are applicable to all countries, they must be pursued and adapted on a country-by-country basis in accordance with national priorities (Allen et al., 2019). This necessity is highly salient in case of SDG 13, since its target 13.2 calls for countries to “integrate climate change measures into national policies, strategies and planning” (SDG Tracker, 2018 in Doni et al., 2020, see Appendix 2). Indeed, several countries around the globe are adopting environmental levies and strict environmental laws are becoming pillars of environmental sustainability and crucial to lowering CO₂ emissions (Wolde-Rufael & Mulat-Weldemeskel, 2021).

Having adopted Agenda 2030 in 2015, Switzerland is ever since looking for means of perpetuating its national commitment to it (ARE & Swiss Agency for Development and Cooperation, 2018). Its national currently in force Federal Act on the Reduction of CO₂ Emissions (SR 641.71) – hereinafter mostly referred to as CO₂ Act – was adopted in 2013 and constitutes the foundation of the country’s climate policy (Federal Office for the Environment (FOEN), 2018), as well the legal basis through which the federal Council has partly operationalized the achievement of SDG 13 on a national level within the context of the Agenda 2030. As stated in its article 1, paragraph 1, the CO₂ Act aspires to reduce GHG emissions, in particular emissions from the use of fossil fuels, with the aim of contributing to a global temperature increase of less than 2°C, which is an objective equally pursued by the Paris Agreement (United Nations Climate Change, 2015), which Switzerland equally ratified in 2017 as means of “halving its greenhouse gas emissions as compared with 1990 levels by 2030” (FOEN, 2018, p. 5).

On the 25th of September 2020, a comprehensive amendment of the CO₂ Act was enacted (FF 2020 7607). It was expected to enter into force in 2022 along with the more stringent required implementing provisions, which would have helped to achieve the Paris Agreement's aims. However, following a referendum that had been launched against it by industry and oil companies, who believed it went too far, and by radical left-wing activists who were strongly convinced it did not go far enough (BB 2021 462), the Swiss people voted against its adoption on the 13th of June 2021.

As addressed by the currently in force CO₂ Act, “the environmental issue is relevant not only for governments, but also for public and private organizations from different activity sectors” (Prado-Lorenzo et al., 2009 in Gulluscio et al., 2020, p. 3). To put it another way, combating climate change is not only the duty of the public sector. Although the Swiss public sector is responsible for performing or financing roughly one-fifth of all economic activity (Ritz & Thom, 2020), as far as "greening" the economy goes, the private sector has a significant role to play (Ansah & Sorooshian, 2019). Through their activities, companies of all sizes release enormous amounts of harmful pollutants into the atmosphere, which contribute to degrading the environment. Therefore, active efforts in the reduction thereof are to be expected not only from public but also from private organizations: accordingly, the measures that the currently in force Swiss CO₂ Act foresees are directed at both. This double implication, including the category of public organizations represented by State-owned enterprises (Barnes, 2019), is in line with the internationally call by the Agenda 2030 for Sustainable Development for the contribution of all actors in a society to work together to address sustainable development issues in a collaborative manner (Hajer et al. 2015; UN, 2015). In other words, despite the non-legally binding character of the SDGs, businesses, governments and civil society are equally called upon to pursue and commit to a more sustainable path forward a stronger global healthy environment to solve sustainable development challenges (Scheyvens et al., 2016).

Many companies now outline policies or actions targeted at environmental sustainability as part of their annual Corporate Social Responsibility (CSR) statements or in specific corporate sustainability reports (Melville, 2010 in Boros & Fogarassy, 2019; Riyadh et al., 2019). In this regard, the existence of the SDGs as such has both provided companies with a shared vision by which they have begun to align firm-level CSR initiatives with both national and international sustainable development agendas (ElAlfy, 2020) and guided them towards an active role in influencing sustainable development trajectories (ElAlfy & Weber, 2019 in ElAlfy et al., 2020). Sustainability reports of companies, where examples of their efforts aimed at greenhouse gas emissions reduction are often as well disclosed (Palmer & Flanagan, 2016), are generally available on their websites (Gulluscio et al., 2020; Lim & Pope, 2021). Exploring sustainability accounting and reporting practices of public and private sector companies is important because of the critical impact that they both have on environmental issues such as climate change (Ball et al., 2014; Ball & Grubnic, 2007), as well as a means of holding them responsible for the environmental consequences of their operations (Gulluscio et al., 2020).

Economic growth may not be sufficient to reverse environmental deterioration on its own: environmental regulation should be implemented in conjunction therewith (Ulucak et al., 2020).

Environmental regulation, such as the currently in force Swiss CO₂ Act, “refers to the imposition of limitations or responsibilities on individuals, corporations and other entities for the purpose of preventing environmental damage, protecting public health and/or improving degraded environments” (McManus, 2020, p. 241) and it is mostly due to the necessity for coordinated efforts to solve major environmental concerns such as climate change. It restricts an individual company's ability to expand unrestrictedly; nevertheless, it creates the circumstances for long-term economic growth and prosperity (McManus, 2020). In other words, reducing CO₂ emissions can help both slowing the rate of global warming and potentially improving environmental quality while also spurring economic growth.

Once it is voted and accepted, effective impact of a regulation is however dependent its good implementation and on a key component which allows for the understanding its success or failure: compliance (Hopkins, 1994; May, 2004). In other words, although regulation “can be quickly implemented to achieve policy goals ..., its effectiveness depends on the responses of individual citizens and businesses” (Parker & Nielsen, 2017, p. 217). In particular, compliance of different public and private actors to environmental regulation is a crucial element in the pursuit of curbing climate change and its consequences (Hopkins, 1994).

The literature on why people or companies comply or do not comply with public policies, on the other hand, is extensive and diverse, presenting a mix of economic, normative, and social motives, as well as insights into further factors that hinder or drive companies or individuals to follow regulations (May, 2004; Parker & Nielsen, 2017; Weaver, 2014). Within the sustainability domain, for example, public and private sector organizations act on the basis of competing values, goals and ways of operating (Brinkerhoff & Brinkerhoff, 2011) and this could be an indicator of different motives, barriers and drivers to compliance with regulations. Nevertheless, the proper functioning of society can only be assured when policy makers' decisions are observed by the private sector as well (Ritz & Thom, 2020).

In light of these introductory considerations, the following question will guide our research: *“To what extent do Swiss State-owned enterprises and selected private companies differ in their compliance with the CO₂ Act as legal basis contributing to the achievement of SDG 13?”*

Companies, both public and private, have a role to play in intercepting macro-trajectories towards sustainable development and adapting them at the microlevel through individual or groups of SDGs; however, a problem that often arises is that these objectives are difficult to translate when applied at a national level by individual governments or within very different company contexts (Sullivan et al., 2018). Approaching the problem from the angle bounded by

the research question above allows to overcome this issue, which has also been articulated and raised by the “SDG Challenge Report” released by PwC in 2019, stating that “while there is a general acknowledgement of the importance of the ... [SDGs], there is still not enough understanding of what [companies’] concrete action should be or is taking place” (PWC, 2019, p. 6). Considering the CO₂ Act as national legal basis for the partial realization of SDG 13, focus can be placed on the actions concretely undertaken in the direction of the application of this law at the organizational micro level, as well as the reasons for doing so.

Understanding the underlying interplay of different factors contributing to the compliance of selected companies with the currently in force CO₂ Act, therefore, not only responds to the need to address climate change-related issues as one of the primary issues that individuals, governmental institutions, and companies must address today in order to build a better and more sustainable future for all (Gulluscio et al., 2020), but appears even more important since it provides insights into the fulfillment of Agenda 2030’s endorsed objectives by Switzerland. At the same time, it provides insights into the difficulty or respectively readiness of implementing regulatory policies (Parker & Nielsen, 2017). The differentiation of the latter between State-owned enterprises and selected private companies operating in similar domains adds an ulterior complexity layer to the analysis, covering what appears to be a literature gap in this very specific topic and adding to the research interest of this empirical paper.

1.1 Structure of the thesis

This thesis consists of seven chapters. While the first chapter introduces the study, the second one exposes the research background: starting with a brief conceptualization of sustainable development within the UN Agenda 2030, it pays special attention to SDG 13 – which directly addresses the global issue of climate change – and addresses its operationalization in Switzerland through Goal 3.1 within the at the time of the writing latest available Swiss Sustainable Development Strategy (SDS) 2016-2019¹. More precisely, the attention is turned to the currently in force CO₂ Act adopted in 2013 and, to a lesser extent, the revised CO₂ Act which was rejected on the 13th of June 2021 by the majority of the Swiss population. At a later

¹ On the 23rd of June 2021, the Federal Council adopted the Sustainable Development Strategy (SDS) 2030 and the associated Action Plan 2021-2023. Within the SDS 2030, focus area 4.2 “Climate, energy and biodiversity” contains subtopic 4.2.1, relating to the need to reduce greenhouse gas emissions and manage climate-related impacts. This subtopic is further detailed by the national strategic direction “Reduce all greenhouse gas emissions rapidly and significantly”, which corresponds to SDG sub-target 13.2 (Swiss Federal Council, 2021b, p. 48). More specifically, sub-target 13.2 encapsulated the following objective: “Greenhouse gas emissions have been reduced by at least 50% compared with 1990. At the latest by 2050, greenhouse gas emissions are reduced to net zero ([38] in Swiss Federal Council, 2021b). Since this aim is which is in line with Goal 3.1 within the SDS 2016-2019 adopted as background of the present research, no further adaptations were necessary.

stage, the second chapter equally contains a review of the literature relating to both the presentation of State-owned enterprises in Switzerland and their role in the path towards sustainable development as well as the delineation of private companies on the same endeavor. Finally, after a focus on sustainability reports of public and private sector companies as means of outlining policies or actions targeted at environmental sustainability, it exposes a section covering the differences and similarities among the two types of actors as identified in existing studies, providing a solid background to justify the hypotheses on which this study is founded.

The third chapter is then dedicated to the exposure of the theoretical background and adopted framework. While the latter is directly derived from the formulation of the research question guiding this thesis, both concern compliance to a public policy. Within the present research, the policy in question is represented by the above-mentioned CO₂ Act. The third chapter equally exposes the formulated hypotheses right after theoretical considerations.

The approach and methodology adopted for this research, concerning the processes of collection and analysis of the qualitative data necessary, are addressed within the fourth chapter.

The fifth chapter is then devoted to the presentation of the results obtained through semi-structured interviews conducted with a total of eleven sustainability and communication managers as well as environmental experts working either for State-owned enterprises in Switzerland or selected private companies operating in Switzerland as well and more or less in the same domains. The insights derived from a content analysis of specific parts within the just mentioned companies' websites are equally exposed. This chapter further deals with the verification of the formerly formulated hypotheses.

Whereas the sixth chapter discusses the obtained results, the seventh dwells on the discussion thereof and the eighth is consecrated to the methodological and analytical limitations of the study. Finally, the ninth chapter is dedicated to the conclusion of the research.

2. Research background

2.1 Transforming our World: the 2030 Agenda for Sustainable Development

Unanimously adopted by 193 States in the United Nations General Assembly at the Sustainable Development Summit held in New York on 25 September 2015, Resolution A/RES/70/1, "Transforming our World: the 2030 Agenda for Sustainable Development" (UN General Assembly, 2015) formally introduced the UN's 2030 Agenda for Sustainable Development, which came into effect in January 2016 and is composed of a set of 17 measurable Sustainable Development Goals (SDGs) altogether subdivided into 169 targets and 304 indicators (see Appendix 1).

Agenda 2030 represents a "plan of action for people, planet and prosperity" (UN General Assembly, 2015), for the next decade and a half. It aims at inter- and intragenerational sociocultural and economic justice while respecting ecological limits to the use of natural resources (Tosun & Leininger, 2017), encapsulating the interconnected dimensions of social development, environmental protection and economic growth.

The acknowledgment that people cannot realize their potential "in dignity and equality" until they live in a "healthy environment," supports the connections between the environment and the other two aspects (UN General Assembly, 2015, p. 5). The issues that the Agenda 2030 seeks to solve are intertwined: action in one area can affect outcomes in another (Mio et al., 2020). This is apparent, for example, from the observation that 13 of the SDGs englobe environmental aspects such as the prevention of environmental degradation, the relevance of waste management and the promotion of resource recovery, pollution and climate change (Gupta & Vegelin, 2016). The latter, namely climate change, is a transversal problem that needs to be addressed in order to successfully achieve all 17 SDGs; in particular, according to Doni et al. (2020) the link between climate change and sustainable development is perceptible: not only can climate change initiatives alleviate social concerns such as vulnerability, dislocation, migration, and conflict, but reduced polluting emissions could also result as a consequence of increased use of renewable energy, which in turn might yield health advantages.

For Agenda 2030 to be fulfilled in the foreseen timeline, SDGs are addressed at all levels of decision-making, starting from the individual up to the local, regional, national, international and global (UN General Assembly, 2015). Hence, it serves as a guide for governments, the private sector, the public sector, nonprofit organizations and civil society to work together to

address sustainable development issues in a collaborative manner (UN General Assembly, 2015; Hajer et al. 2015).

Despite the legally non-binding character of the Agenda 2030, all signatory States have agreed to collaborate in order to attain the realization of the SDGs by 2030, to use them as a reference framework for their national sustainability strategies, and to contribute appropriately to their national and international implementation (Swiss Federal Council, 2016), accompanying it by monitoring and indicator systems as envisaged by the provisions of the Agenda 2030 in this regard (Breu et al., 2021; UN General Assembly, 2015).

2.2 The threat of Climate change: SDG 13's and the Paris Agreement's call for action

Since the threat of climate change is overlapping with the majority of the other SDGs, combating the latter via adaptation and mitigation is critical, and it can be a powerful proceeding for driving sustainable development achievements in Agenda 2030's core sectors (UNDP, 2016 in Doni et al., 2020). Creating the stand-alone SDG 13 “*Take urgent action to combat climate change and its impacts*” was an important step (Doni et al., 2020) since its objective stands out as highly actual and crucial. To demonstrate this argument, Salvia et al. (2019) conducted research that exposing how SDG 13 attracts attention across regions and has more study committed to it globally: climate change, as a serious ongoing concern of the twenty-first century causing devastating catastrophes on the whole globe (Danish et al., 2017a in Ulucak et al., 2020), represents an urgent issue that will damage both rich and developing countries.

As highlighted within the introductory chapter, every country in the world is affected by climate change. Limiting the latter is possible through a move towards a low-carbon economy implying a significant decrease in one of its most important drivers (namely GHG emissions) which, when combined with adaptation leads both to reduced impacts on human and environmental systems (Doni et al., 2020) and to a better quality of economic growth (Wolde-Rufael & Mulat-Weldemeskel, 2021).

The need for climate action as enclosed in SDG 13 has been strengthened subsequently by the signature on the 12th of December 2015 of the Paris Agreement during the 21st Conference of Parties (COP21) to the United Nations Framework Convention on Climate Change (UNFCCC) (United Nations Climate Change, 2015). As a major deal on climate change mitigation, it entered into force on the 4th of November 2016 committing all signatory countries specially to limit global temperature rise to well below 2 °C – and given the high risks to strive for 1.5 °C – and to reduce the amount of greenhouse gases emitted by human activity, starting between 2050 and 2100, to the same quantities that plants, soil, and seas can absorb naturally.

Even if there is no formal interrelationship between the Paris Agreement and the Agenda 2030 it appears clearly that they move towards the same direction. The SDGs, however, are voluntary promises made by countries, as opposed to the official Paris Agreement, “which is legally binding now that it has been signed by 55% of parties and those who have signed are responsible for more than 55% of greenhouse gas emissions” (Morton et al., 2017, p. 83).

Within the Agenda 2030, SDG 13 is subdivided into five targets and eight indicators by which the world aims to track whether these targets are achieved (see Appendix 2): whereas target 13.1 provides a broad warning about the importance to brace every nation regarding the potentially disastrous consequences of climate change on human life, such as homelessness, displacement and injury (Doni et al., 2020), targets 13.2 and 13.3 are highly interesting within the scope of this paper, as they provide indications about the process that UN Member States should follow in order to face this challenge.

In particular, despite remaining quite vague, target 13.2 points to 3 core aspects: policies, strategies and planning. At a national level, action to combat climate change and its impacts should be found within the design and implementation of those three elements, which can improve their capacity to adapt to adverse effects of this phenomenon and promote both climate resilience and low greenhouse gas emissions (GHG) development (Doni et al., 2020). In other words, negative consequences of environmental concerns should encourage national policymakers to battle them through effective environmental control measures.

2.3 The Agenda 2030 in Switzerland: the Swiss Sustainable Development Strategy

Agenda 2030 is a legally non-binding agreement that requires countries to identify their national priorities and targets in alignment with the requirements of the SDGs and use them as a reference framework for their national sustainability strategies (Allen et al. 2019). Having adopted Agenda 2030 in 2015, Switzerland is ever since looking for means of perpetuating its national commitment to it (Federal Office for Spatial Development (ARE), 2018). There hasn't been a federal law passed yet that specifies the duties and methods for realizing this vision (Breu et al., 2021). However, analogously to the widely recognized definition of *sustainable development* adopted within the Brundtland Report, considering it as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED, 1987 p. 43; ARE, 2012, p. 8), Switzerland is devoted to the Agenda 2030 and takes the achievement of SDGs relatively seriously.

Since 1999, sustainable development has however been codified in the Swiss Constitution (RS 101) as an outstanding State goal: within the meaning of its article 2 paragraph 2, the Swiss

Confederation shall in fact promote universal wealth, sustainable development, social cohesion and the cultural diversity of the country. A more specific legal embodiment of sustainable development can further be found in article 73 of the Swiss Constitution (RS 101), which provides the Confederation and the cantons with a legal mandate to contribute to sustainable development.

Whereas all the different sustainability aspects are considered within national laws, the task of ensuring the mainstreaming of the principles of sustainable development at all levels of government lies in the responsibility of the Federal Council. The latter defines the priorities for this policy area at the federal level, by means of the legally non-binding Sustainable Development Strategy (SDS): for the legislative period going from 2016 to 2019, the Federal Council did accordingly set out political priorities in the medium to long term by means of its Sustainable Development Strategy (SDS) 2016-2019 (Swiss Federal Council, 2016). This strategy's action plan highlights the important role which Cantons, cities, municipalities, and non-state actors play in the path towards sustainable development.

In line with the collective vision that requires everyone's participation in order to achieve the Agenda 2030, in Switzerland a number of multi-stakeholder approaches have been implemented, bringing together different state and non-state actors. The SDGs have as well been incorporated into several companies' corporate reports and strategies. On the other hand, civil society organizations participate in the public debate about sustainable development through projects and researchers contribute to it through creativity and knowledge generation (ARE & Swiss Agency for Development and Cooperation, 2018).

Starting from 2003, Switzerland has had a thorough framework for measuring sustainable development and analyzing the results of Federal Council strategies to ensure reporting to the UN (ARE & Swiss Agency for Development and Cooperation, 2018). This system is called MONET and it aims at providing an overall picture of how well the SDGs are being implemented in Switzerland, whether they are progressing, stabilizing or regressing over the years (Federal Statistical Office, 2021). The first comprehensive review of the status of the implementation of Agenda 2030 in Switzerland was realized in 2018 (ARE & Swiss Agency for Development and Cooperation, 2018) and reconfirmed the crucial role played by Cantons and municipalities, the business sector, the scientific community and the civil society in the implementation of sustainable development.

2.4 Swiss Sustainable Development Strategy 2016-2019: Goal 3.1 and SDG 13

As climate change knows no national boundaries, Switzerland is equally affected. At the national level, the existing critical need for action against climate change and its consequences is highlighted by the unmanaged impacts it has and could have on human life and health, natural hazards, water balance, biodiversity, agriculture and tourism (Swiss Federal Council, 2016; Swiss Federal Council, 2021a).

Within the Swiss Sustainable Development Strategy 2016-2019 (Swiss Federal Council, 2016), *Action Area 3 - Energy and Climate* addresses both the national achievement of SDG 13 “*Take urgent action to combat climate change and its impacts*” and SDG 7 “*Ensure access to affordable, reliable, sustainable and modern energy for all*”. As far as the latter is concerned, the federal Council states in this document that the energy needs are to be met without CO₂ emissions that impact on the climate and from secure and renewable sources. As far as the first mentioned goal is concerned, the federal Council directly refers to the necessity of coping with the already existing and the expected consequences of climate change for the time period ranging from 2016 to 2019, as well as to the measures conceived in order to promote actions towards this imperative by 2030. In other words, it aims at the achievement for the economy, society and the ecosystems of sufficient capacity, resilience and flexibility to adapt to climate change and to protect themselves against natural disasters.

Contributing to the achievement of SDG 13 “*Take urgent action to combat climate change and its impacts*”, Goal 3.5 and Goal 3.6 have been formulated by the Federal Council within *Action Area 3* of the SDS 2016-2019: they respectively highlight the need for the consequences of climate change to be monitored and identified at an early stage and the necessity for risks of climate change to be minimized, climate-related opportunities to be exploited, the population, material assets and natural livelihoods to be protected, and the adaptive capacity of the economy, environment and society to be enhanced (Swiss Federal Council, 2016). On the other hand, the necessity to cut greenhouse gas emissions (GHG), as being primarily responsible for climate change (Doni et al., 2020) is highlighted by Goal 3.1, which is formulated as follows and also contributes to the achievement of SDG 13:

Goal 3.1: Greenhouse gas emissions have been reduced by 50 % compared to 1990, and at least 30 % of this has been achieved through domestic measures (*average reduction 2021-2030 of minus 35% or 25%*) (Swiss Federal Council, 2016, p. 22-23).

This objective resonates with Switzerland's aim of keeping global warming to less than 2 °C compared with pre-industrialization levels, as highlighted by the country's 2017 ratification of the above mentioned Paris Agreement on the 6th of October 2017 (FDFA, 2017). The latter has as well committed the country to halving its greenhouse gas emissions as compared with 1990 levels by 2030 (FOEN, 2018). What is more, the country is ever since seeking to reduce its greenhouse gas emissions to net zero by 2050, in accordance with its climate policy duty and capacities and as a scientifically imposed imperative (Swiss Federal Council, 2021a).

The mix of measures presented with means of facilitating the achievement of Goal 3.1 includes funding instruments, regulatory instruments and steering instruments. In particular, the Federal Council leans on the framework for the national climate policy, which has been set since 2000 by the Federal Act on the Reduction of Greenhouse Gas Emissions (CO₂ Act), which was already mentioned in the introductory chapter.

2.5 The Federal Act on the Reduction of Greenhouse Gas Emissions (CO₂ Act)

The first national CO₂ Act (SR 641.71) was proposed by the Swiss Government in 1995 and was then accepted by the Parliament five years later. After a revision in 2004 it was finally implemented in 2008 (Ingold & Fischer, 2013). However, its elaboration took place in a rather conflictive environment, owing to very active lobbyists from the transport industry and oil importers, and to two active and opposing groups that defended their positions, hardening the decision-making: a group which favored pro-economist policies and another group, which favored pro-ecologist policies (Ingold, 2011). It was only via major involvement by 'political brokers' between those alliances that the final choice in the shape of a political compromise emerged (Ingold & Varone, 2012).

Today, the foundation of Swiss climate policy is constituted by the CO₂ Act of 2013, which is the second version of the Act (FOEN, 2018). Its adoption represents a step forward for Swiss environmental regulation. As stated in its article 1, paragraph 1, the law aims to reduce GHG emissions, in particular emissions from the use of fossil fuels, with the aim of contributing to a global temperature increase of less than 2°C. As stated in its article 3, paragraph 1, by 2020, greenhouse gas emissions in Switzerland must be reduced by 20 % compared to 1990. It is however important to note that this target is less ambitious compared to the 50% envisaged reduction within the Paris Agreement and Goal 3.1 of the Swiss SDS 2016-2019.

A first lever for action to be realized according to this Act concerns buildings. The Cantons are encouraged to ensure that CO₂ emissions from buildings heated with fossil fuels are reduced. To this end, they issue standards for new and old buildings that take into account the

current state of the art. This measure has the character of a recommendation for action to be undertaken by the cantons, but it does suggest a specific area of application with regard to the energy consumption of buildings.

A second lever for action concerns passenger cars, delivery vehicles and light-duty fifth wheelers. It is stated that CO₂ emissions from passenger cars put on the road for the first time must be reduced to an average of 130 grams of CO₂ per kilometer by the end of 2015 and to an average of 95 grams of CO₂ per kilometer by the end of 2020. CO₂ emissions from delivery vehicles and fifth wheel tractors with a total weight of up to 3.50 tons are to be reduced to an average of 130 grams of CO₂ per kilometer by the end of 2015. weight of up to 3.50 tons (light fifth wheel tractors) are reduced to an average of 147 grams of CO₂ per kilometer by the end of 2020.

A third lever for action is a CO₂ tax on the production, extraction and import of fuels. The amount of the tax is CHF 36 per ton of CO₂. The Federal Council can raise it to a maximum of 120 Swiss francs if certain interim fuel targets are not met. However, companies are reimbursed for this tax if they undertake to reduce their greenhouse gas emissions in other ways and report annually to the Confederation or if they can demonstrate that the fuels used are not used for energy purposes. The SBB [*Schweizerische Bundesbahnen*] are considered separately in this law and are at least partially reimbursed from this tax. Companies participating in the Emissions Trading Scheme (ETS) are also reimbursed from the CO₂ tax. Fossil fuel power plants may only be built and operated if the operators undertake to fully offset their CO₂ emissions and to operate the plant according to the current state of the art. In the case of fuel offsetting, anyone who releases fuel for consumption must offset part of the CO₂ emissions generated by its use. The Federal Council determines a compensation rate between 5 and 50% depending on the context.

Although leaving a relatively wide margin of appreciation to the cantonal and federal authorities, the CO₂ Act of 2013 lays the foundation for environmental action to limit CO₂ emissions. A revised and actualized version of this Act was elaborated; however, it was rejected in a popular vote by the Swiss people on the 13th of June 2021.

2.5.1 The revised CO₂ Act

On the 25th of September 2020, a comprehensive amendment of the currently in force CO₂ Act as enacted, which was expected to enter into force in 2022, along with the required implementing provisions. It would have helped to achieve the Paris Agreement's aims of limiting global warming to below 2° Celsius, but also enhanced adaptability, and kept financial

flows compliant with climatic resilience. However, following a referendum that had been launched against it by industry and oil companies, who believed it went too far, and by radical left-wing activists who were strongly convinced it did not go far enough (BB 2021 462), the Swiss people voted against its adoption on the 13th of June 2021.

Aligning with the objective enclosed in Goal 3.1 within the Swiss SDS 2016-2019 (Swiss Federal Council, 2016) and the Paris Agreement (United Nations Climate Change, 2015), the revised version of the CO₂ Act aimed in itself at halving Swiss greenhouse gas emissions by 2030 in relation to their 1990s' level. Since current measures have proven to be insufficient to achieve this climate target, it relied on a combination of financial incentives and investments in climate protection and technological advances (FOEN, 2021). This highlights the necessity for Switzerland to go deeper with its climate regulation. In particular, the revised CO₂ Act would have expanded on the existing array of binding measures and target values for the same three sectors that produce the most CO₂ emissions, namely the building, transportation, and industry sectors, while further including aviation as well as the creation of a climate fund.

Despite being rejected, this review will still be considered in this research as a means of understanding the extent to which the companies considered would hypothetically be prepared to comply with it in the present or, possibly, near future. Investigating the possibility of a future individual and aggregated behavioral adaptation induced by the adoption of a stricter version of the CO₂ Act in order to meet the need to do more to protect the planet from the effects of climate change – as discussed earlier in this chapter – appears important.

The following two subchapters 2.6 and 2.7 will be devoted to a review of the literature relating to both the presentation of State-owned enterprises in Switzerland and their role in the path towards sustainable development as well as the delineation of the expectations directed towards private companies on the same endeavor. In particular, the importance of the effective contributions of the latter to sustainable development will be exposed. An emphasis will be placed for both types of companies on their stance towards climate-change related issues.

Subchapter 2.8 will then be consecrated to sustainability reports of public and private sector companies, as means of outlining policies or actions targeted at environmental sustainability as part of their annual Corporate Social Responsibility (CSR). Attention will be devoted to the largely adopted sustainability reporting tool represented by GRI guidelines and a focus will be placed on its environmental component.

Finally, the differences and similarities among the two types of companies as identified in existing studies will be exposed. These considerations will play an important role within chapter 3, presenting the theoretical framework of the study as well as the derived hypotheses.

2.6 The Swiss Public Corporate Governance and the role of State-owned enterprises in the path towards sustainable development

Ultimately, States have the primary responsibility and are the main actors both in the policymaking regarding the SDGs, as well as in the implementation of the latter at a national level (Lalaguna & Dorodnykh, 2018; UN General Assembly, 2015).

In Switzerland, the public sector is responsible for performing or financing roughly one-fifth of all economic activity (Ritz & Thom, 2020). Because the public sector employs a large number of people, consumes a large quantity of resources and provides a number of services (GRI, 2005 in Lozano et al., 2017) it has a substantial influence on national and international progress toward sustainable development and the addressing of social and environmental issues (Kaur & Lodhia, 2019). The contributions to sustainable development operated by State-owned enterprises, however, still constitute an unanswered topic according to the literature (Boros & Fogarassy, 2019). To a certain extent, this could be the case because it's unclear whether they belong in the public sector or are more like privately owned businesses (Barnes, 2019).

In Switzerland, State-owned enterprises include the Swiss Post AG (from now referred to as Swiss Post), the Schweizerische Bundesbahnen AG, namely the *Swiss Federal Railways* (from now on shortened and referred to as SBB) and Swisscom AG (from now on referred to as Swisscom). They are outsourced administrative bodies which are nowadays respectively concerned with the provision of the publicly relevant postal, rail and telecommunications services. The fundamental supply of public goods related to these sectors is referred to as the "public service" and it is a prerequisite for Switzerland's quality of life and economic growth; thus, the government makes certain that these services are widely available and reasonably priced (Federal Department of the Environment, Transport, Energy and Communications (DETEC), 2016)

While the postal, rail and telecommunications prerogatives used to belong to the State, they were decentralized from the federal administration during the 1990s. The act of the State dispossessing itself of the capacity to carry out duties which are assigned to it and having them regulated by organizations that it has set up itself for this very purpose is called *Public Corporate Governance* (Lienhard, 2002; Kälin, 2007; Steiner et al., 2020). This concept has emerged in line with the literature on corporate governance in the private sector (Ritz & Thom,

2020) and is defined by Lienhard (2009, p. 48) as referring to “all principles relating to the organization and management of and within outsourced administrative bodies for the purpose of effective and efficient service provision in a democratic constitutional state”.

Outsourcing administrative bodies, the legal basis for which can be found under Article 173 paragraph 3 of the Swiss Constitution (RS 101), allows the State to transfer the fulfilment of certain public tasks to special entities such as institutions, foundations, special-law or pure stock companies in which the State is the major shareholder: as a result, the state's role shifts from one of fulfillment (provider) to one of ensuring the different public services (guarantor) and this has an effect on the structure of supervision (Lienhard, 2008, p. 44).

Swiss State-owned enterprises are outsourced by the State, act as their own entity and divest themselves of the federal administration's characteristics. However, despite having been converted into a private legal form, they are still strongly influenced by the State to the point that the according literature speaks of “dominant influence” (Boucher-Kind, 2020). The latter is presumed when the public sector either owns the majority of the subscribed capital of the undertaking, has a majority of the voting rights attached to the shares of the undertaking or is represented by more than half of the members of the undertaking's administrative, managerial or supervisory board. As far as the above-mentioned State-owned enterprises are concerned, the State's influence can be perceived through three means: firstly, the Federal Council chooses the company's board of directors (directly for the Swiss Post, through a general assembly for the SBB and Swisscom); secondly, the Federal Council defines the company's strategy and sets its expectations as the owner every four years and thirdly, the Board of Directors prepares annual reports for the Federal Council regarding the pursuit of the four-years objectives it had already defined. The reports' validation is done by a direct decision of the Federal Council for the Swiss Post and through the General Assembly for the SBB and Swisscom (Steiner et al., 2012).

The above-mentioned State-owned enterprises are comparable to public sector organizations, since they exhibit the just described characteristics and are “legal entities under private or public law that perform one or more public tasks, provide goods or services on the market and are under the control of the State” (Höchner, 2020, p. 18). Other than delivering and funding services, public sector organizations also support the measures that policymakers have adopted (Ritz & Thom, 2020), among which the measures contributing to the realization of SDG 13 within the Swiss Sustainable Development Strategy (SDS) 2016-2019 can be found. Ball (2002 in Kaur & Lodhia, 2019) even states that, in comparison to the private sector, their duties and responsibilities are more directly connected to the sustainability agenda.

State-owned enterprises are relevant for this paper, not only since sustainable development is a current important theme in their management (SBB, 2021b; Swisscom, 2021c; Swiss Post, 2021a), but also because their efforts towards sustainability are emphasized by their participation to the sustainability initiative “Vorbild Energie und Klima” (in English: *Exemplary Energy and Climate*), presented within the Energy Strategy 2050 (Swiss Federal Office of Energy (SFOE), 2020). The latter has been launched by the Swiss confederation and is directed to the Swiss providers of public services, who

are making a contribution towards restricting global warming to less than 1.5 degrees ... Towards this end, ... They are implementing 15 predefined joint measures in the areas of management, procurement and operations as well as numerous individual measures. In terms of energy efficiency, ecological electricity production and the share of renewable heating/cooling and fuels, the participants have set individual target values to achieve by 2026 and 2030, respectively, whereas the share of renewable electricity is to be 100 percent for all of them by 2026 at the latest (Swiss Confederation, 2021).

Thus, State-owned enterprises are considered in this paper as actors moving toward sustainable development and toward reducing green gas emissions. To complete this frame, it's of the utmost relevance to put them in perspective with their counterpart, namely private companies, as both have a role to play towards the same endeavor.

2.7 The private companies on the path towards sustainable development

Considered as the component of the economy that is managed for profit by individuals and businesses, the private sector result includes all for-profit enterprises that are not owned or run by the government (The Investopedia Team, n.d.). In Switzerland, non-governmental actors are also expected to play a proactive role in the process of sustainable growth and incentives are to be developed to encourage them in this endeavor (Federal Department of Foreign Affairs (FDFA), 2021).

According to Ball et al. (2014), in comparison to the private sector, which mainly has the goal to maximize shareholder profit, the public sector has considerably higher obligations for promoting and supporting sustainable development. However, the SDGs call on businesses around the world to serve as "development actors" by making commitments, developing solutions, and adopting corporate practices that promote sustainable development and reduce their negative impacts (Scheyvens et al., 2016). Thus, there is a great expectation for the private

sector to play a significant role in leading to progress and assisting governments, and society in general, in ensuring that their contribution towards SDGs – and respective indicators – matches national priorities.

Having acknowledged the diversity of the private sector, ranging from micro-enterprises to cooperatives to multinationals, the UN General Assembly (2015) highlights the magnitude of the private sector's activity, investments, and innovations as enhancing productivity, inclusive economic growth, and creating new jobs. As a result, it makes an appeal to all businesses to use their creativity and the above-mentioned assets to address sustainable development issues in order to meet the Agenda 2030 goals.

Contributions highlighting the importance of private sector organizations in the path towards sustainable development are widespread in the literature. It is widely recognized that the private sector has particular strengths that can assist governments and the society in achieving the SDGs such as expertise, innovation, responsiveness, knowledge, technology, manpower of particular experience, financial resources and other various specific capabilities (see Buhmann et al., 2019; ElAlfy et al., 2020; Scheyvens et al., 2016). What is more, Frey and Sabbatino (2018) define the following four areas of opportunity for private companies to signing up to the SDG:

1. **Innovation & market development:** acknowledging and evaluating gaps in sustainable development can benefit companies by presenting possibilities for innovating new goods and services.
2. **Efficiency & cost savings:** due to the pressure of scarce natural capital being intensified by climate change's effects, adopting practices embedded in SDGs that are aimed at reducing environmental burdens is becoming a necessity that can increase efficiency and cost savings for companies.
3. **Reputation management:** signing up to SDGs specifically advocating for the abolition of harmful consequences caused by private sector practices, such as environmental degradation, will be critical for businesses to establishing and retaining credibility and reputation with key stakeholders.
4. **Risk reduction:** companies can mitigate their weaknesses by identifying how the SDGs affect their sector and value chain and reacting proactively to enhance their resilience in a challenging operating and regulatory setting.

Closely related to the third consideration just exposed, Ardakani and Soltanmohammadi (2019) recognize that, being focused on their primary business targets, private sector companies

are highly responsible for environmental degradation. The latter are related to making a profit and often function against social and environmental policies (Scheyvens et al., 2016). On the other hand, Ansah & Sorooshian (2019) highlight that the private sector can make a significant contribution to the creation, planning, and implementation of climate adaptation, which is specifically related to SDG 13, through sector-specific expertise, technologies, efficiency and entrepreneurship.

Frey and Sabbatino (2018) report that if on one hand all 17 SDGs are relevant for the private sector, not all of them are equally important for all companies; they often therefore chart the positive and negative impacts of SDG-related aspects and concentrate their resources on the achievement of the most relevant for them. Private sector companies voluntarily focus their attention and determine specific SDGs that are relevant to their activities, incorporating them into their strategic or sustainability plans (Pineda-Escobar, 2019). Within the latter, however, SDG 13 is of greater relevance: as Tsalis et al., (2020) recognize, it attracts a lot of attention among companies, who chose both to consider the importance to combat their greenhouse gas emissions as well as to disclose information on their emissions within their sustainability reports.

2.8 Sustainability reporting in public and private sector companies

Sustainable operations are a challenge for both public and private sector companies (Geldermann et al., 2017). In Switzerland, SDGs have been incorporated into several companies' corporate reports and strategies, and most efforts in advancing the achievement of the SDGs - and especially SDG 13 - have been made for example via environmental voluntary initiatives or circular economy (ARE & Swiss Agency for Development and Cooperation, 2018)

Many companies now outline policies or actions targeted at environmental sustainability as part of their annual Corporate Social Responsibility (CSR) statements or in specific corporate sustainability reports (Melville, 2010 in Boros & Fogarassy, 2019), which are often to be found on their websites (Gulluscio et al., 2020; Lim & Pope, 2021) and provide them the chance to enhance their transparency, reputation, and legitimacy (Batista & Francisco, 2018). In doing so, they follow the nowadays widespread definition of CSR, according to which companies should go above and beyond legal responsibilities to engage in voluntary or discretionary forms of social involvement, demonstrating their commitment to society by pursuing courses of actions and decisions that are desirable in terms of objectives and values for the society itself (Bowen, 1953 in Ashrafi et al., 2018; Lim & Pope, 2021). Other than duties to operate lawfully

and morally, the latter highlight a responsibility beyond pure profit-seeking that voluntarily includes economic, social, and environmental concerns (Carroll, 1991 in Lim & Pope, 2021; ElAlfy et al., 2020; Riyadh et al., 2019 in Rashed & Shah, 2021) which is in line with the concept of *triple bottom line* according to which companies should strive for improved financial success, environmental preservation, and societal fairness at the same time (Elkington, 1998) – thus mirroring the interconnectedness of economy, society and the environment portrayed as the three core sectors of Agenda 2030.

Exploring sustainability accounting and reporting practices of public sector companies has become increasingly vital because of the critical impact that public sector organizations have on the environment and society and their responsibility on specific social or environmental issues such as climate change (Ball & Grubnic, 2007; Ball et al., 2014). This is even more the case for State-owned enterprises, since they have the particularly significant societal obligation of managing ecosystem services and massive databases connected with the performance of public tasks (Kapsalis et al., 2019 in Boros & Fogarassy, 2019).

Like public sector companies, over the past few decades private organizations have as well been required to report their contributions to the government's national sustainability goals while being accountable for the environmental effects of their operations, potentially contributing to climate change and therefore in need to be mitigated (Atkinson, 2000; Gulluscio et al., 2020). Many stakeholders have an interest for them to embrace sustainable practices and report on their progress and outcomes, especially with regards to their actions on climate change and reporting on CO₂ and greenhouse gas emissions, which can be subjected to managerial control, provides useful information of the need for them to implement adaptation and mitigation strategies.

For companies aiming to assess sustainability performance, a variety of techniques are available (Siew, 2015 in Tourais & Videira, 2019). Offering a shared vision by which companies can begin to strategically align firm-level CSR initiatives and comply with both national and international sustainable development agendas, the SDGs are affecting reporting practices, disclosure mechanisms, stakeholder expectations and even regulatory requirements themselves (ElAlfy et al., 2020). Among others, the Global Reporting Initiative (GRI) and the UN Global Compact (2017; 2018 in Tsails et al., 2020) have suggested a framework to help companies measure their sustainability performance and include the SDGs into their sustainability reporting. Consequently, companies have expanded their participation in willingly issuing their reports in accordance with GRI criteria, as one of the most widely used and recognized globally, which cover the three variables in the triple bottom line (Lim & Pope,

2021; Toppinen & Korhonen-Kurki in Batista & Francisco, 2018) thus promoting transparency and comparability. The most recent GRI reporting guidelines include a significant number of topic-specific criteria and disclosures covering a the economic, environmental, and social consequences of business activities (GRI, 2018 in Tsalis et al., 2020). The environmental component, in particular, covers a wide range of topics such as biodiversity, water, energy, transportation, and environmental compliance (Montiel and Delgado-Ceballos 2014 in Tourais & Videira, 2019). As far as the environmental component of sustainability reporting is concerned, as already highlighted in subchapter 2.7, actions relating to SDG 13 – and more specifically to combat greenhouse gas emissions - are one of the topics to which most information and attention is given to (Tsalis et al., 2020).

Once again, this emphasizes on the extent to which “the environmental issue is relevant not only for governments, but also for public and private organizations from different activity sectors” (Prado-Lorenzo et al., 2009 in Gulluscio et al., 2020, p. 3).

Before moving into the theoretical framework adopted within the scope of this analysis, the nuances between public and private companies still need to be discussed in more detail.

2.9 Public and private companies: differences and similarities

Against the background of the above presented concept of *Public Corporate Governance* (Kälin, 2007; Lienhard, 2002; Steiner et al., 2020), the interdependence of the public and private sectors and the intertwining of public and private task performance clearly manifests itself.

In recent years, the public sector has increasingly been performing tasks closer to the market and using special organizational forms for this purpose, such as public-law institutions or public enterprises. Both sectors are strictly interdependent, and this is more so true since the private sectors’ provision of services is controlled by the State and its executive departments and the private sector has been further seeking public funds or tasks that were previously performed by the public sector and engaging in the building and maintenance of public-private partnerships (Ritz & Thom, 2020).

Within the sustainability domain, however, these partnerships are difficult when both parties concerned act on the basis of competing values, goals and ways of operating (Brinkerhoff and Brinkerhoff, 2011): for the private sector, business expansion and economic development targets are most likely to be top of mind, with public stakeholders' satisfaction falling farther down the priority list. On the other hand, a responsibility for them to operate beyond pure profit-seeking, by including economic, social, and environmental concerns subsists (Carroll, 1991 in Lim & Pope, 2021; ElAlfy et al., 2020). Nonetheless, it could be imagined that public and

private companies' may display different forms and amounts of the above-mentioned resources, values and ways of operating. This, in turn, could be expected to influence the compliance with the measures aimed at the achievement of SDGs and, as outlined above, with the CO₂ Act as legal basis contributing to the achievement of Goal 3.1 within the SDS 2016-2019 and therefore to the national realization of SDG 13.

Nevertheless, despite an increasing body of literature seeking to make boundaries between public and private institutions (Perry & Rainey, 1988), a clear distinction of public and private organizations is yet to be developed (Fottler, 1981). Many academic studies have confirmed that public and private organizations vary in several significant respects (Rainey, 2009), at the same time, however, some scholars think that all organizations are alike in some major areas (Murray, 1975; Boyne, 2002).

Among the numerous works highlighting the variances between public and private actors, Rainey et al. (1976) cite several differences including for instance the degree of market exposure, legal constraints, political influences, coercion, public scrutiny, public expectations, complexity of objectives, authority relations, organizational performance, incentives and employee characteristics. According to Moe (1989 in Ritz & Thom, 2020, p. 51-52), four distinctive features characterize public organizations that do not manifest themselves in the same way in private organizations:

1. The governance of public organizations is the responsibility of public authorities.
2. The structure of public organizations is the result of a political rather than an economic or technical rationality.
3. Public organizations are constantly exposed to the uncertainty of political processes.
4. Public organizations reflect in their activities the need for political trade-offs.

Indeed, these last three points echo the consideration that while the social and political-legal system cannot be separated from private companies, the public context has a more direct and greater impact on public organizations. A further distinction can however be made when considering that, being more structured, the public organizational environment is more stable than the private one and this causes resistance to change; this, in turn, allows change pressures to build up and can eventually lead to changes of comparatively greater magnitude (Meier & O'Toole, 2011). On the other hand, due to their acquired capacities over time, private organizations are comparatively better at taking advantage of turbulent situations in the external environment, offering them opportunities for their future development.

The most obvious contextual difference between the two types of actors mentioned is furthermore whether services are provided under State control or in the free market. Being much less operative in the marketplace, and therefore less subjected to market failure, the performance of tasks in the public sector is coordinated mostly via political institutions and corresponding processes. As a result, public organizations are more likely to encounter the so-called public value failure (Bozeman, 2007), occurring whenever they fail in creating the values associated with the provision of the services desired by society in an effective and efficient manner (Jørgensen & Bozeman 2007).

The concept of public values according to Jørgensen and Bozeman (2007) includes a variety of norms, principles and morals which provide a strategic orientation on the desired goal of a public policy and which are subject to a social negotiation process. According to them, there are seven public value categories, each relating to specific value sets. Of greater relevance within the context of this paper, the one value category called "public sector contribution to society" includes the public value of *sustainability*, understood as the fulfillment of the expectations of future generations and therefore echoing the definition adopted within the Brundtland Report, considering "Sustainable development [...] as development that meets the needs of the present without compromising the ability of future generations to meet their own needs." (WCED, 1987, p. 43; ARE, 2012, p. 8). Public sector organizations are thereby specifically required to act in a way that is appropriate and in accordance with what future generations can expect for their own livable future under the same if not better conditions of today. Nevertheless, Bozeman (2007) recognizes that public values resulting from the provision of a variety of services are created both by private and public organizations, indicating the difficulty of clearly separating the two types of organizations without simply relying on their legal status.

By drawing and evaluating common organizational principles such as goals, products and services, resource ownership, organizational structure and design, leadership and management, decision making and organizational culture, Khan and Khandaker (2016) show that, notwithstanding some discrepancies, public and private organizations do share some similar characteristics: for example, while it is often believed that bureaucracy is the most prominent characteristic of public institutions, this trend is often adopted by many large private organizations as well. On the other hand, public organizations are correspondingly adopting private management methods and organizational elements. The authors therefore recommend that differences between public and private institutions be bridged by exchanging best practices from each other in order to meet greater developmental needs.

The distinctions between public and private institutions, therefore, do not mask the fact that there are many parallels. On the contrary, any operational-functional tasks, such as staff control or general administration, are not radically different and, as reported by Ritz and Thom (2020), in some cases disparities at the task level outnumber differences within sectors and variation within companies operating in a sector are larger than differences between sectors.

Public and private can be considered as two endpoints of a continuum, where the typical sector characteristics and organizational boundaries disappear depending on the extent of public and private character that an organization combines. This can be illustrated through Bozemann's (1987) publicness theory, which builds on the basic assumption that the publicness character of an organization is multi-dimensional and that an organization is public to the extent that it is influenced by political power and private to the extent that it is influenced by market forces: since all organizations are subject to this mix of government or private authority, the public nature of an organization could be considered as independent of its legal organizational status.

The exposure of differences and similarities between public and private sector organizations with which the final part of this chapter has dealt with, will particularly contribute to providing grounds for the formulation of the hypotheses of this study. For the proper functioning of society to be assured, however, policy makers' decisions have to be observed by both private and public organization sectors (Ritz & Thom, 2020).

Weaver's statement that a number of public policies, such as the currently in force CO₂ Act, "can only achieve their objectives if a broad array of ordinary citizens, corporations, or other actors "comply" with those policies, that is, behave in ways that are consistent with the enunciated objectives of the policy" (2014, p. 243) allows for the consideration of compliance as a useful proxy for determining the effectiveness of the policy itself and serves as a starting point to answer the previously outlined research question guiding this paper.

The next chapter will be devoted to the presentation of both the concept of compliance and the literature on it as well as to the espoused theoretical framework within the scope of this thesis. Other than the research background exposed in this second chapter – and more specifically the outlined differences and similarities among public and private organizations – the theoretical framework will then guide the formulation of the hypotheses.

3. Theoretical background

3.1 Compliance: a crucial element assuring the effectiveness of a regulation

The implementation of a public policy typically indicates the phase during which the previously decided and formulated organizational guidelines and measures are realized and take shape. As stated by Knöpfel et al (2011, p. 212 in Sager et al., 2017), the implementation process comes to a close when decisions and activities are produced that directly address the intended target group(s). Other than addressing the question of how public policy is implemented, there however exists a need to examine the specific implementation problems of the policy instruments used as well as their undesirable side effects (Jann and Wegrich, 2003, p. 91 in Sager et al., 2017). In case of regulatory instruments, for example, questions arise about how to deal with resistance and deviant behavior of a public policy's target groups. Thus, the question of compliance between desired and actual behavior of the addressees comes into focus as a further research interest related to the implementation phase.

Hopkins (1994, p. 432) describes compliance as "... the behavior of the regulated in conforming with relevant regulations". While certain policies ultimately aim at changing the behavior of a certain target group of people or organizations, others compel them to comply even though a legal duty is not required for compliance, rules are more likely to be created, substantial resources are more likely to be consecrated to monitoring and enforcement, and consequences are more likely to be serious when a legal obligation to comply subsists (Weaver, 2014). However, in a broader sense, compliance refers to a wide range of behavioral and attitude reactions that people and organizations have to regulations. Therefore, a comprehensive and multidimensional understanding of this concept can aid in illuminating the complexity of regulation implementation in order to meet policy objectives (Parker & Nielsen, 2017).

Not only the explanation and understanding of compliance depend on a vast number of concepts from several disciplines, but there additionally is a large and diverse literature on why people and companies comply or do not comply with public policies, presenting a mix of economic, normative, and social motives, as well as an understanding of and willingness to follow regulations (Weaver, 2014; May, 2004; Parker & Nielsen, 2017; Nielsen & Parker, 2012; Winter & May, 2001).

Compliant behavior may vary across different targets of regulations because of the various features, limits and heterogeneity that characterizes them (Hall, 1993). Some studies of regulatory compliance suggest a distinction between factors that enhance the ability to comply

and those that constrain it: whereas this ability is built up among regulatees who have greater knowledge of regulations and how to comply with them – as generally found among companies that have greater technical and financial capacity – this capability is constrained by increases in the costs of compliance or by communication gaps (Winter & May, 2001).

Among other factors that might influence compliance with a regulation, the commitment to the values behind it, the attitudes and perceptions of other actors under the same regulation as well as the competition between them – particularly with respect to resources such as information, skills, financial capacity, human capital and social networks – are further identified in the literature (Gunningham et al., 2003; Weaver, 2014).

Other than the specific compliance and enforcement regimes in place to guarantee desired conduct, the decision to comply is equally affected by the socially and politically decided constructs determining acceptable degrees of compliance, mostly reflecting societal beliefs: a compliance problem or policy failure is often difficult to define and may shift over time, both at the aggregate and individual level, as well as the boundary between adequate and inadequate levels of compliance (Schneider & Ingram, 1993; Lange, 1999; Weaver, 2014). Understanding compliance necessitates recognizing that actor characteristics (motivations, decision-making attributes and resources) can be influenced as well by formal and informal institutions, serving as means of socialization and interpretive processes. For example, changes in environmental ethics and norms at the societal level influence both the environmental conduct of enterprises and their environmental values and standards (Nielsen & Parker, 2012).

3.1.1 Focus on the companies' compliance with environmental regulations

The extent to which compliance with environmental regulations – such as the currently in force Swiss CO₂ Act – takes place varies greatly amongst organizations. Although many of them do just enough to fulfill legal requirements, others go above and beyond (Wu, 2009). Understanding the reasons and impediments to these behaviors can be critical in order to improve policy formulation, decrease breaches and encourage (over)compliance.

Placing special emphasis on the internal dynamics amongst company managers as individuals who hold various beliefs and values, McManus (2020) affirms that they will almost certainly weigh the costs and benefits of compliance and noncompliance to an environmental regulation in terms of profits and company image versus the risk of reputational damage in case of non-compliance. In other words, as the perceived danger and expense of breaches rise, so do corporate managers' investments in compliance (Thornton et al., 2005). As a matter of fact, managers are likely to face pressure from and loss of legitimacy in the eyes of various

stakeholder groups, including for example employees, shareholders, NGOs, regulators and the local community when they do not comply with environmental regulation (Vishwakarma et al., 2019). However, Vazquez-Brust & Plaza-Úbeda (2021) recognize that while pro-environmentalist approaches supported and spread by companies' managers are important determinants of their compliance with environmental regulation, because they consider it a moral duty for resource conservation and as beneficial in the long run, commitment to such types if regulation is as well dependent on contextual stimuli (of economic, political, and technical nature) that cannot be neglected. National and international environmental standard requirements are to be considered as drivers towards compliance with them, other than supply chain needs, technological availability, environmental capabilities, and community concerns (Vishwakarma et al., 2019; Danish & Ulucak, 2020). Companies that face intense competition may over-comply with environmental regulations in order to avoid future costs due to tougher policies on the same domain or in order to obtain a competitive advantage (Wu, 2009) or even improve economic and financial performance (Vazquez-Brust & Plaza-Úbeda, 2021). Thus, both internal and external limitations can have an impact on compliance with environmental regulation.

3.2 Theoretical framework: Parker and Nielsen's 14 compliance-questions

While Weaver (2014) emphasizes the multidimensional nature of compliance through the multiple barriers that individuals or companies face when complying with relevant regulations and asserts that failure to think comprehensively about those barriers can lead to both an inadequate understanding of compliance problems and poor policy design and implementation, Parker and Nielsen (2017) synthesize the lessons from many literatures into a comprehensive set of 14 compliance-questions, proposing a holistic model in order to understand how individuals' and organizations' everyday motivations and characteristics interact to influence their perceptions of their regulatory obligations, the enforcement thereof and, ultimately, their compliance with them as to help policymakers and researchers discover and comprehend the facets of this phenomenon in each given scenario.

Parker and Nielsen's (2017) 14 compliance-questions each refer to factors influencing compliance and are derived from an applied list elaborated together with the Dutch government in order to assist the latter in evaluating if new law can be implemented in such a way that it results in compliance (Law Enforcement Expertise Centre, 2004 in Parker and Nielsen, 2017). Having been employed by a government, these factors detain an important legitimacy and thus appear suitable within the scope of the present research as a measure for compliance with the

CO₂ Act. This research's purpose is in line with this framework's ambition of guiding the gathering of data on probable reasons why people or organizations do or do not comply with specific regulations, forecasting where there might be compliance difficulties in the future if new regulations are introduced, as well as assessing the impact of existing regulatory measures in the post-implementation phase (Parker & Nielsen, 2017). Leaning the theoretical framework that will be presented below is particularly appropriate since, as outlined above, a new stricter version of the CO₂ Act has been proposed (see section 2.5.1) and part of this research will also be devoted to the hypothetical adaptations that the companies considered, be they State-owned enterprises or private companies, would have had to undertake in case of acceptance of this revision (see subchapter 5.6).

While the first seven points are conceived by the authors as spontaneous compliance dimensions, encouraging individuals to comply even if no government assistance or monitoring, inspection or enforcement were in place, points 8 to 14 are referred to as enforced compliance dimensions and encompass government operations that impact compliance and noncompliance, such as compliance education and support efforts, as well as noncompliance deterrence actions (Parker and Nielsen, 2017).

A list of the determinants of compliance as encapsulated within the framework, followed by a brief description of each of them, will be presented in the following lines. An overview of the table resulting from each compliance dimension and corresponding questions can be seen in Appendix 3.

Economic, social and normative motives

1. Social and economic costs and benefits

The first point within Parker and Nielsen's theoretical framework (2017) asks the question of the costs and benefits of compliance for an actor to a regulation, both in economic and social terms. Compliance will be more likely when it does not detract from the firm or individual's objectives, yields more gains than losses and contributes to winning the acceptance of other firms, trade partners, employees, consumers, local communities, and the general public. This point is in a way related with the seventh regarding the capacity to comply: the latter is in fact influenced by a cost-benefit calculation, which determines if it is in the best interest of the target group to comply.

2. Degree of acceptance of the regulation in question

The second point asks the question of acceptance. Does the concerning actor agree with the policy objectives and principles and how they are being implemented? This refers to people's

normative intentions, or their adherence to obeying the law because in doing so they expose their normative perception of what it means to "do the right thing" (Parker & Nielsen, 2017, p. 223). Consequently, the greater the degree of acceptance of the regulation in question, the greater the compliance with it.

3. Respect for the law in general

The third point is a normative dimension. The question here lays in “whether the [...] firm is committed to obeying the law and respecting authority in general, regardless of whether they agree with the specific regulatory regime and obligation in question” (Parker and Nielsen, 2017, p. 224). Since they have a high level of confidence in the authority of the government and the law, some actors may comply with official authorities regardless of whether they agree with the particular regulation (Tyler, 2006).

4. Existence of non-official influence over the targeted group’s compliance

The fourth point addresses the question of the potential compliance’s facilities caused by non-official influences. For instance, the orbiting around of actors like NGOs, trading partners, customers or investors could potentially have an impact on the behavior of the actor which is expected to comply. In order to grasp this dimension of compliance of a firm, a thorough investigation into its social and business environment on a daily basis would be necessary.

Characteristics and capacities of members of the target population

5. Business model

The fifth point refers to the “business model” and represents the whole purpose of the organization. It namely “sums up what they are trying to achieve—that is, which motives or interests are most important to them and how they will try to achieve them; which stakeholders are important to them in terms of business dealings and reputation ... [and how they] relate to their social, economic and regulatory environment” (Parker & Nielsen, 2017, p. 225). As the authors state, compliance with specific regulations would be more likely when it is fundamental for a firm’s success or when the exercised activity leaves sufficient resources in order to comply. This is strongly linked with the seventh point theorized by the authors.

6. Knowledge of the rules

The sixth point addresses the question of the actor’s knowledge of the regulation. According to the authors, people who are unaware of the rules can inadvertently break them. In case the regulatory duties are evolving, actors might even lack the capacity to grasp them. These

considerations could explain lower compliance. On the other hand, actors do not really need to comprehend the rules in order to execute them: other actors can ensure that enforcement is built into everyday business or organizational procedures. Awareness of the rules may therefore interfere with social influence over the target population from other parties and contexts making compliance possible.

7. Capacity to comply

The seventh point stresses the core of the framework since it is linked with almost every other point: the capacity to comply. Does the actor possess the ability to comply? Or does he lack the financial, technical, temporal, managerial or educational necessities in order to decide to and to effectively comply? Ability to comply with the law can be impacted by general cognitive aptitude, social capital, and interpersonal relationship skills.

8. Respect for the regulator

The eighth point asks the question of the regulatee's respect for the regulator. The extent to which the regulated is aware of and values the regulator will affect how they interpret all other aspects of enforced compliance. Namely, regulatees are more likely to pay heed to advice and recommendations if they value the experience and qualifications of the regulator attempting to advise them. Plus, respect for the regulator will also have a bearing on how regulators view "the seriousness and effectiveness of monitoring and compliance efforts" (Parker and Nielsen, 2017, p. 227).

As Tyler (2006) highlights, actors who have a high level of confidence in the authority of the government and the law are more likely to comply with official authorities' decisions, without it being directly derived from the content of a specific regulation. "Involving the quality of treatment and quality of decision-making received by an authority" (Murphy, 2017, p. 46), procedural justice is a valuable proxy both for the third point outlined, namely the respect for the law in general, as well as the respect for the regulator. In particular, the author proposes four criteria in order to constitute procedurally just treatment: *respect* (in a restricted sense), *neutrality*, *trustworthiness* and *voice*. Along Murphy (2017), respect relates to whether authorities are respectful in their relations with a person, and whether they honor human rights under the legislation. On the other hand, neutrality requires for them to make decisions on the basis of consistently applied legal rules and principles and their trustworthiness is perceived by regulatees whenever the former show awareness and sensitivity to people's needs and concerns. Finally, people are as well pleased to feel that their voices about an issue are being heard by an

authority, before a decision is made in their case, leaving them “feeling that they have received procedural justice” (Murphy, 2017, p. 47).

The last dimension of compliance within Parker and Nielsen’s framework (2017) covers the many means allowing authorities to use enforcement in order to discourage noncompliance. They are the following:

Deterrence dimensions

- 9. Risk that any violations of the rules will be reported to the authorities**
- 10. Risk of inspection**
- 11. Risk of detection**
- 12. Selectivity of inspection and detection by the regulator**
- 13. Risk of sanction**
- 14. Severity of sanction**

These last six points are relatively self-explanatory. To directly quote Parker and Nielsen “deterrence theory proposes that people will be deterred from breaking the law when the legal penalty they would receive for an offence, multiplied by the likelihood of early detection and conviction, outweighs the gain” (2017, p. 227). In many cases, regulators are influenced by perceptions of deterrence rather than real risk of deterrence: social and normative incentives for compliance can be activated through enforcement by stigmatizing non-compliant individuals and reminding others that conformity is valued in society. On the other hand, enforcement that is not effective, ignored by the community, or looks superfluous may promote non-compliance.

3.2.1 Derived hypotheses

As mentioned above, both private and public actors – and, within the scope of this research, more specifically State-owned enterprises – have a role to play in the implementation of the Agenda 2030 (Barnes, 2019; Hajer et al. 2015; UN General Assembly, 2015). Applying Nielsen and Parker’s theoretical framework (2017) with regards to their compliance with the CO₂ Act allows for the formulation of the three following hypotheses:

1. Hypothesis (H1): *Economic, social and normative motives are more likely to determine the Swiss State-owned enterprises’ compliance with the CO₂ Act as opposed to selected private companies*

2. Hypothesis (H2): *Characteristics and capacities of Swiss State-owned enterprises are more likely to determine compliance with the CO₂ Act as opposed to those of the selected private companies*

3. Hypothesis (H3): *The deterrence dimensions will not have any effect on either Swiss State-owned enterprises or the selected private companies in their compliance with the CO₂ Act*

Each of these three formulated hypotheses refers to one of the above presented categories encapsulated in Parker and Nielsen's theoretical framework (2017) and were formulated as well on the basis of the findings presented in chapter 2. In what follows, they will be deepened and enriched with insights from the literature.

1. Hypothesis (H1): *Economic, social and normative motives are more likely to determine the Swiss State-owned enterprises' compliance with the CO₂ Act as opposed to selected private companies*

The determinants of compliance enclosed in the first category *Economic, social and normative motives* theorized by Parker and Nielsen (2017) include the above outlined social and economic costs and benefits, the degree of the acceptance of the regulation in question (represented in the context of this research by the currently in force CO₂ Act), the respect for the law in general and the existence of non-official influence over the targeted group's compliance.

The first point mentioned by Parker and Nielsen (2017) asks the question of the social and economic costs and benefits of compliance to a specific regulation, which are calculated in order to estimate the net result of the implementation. Bearing in mind the measures foreseen by the CO₂ Act as legal basis contributing to the achievement of SDG 13, it can be hypothesized that the calculation regarding the trade-off between social costs and benefits will equally determine the compliance of both the public organizations under consideration and private companies. The previously mentioned value category theorized by Bozeman (2007) called "public sector contribution to society" includes the public value of sustainability. Consequently, it can be hypothesized for its existence to provide a stronger incentive for the public organizations to comply to the foreseen measures, since it would allow them to operate in a way as to generate this specific public value, in accordance with their prerogatives, and therefore result in greater social approval and appreciation by the target public, namely the Swiss population. On the other hand, Corporate Social Responsibility (CSR) statements of private

organizations highlight their engagement as well in going above and beyond legal responsibilities to engage in voluntary forms of social involvement, demonstrating their commitment to society by pursuing courses of actions that are desirable in terms of objectives and values for the society itself (Bowen, 1953 in Ashrafi et al., 2018; Lim & Pope, 2021). As far as the calculation regarding the trade-off between economic costs and benefits is concerned, it could be hypothesized that the latter might equally be relevant for both types of organizations as well. Since private organizations are more market-oriented (Bozemann, 1987; Bozemann, 2000; Ritz & Thom, 2020) and face intense competition, they may over-comply with environmental regulations in order to avoid future costs due to tougher policies on the same domain or in order to obtain a competitive advantage (Wu, 2009) or even improve economic and financial performance (Vazquez-Brust & Plaza-Úbeda, 2021). On the other hand, as Sharma (2015 in Boros & Fogarassy) highlights, profit-making is not a primary motivation enhancing sustainability in public organizations: therefore, the economic calculation of costs and benefits related to compliance with the CO₂ Act might be of lesser importance, as the public sector has morally higher obligations for promoting and supporting sustainable development (Ball et al., 2014). As a result, compliance might be still observed, regardless of economic considerations.

The following two determinants of compliance within this first theorized category refer to normative intentions and perceptions and to its respect for the law and authority. Whereas the second point relates to the degree of acceptance of the regulation which the actor has to comply with, the third point encompasses the respect for the law in general: both provide further grounds for supporting H1 as it is formulated above.

As far as the second point is concerned, it could be assumed that both the State-owned enterprises and the private companies considered are likely to accept the CO₂ Act. This hypothesis can be formulated as a consequence of the companies' managers' "internalized" agreement with the social norms prevailing in countries recognizing the rule of law - among which Switzerland is a good example (FDFA, 2020) – which underpin many regulatory rules – like the presently considered CO₂ Act – and aim at avoiding disastrous consequences of human activities on the environment (Thornton et al; 2005; Vandenberg, 2003 in Thornton et al., 2005).

Regarding the third point, it is worth emphasizing that external restrictions imposed by the legislature, executive leadership, financial supervision and auditing companies, all the way to the judiciary, lead to a distinctive network of control mechanisms and legal conditions that restrict both the administrative and the public sector's action and, in some cases, prescribe it in

detail (Ritz & Thom, 2020). Due to their political and legal background and its influence, public organizations cannot be considered to be equal to a market-oriented organization: activities within public-sector organizations are banned as soon as there are no legal grounds justifying them. The lack of market forces and their corrective influence over the public sector is compensated for by political control and especially by the principle of legality of public action. This principle can be found under article 5 of the Swiss Constitution (RS 101), and in particular under its first paragraph stating that “The basis and constraint of state action is the law”. Whenever the state acts, it needs a legal basis for doing so: this condition restricts its field of action and its possibilities, but on the other hand it ensures higher levels of public acceptance. Within the scope of this first formulated hypothesis, therefore, it could be expected that due to higher consideration of the law could enhance the compliance of the public actors considered with regards to the measures deployed within the revised CO₂ Act.

Finally, the fourth point within the first category of determinants of compliance to a regulation theorized by Parker and Nielsen (2017) addresses the question of the potential compliance’s facilities due to non-official influences. For instance, the orbiting around of actors like NGOs, trading partners, customers or investors could potentially have an impact on the behavior of the actor which is expected to comply. As mentioned above, since public action is more strongly responsive to and delimited by the public interest than the private sector’s action, and that external stakeholders have strong demands for public institutions to behave fairly and correctly, it could be expected that their stronger impact on them could facilitate their compliance to the measures foreseen by the revised CO₂ Act. On the other hand, managers of private companies are as well likely to face pressure from and loss of legitimacy in the eyes of various stakeholder groups, including for example employees, shareholders, (environmental) NGOs, regulators, media and the local community when they do not comply with environmental regulation (Haque & Islam, 2017; Vishwakarma et al., 2019).

By balancing these four elements, the first of which can essentially be further divided into social and economic components, it is possible to ultimately formulate hypothesis H1 as reported above. While the social and economic costs and benefits and the existence of non-official influence over the targeted group’s compliance could equally determine compliance with the CO₂ Act for both types of companies considered, be they public or private, the decisive thrust for the formulation of H1 is given by and the respect for the law in general, potentially more decisive for compliance with the CO₂ Act by State-owned enterprises.

2. Hypothesis (H2): *Characteristics and capacities of Swiss State-owned enterprises are more likely to determine compliance with the CO₂ Act as opposed to those of the selected private companies*

The determinants of compliance enclosed in the second category *Characteristics and capacities of members of the target population* theorized by Parker and Nielsen (2017) include the business model, the knowledge of the rules, the capacity to comply and the respect for the regulator.

As exposed by Nielsen and Parker (2017), the first point of their second theorized category – the business model – refers to the purpose of the company, as well its most important goals and motives and how it wants to achieve them in terms of resource management. Compliance with a regulation is more likely both when it is fundamental for a company's success and when the business model is an efficient one in terms of resource management, in the sense that it leaves enough supplies for the company to comply with it. To paraphrase Parker and Nielsen (2017, p. 225), if the regulations that a company must endorse are not relevant to its business domain, it will tend to comply less with them than a company whose legal obligations directly impact it. As counterparts to the above-described State-owned enterprises (see subchapter 2.6), private companies operating in similar and broadly comparable business domains as them – including various logistics and postal services, Information and Communication Technologies (ICT) and transportation – will be at the center of this research (see section 4.1.3). Both types of companies considered have areas of activity that directly emit CO₂, in particular and among other things due to logistical transport. ICT-companies could be more concerned with energy efficiency in terms of sustainability than with direct greenhouse gas emissions; however, State-owned enterprises and private companies operating on similar domains can be expected to be more similar than different in their business models, which could similarly determine their compliance with the regulation under consideration.

The next point within this second category concerns the actor's knowledge of the regulation, which Winter and May (2001) also conceive as a driver of compliance. Both the awareness and the comprehension of the obligations sets out by the regulation and the presence of actors who can ensure that enforcement is built into everyday organizational procedures are crucial. Given that State-owned enterprises have ties with the Federal Council (as exposed in subchapter 2.6), it could be assumed for them to have actively participated in the shaping of the revised CO₂ Act itself and therefore possessing a better knowledge of the latter. On the other hand, the presence of competent *sustainability specialists* within private companies who have an elevated

knowledge of the currently in force CO₂ Act cannot be ruled out. Therefore, it could be expected for both State-owned enterprises and private companies under consideration to show similar knowledge of the latter, which in turn determines their compliance to it to the same extent.

The third point of the second category of determinants of compliance as theorized by Parker and Nielsen (2017) refers to the ability to comply, which is expected to be greater the higher the degree of financial, technical, temporal, managerial or educational resources at disposal of a company. These resources can in turn be expected to be present in greater quantities within larger companies, where subsequently good compliance frameworks and generally higher levels of compliance in practice subsist (Grabosky & Braithwaite, 1986; Parker & Gilad, 2011). According to both the number of employees – as the primary factor in measuring the size of a company (Nguyen & Bellehumeur, 1985; Savoye, 1994) – and the annual operating income in 2018² as a solid indicator of a company's financial capacity, State-owned enterprises are larger than the private companies selected as counterparts within the scope of this study (section 4.3.1 for further details concerning the selected private companies). The former can thus be expected to dispose of greater amounts of the above exposed resources: consequently, their capacity to comply with the CO₂ Act as theorized by Parker and Nielsen's compliance framework (2017) will be higher than the one of the smaller private companies under consideration.

The last point within this second category of determinants of compliance with a regulation, namely the respect for the regulator, refers to the degree to which the regulatee is aware of and values the regulator. As a democratically legitimized body, the Parliament – as the body that was in charge of processing and issuing the revised CO₂ Act – exercises ultimate supervision over public organizations and must take their special features into account (Höchner, 2020). It could be therefore hypothesized that, being more closely connected to it and its control, State-owned enterprises would more positively value the Parliament as a regulator and, consequently, be more likely to pay heed to its advice and recommendations and put more effort into the seriousness and effectiveness of monitoring and compliance efforts.

By balancing these four elements, it is possible to ultimately formulate hypothesis H2 as reported above. While compliance dimensions referring to the business model and the knowledge of the rules can be expected to similarly determine the compliance of both State-owned enterprises and private companies with the regulation under consideration, the dimensions relating to the capacity to comply and the respect for the regulator can, on the other

² Before the breakthrough of the COVID-19 pandemic and its socio-economic consequences

hand, expected to have greater weight in determining compliance with the CO₂ Act in the case of State-owned enterprises.

3. Hypothesis (H3): *The deterrence dimensions will not have any effect on either the Swiss State-owned enterprises or the selected private companies in their compliance with the CO₂ Act*

Parker and Nielsen (2017) highlight that “people will be deterred from breaking the law when the legal penalty they would receive for an offence, multiplied by the likelihood of early detection and conviction, outweighs the gain” (2017, p. 227). On the other hand, McManus (2020) emphasizes on the role of companies’ managers on weighing the costs and benefits of compliance and noncompliance to an environmental regulation in terms of profits and company image versus the risk of being discovered in case of non-compliance, the severity of sanctions and the risks of reputational harm. His findings are in line with the ascertainment of Thornton et al. that “the risk of informal social and economic sanctions ... [is] far more salient and threatening than the risk of legal penalties” (2005, p. 263) in determining companies’ compliance with regulations, and might equally explain companies’ concern for maintaining a good environmental reputation and even considering "overcompliance" with regulatory obligations as a good business strategy (Kagan et al; 2003).

High levels of compliance with regulations can thus occur even when the possibility of legal action looks unlikely - as mentioned above – because of the unfavorable social, political, and economic consequences that might result from breaches. In other words, it is recognized by many researchers that most companies' compliance can equally originate from a feeling of social or legal responsibility, rather than fear of inspections, sanctions or other legal repercussions (Thornton et al; 2005). Still, as reported above, the distinctive network of control mechanisms and legal conditions that restrict both the administrative and the public sector’s action (Ritz & Thom, 2020) further consolidates the unlikelihood of any breaches of the law by them.

Other than outlining policies or actions targeted at environmental sustainability as part of their annual Corporate Social Responsibility (CSR) statements (Melville, 2010 in Boros & Fogarassy, 2019), companies commonly use written codes of conduct within their CSR statements to create and promote responsible business practices as well as an ethical company culture and define the anticipated behavior of its employees (Erwin, 2011). Hence, codes of conduct can be seen as means of “controlling” employees’ activities and conduct via the promotion of ethical business practices, therefore avoiding breaches of the law.

As reported above, research has further shown that in democratic nations characterized by a strong rule of law history most company managers have "internalized" or agree with the social norms that underpin many regulatory rules, like the moral duty of not harming human life and not destroying the environment (Vandenberg, 2003 in Thornton et al; 2005). These findings are applicable to Switzerland, where its strong democratic tradition allows for the recognition of the rule of law along with respect for human rights (FDFA, 2020).

With such premises in mind, neither the risk that any violations of the rules will be reported to the authorities, nor the risks of inspection or detection and their selectivity by the regulator, nor the risk of sanction and its severity will play a role in determining the compliance with the CO₂ Act by the considered actors (and especially by the State-owned enterprises). On the contrary, H3 has been formulated bearing in mind that compliance will be exclusively determined by the espousing of responsible and ethical business practices, as exposed by codes of conduct (Erwin, 2011) as well as managers' internalized fear of a loss in reputation or because of their deeply rooted agreement with the social norms that underpin many regulatory rules, like the moral duty of not harming human life and not destroying the environment (Vandenberg, 2003 in Thornton et al; 2005). Finally, it is important to note that the CO₂ Act has entered into force more than 8 years ago: both State-owned enterprises and the selected private companies are therefore likely to have had time to anticipate the various negative consequences, which provides further grounds for H3 as it is formulated above.

4. Methodology and empirical proceedings

In order to answer the research question guiding this paper “*To what extent do Swiss State-owned enterprises and selected private companies differ in their compliance with the CO₂ Act as legal basis contributing to the achievement of SDG 13?*” a qualitative methodology has been adopted, which is part of a deeper comprehension logic and allows for a fuller understanding of a participant's experience by emphasizing his or her individual opinion (Van Campenhoudt and Quivy, 2017) and is therefore well suited both when aiming to understand the sense that individuals give to situation as well as capture the complexity of a phenomenon (Creswell, 2014). Among the available data collection instruments, semi-structured interviews were firstly opted for. In a second moment, specific contents available on the websites of the considered companies were also consulted as means of consolidating the data relating to a specific thematic area addressed within the scope of the study. In what follows, more details will be provided relating to the empirical proceedings.

4.1. Semi-structured interviews

Among the available data collection instruments, semi-structured interviews were firstly opted for as a valid means of gathering information that only the participant has (such as opinions, memories and perceptions), as well as grasping the meaning that the actors themselves give to their practices and to the events they are confronted with or their points of view in the presence of different issues (Van Campenhoudt & Quivy, 2017). The choice of this data collection method resonated with the argumentation of Nielsen and Parker (2017) according to which their theoretical framework is suitable for the development of a series of qualitative questions for at least two reasons: firstly, because it allows an evaluation of how the targets of a regulation themselves, or even a group of experts, understand and manage to comply with it and secondly because it can greatly contribute to identifying the barriers and possibilities that compliance with such a regulation implies.

Semi-structured interviews involve the preparation of a series of questions asked of each person in a systematic way, without excluding the possibility of exploring beyond the answers to predetermined questions (Lune & Berg, 2017). This method of data collection is characterized by direct contact between the researcher and the interviewee but is neither entirely open nor highly channeled (Van Campenhoudt & Quivy, 2017): through the asking of a series of relatively open-ended guiding questions, the aim was to receive information that is as true as

possible from the interviewee. Thus, the interviews allowed for the addressing of the desired themes while guaranteeing a margin of freedom for the participants and allowing them to express themselves on other aspects.

4.1.1 Interview guideline

The interview guideline was constructed on the basis of the elements that emerged and were presented in the introductory and background part of this research (see chapters 1 and 2) and, as mentioned just above, specifically on the basis of the 14 compliance questions framework developed by Nielson and Parker (2017) (see chapter 3). After the formulation of initial questions on the company's general background and its inclination towards SDG 13, the interview guideline was then continued as to include questions around the three blocks that the adopted theoretical framework presents: *economic, social and normative motives, characteristics and capacities of members of the target population* and *deterrence factors*.

Starting from the above exposed considerations of Tyler (2006) and Murphy (2017), Parker and Nielsen's (2017) information concerning compliance dimensions "respect for the law in general" (namely, the third point within the category "*Economic, social and normative motives*") and "respect for the regulator" (namely, the fourth point within the second category "*Characteristics and capacities of members of the target population*") has been obtained for both cases through questions relating to Murphy's definition and components of procedural justice (see block *Company's respect for the law and the regulator* in Appendix 4, and namely questions 10, 10.a, 10.b, 10.c and 11).

Finally, questions were also conceived at the end concerning the hypothetical changes that each company would have undertaken in the scenario under which the revised CO₂ Act had been accepted. These questions were incorporated as a means of expanding the discussion both around future possible compliance issues and necessary adaptations in case new obligations are introduced and around possible incentives to comply with the latter (see Appendix 4).

The more or less open-ended or precise questions in the interview guideline were not necessarily asked in the same order in which the blocks into which the 14 compliance questions are presented in the adopted theoretical framework. Furthermore, each block included a varied number of questions and this was the case because it was crucial to establish a genuine exchange during the interview, in which the interviewee could express his or her perceptions in the words he or she wished.

4.1.2 Setting of the semi-structured interviews

Although the semi-containment period has now – at the time of the conducting of the semi-structured interviews – passed, the data collection took place in the context of the COVID-19 pandemic. This did not exclude a priori the conduct of face-to-face interviews. However, due to the geographical distance and for matters of practicality and convenience, when contacting the interviewees, a proposition was made to conduct the various interviews via Zoom, a cloud-based teleconferencing platform where online meetings, group chat, and secure recording of sessions are available (Zoom Video Communications Inc., 2016). Each of the contacted people agreed, offering an appointment for the meeting or leaving it up to us to schedule it when it was most suitable. No one in the sample proposed alternative solutions; however, in one case, the prospective interviewee first requested a phone call to ascertain the purpose of the research and their suitability for the interview.

As with every interview format, Zoom has its advantages and disadvantages. Advantages include accessibility to participants, no need to travel to a certain location and increased flexibility for timing and length of the interviews. As further reported by Gray et al. (2020), it might be more comfortable for participants to speak about a topic in an environment of their own choice: on one hand, it makes the interview less intimidating than an in-person interview in an unknown place, on the other hand, unlike a telephone interview, participants still sense a personal connection with their interviewer. Assuming that a reliable Internet connection is assured, advantages of conducting interviews in the interviewer's own workspace also include rapid uploading of the interview to secure servers for transcription and secure data storage. Finally, Zoom enables the interviewer to notice the non-verbal communication of the interviewee.

Concerning the disadvantages, Gray et al. (2020) note that interviewing, uploading, or utilizing interview recordings may provide certain technical challenges. On the other hand, due to the growing adoption of social media, engaging in an online research interview does not appear as a drawback anymore (Pew Research Center, 2017 in Gray et al., 2020).

During the videoconference, interviewer and interviewee do not share the same physical space: therefore, researchers could miss out on opportunities to examine the participant's physical space and respond to their body language and emotional signals (Cater, 2011). While it is easy for the participant to pick their own space from where to conduct the interview, there may be distractions or privacy issues. In the case of the interviews conducted in the context of this study, such problems did not arise since all the participants found themselves in a private space where external distractions had an almost non-existent chance of manifesting.

4.1.3 Selection of the sample

The sample was decided in advance based on the above presented research question. The study focuses on three private and three public actors: while the latter are the State-owned enterprises Swisscom AG, Swiss Post AG and SBB AG, the selection of the companies of interest from the private sector was operated so as to provide counterparts for them. In order of correspondence, these are Sunrise UPC GmbH, DHL International GmbH, DPD group (from now on referred to as DPD, in relation to its Swiss branch DPD AG)³ and Planzer Transport AG. This choice was made both based on their operativity in Switzerland and their pairing based field of activity or business domain. While both Swisscom and Sunrise-UPC, operate within the ICT sector, the Swiss Post, DPD and DHL mainly operate into mails and parcels distribution. The Swiss Post, however, through its subsidiary PostFinance, is also active in national and international payment transactions. Finally, while the SBB mainly transports people, Planzer mainly transports merchandise. Nevertheless, the SBB also transports merchandise and both companies operate in the transport domain, one by railway, one by road. DPD and DHL are both international companies with a private section operating in Switzerland. These actors carry out logistical deliveries and DHL also accomplishes postal deliveries. In total, 3 public and 4 private companies have been considered within the scope of this thesis. DHL is however a nuanced case, since it can be considered a hybrid. Despite being part of a postal group that is attached to the German state, it operates internationally and in Switzerland as a private actor completely detached from it (and will be treated as such in this study).

By means of this selection, differences due to factors other than their public or private legal form could be reduced. However, factors such as the number of employees working for the just mentioned private companies and State-owned enterprises and consequently their size (Nguyen & Bellehumeur, 1985; Savoye, 1994), as well as their annual operating income – as indicative of their financial capacity – are equally important to consider, especially as they play a role in the formulation of the hypotheses guiding our research (see section 3.2.1). A table showing the figures for both the number of employees in 2018 at a 100% activity rate and the operating result in billions of Swiss francs for the same year can be seen in Appendix 5.

Given the present study focuses on a specific subject, upon which certain people within the respective companies possess a better knowledge of, either experts working in the field of corporate responsibility, and more specifically in the field of sustainability or environmental

³As will be explained below, initially only DHL was to be considered within this study. Because of the unavailability of one of the two people that had been planned to be interviewed, a valid alternative was found in the substitution of the latter with another person who works for DPD.

protection in relation to the company's activities, or people in charge of the company's external communications and highly competent regarding sustainability policies were selected. This choice was mainly backed by the advice of Parker and Nielsen (2017) who, as mentioned above, do not exclude that their framework can equally be used to ask questions to experts who are in charge of ensuring compliance with relevant regulations, and in this case the CO₂ Act.

A total of 11 interviews with people corresponding to the above-mentioned profiles and who responded to the call for evidence were carried out. The target sample size was initially set at twelve individuals in order to ensure the consideration of information and reflections of two people per company considered, as well as due to time and resource constraints. However, because of the unavailability of one of the two people that had to be interviewed for DHL, a valid alternative was found in the substitution of the latter with another person who works for DPD. And due to the fact that the second person working for Planzer who was to be interviewed had to cancel the interview for family reasons, it eventually resulted impossible to find a replacement within the company. This situation could have been remedied by the finding of a contact person working for another company, as in the case of DPD. Nevertheless, due to timing and organizational reasons, this scenario proved impossible to realize.

As mentioned just above, the decision to select two individuals from the same company but working in areas, albeit related, differing from one another, was made in order to add validity to the research and to reduce a potential subjectivity component. However, the risk that the responses obtained are likely to be highly similar cannot be ruled out, because even if the interviewed people worked in different units, they were still part of the same companies and could potentially have a similar knowledge and opinion regarding at least some of the addressed topics within the interview.

4.1.4 Access to the sample and organization of the interviews

Each contact with the actors targeted by the analysis was made via e-mail, since the addresses of the latter were directly available on the site of the respective companies. In some cases, the person's address was directly available, in others the general address in charge of media relations had to be contacted and a redirection towards the most suitable person followed, who would be the one replying to the questions within the interview guideline. Since two people for each company were needed, in some cases the email was sent to more than one person and, eventually, only those who responded first or who were available during the same time slot as one of the researchers were considered for conducting the interview. In other cases, it was the

first person contacted who provided us with the contact information of a colleague, with whom a Zoom meeting was scheduled thereafter scheduled.

The e-mail sent contained a brief introduction of the researchers as well as a description of the research, its goals and the profile of the participants sought (see Appendix 6). The content of the e-mail was then, broadly speaking, repeated to each actor at the beginning of each interview, with permission to record the interview and some clarifications regarding their anonymity as participants to this study (see section 4.2.1).

4.2 Data Analysis

4.2.1 Analysis of the interviews

The interviews, which lasted an average of forty-five minutes to one hour, were recorded with the approval of the participants and transcribed in full. As announced at the beginning of each interview, in order to assure the anonymity of the interviewees – as a right which should be granted within the scope of a study (Burns & Grove, 2005 in Whitning, 2008) –, letters were assigned to them. Apart from interviewees working for private companies DPD and DHL, which were respectively named F1 and G1, letters A, B, C, D and E were respectively assigned to people working for the Swiss Post, SBB, Swisscom, Sunrise-UPC and Planzer: for the two workers, the letter was respectively followed by the number 1 or 2 (for example, A1 and A2 were assigned to the two people working for the Swiss Post).

On the other hand, all the participants agreed that the company they work for could remain identifiable, since part of the information provided is also provided on their websites and therefore available to the public.

As little time as possible was allowed to elapse between the conduct of each interview and its transcription. Depending on the case, it was sometimes necessary, during the interviews, to encourage the interviewee to elaborate on what he or she was saying. However, the case in which the interviewee's words deviated from the purpose of the research never occurred. As the data collection progressed, it was already possible to observe the presence of analogies and differences in the accounts of the different interviewees depending on whether they worked within a public or private company.

Contrary to surveys by questionnaire, which call for a particular mode of investigation of the data, the method of analysis of the information collected through (semi-directed) interviews must be chosen (Van Campenhoudt & Quivy, 2017). Therefore, starting from the transcripts of the 12 semi-structured interviews, the decision to carry out the investigation thereof by using the *Framework Method* (Ritchie et al., 2003) was made, which is one of the analytic approaches

that can be adopted in order to do a qualitative content analysis. In spite of the fact that this method is becoming more and more popular in medical and health research, it has its roots in broad social policy studies and it provides a technique to look for similarities and contrasts extractable from the data as to form descriptive and/or explanatory conclusions centered around different themes (Gale et al., 2013).

The *Framework Method* calls for the creation of thematic tables for each topic addressed within the study's scope, where each column represents a sub-theme, and each line represents an interviewee. The cells of the resulting output matrix should contain summarized data exposed according to previously identified codes. This framework therefore creates a structure that allows the researcher to systematically lessen the number and entity of statements provided by participants, which in turn allows for a more precise addressing of the research questions (Ritchie et al., 2003).

In the case of this research, the structure of Parker and Nielsen's (2017) theoretical framework was predominantly followed. Five thematic tables were created: beyond the three of them that were centered around each key-theme of the adopted theoretical framework (economic, social and normative motives, characteristics and capacities of members of the target population and deterrence factors), the other two captured the inclination towards SDG 13 and the hypothetical companies' adaptations to the revised CO₂ Act. Although these last two tables are not strictly related to the formulated hypotheses, it was considered appropriate to elaborate them as they can be placed within the broader discourse regarding measures taken to combat climate change (as formulated by SDG 13) and, specifically regarding national adaptations in this direction, obstacles and future possibilities for evolution of the CO₂ Act and compliance with it.

All themes proper to each compliance-question were then considered within a given theoretical category - as exposed within Parker and Nielsen's (2017) theoretical framework - as sub-themes (respectively columns). Since the questions referring to each category were asked in a different order during our semi-guided interviews, they were again regrouped according to each sub-theme they address. On the other hand, the subcategories of the thematic tables that are not strictly derived from Parker and Nielsen's (2017) theoretical framework come from the questions that were developed in the interview guideline (see Appendix 7).

As specified in Appendix 7, in the *economic, social and normative motives* thematic table, however, it is possible to note that what in the theoretical framework was subcategory 1. *Social and economic costs and benefits* has been divided into two subcategories, respectively named *social and economic costs* and *social and economic benefits*. This splitting facilitated the work

of reporting the codes relevant to each of the two different dimensions which, when considered together, could be confusing.

The populating of the matrix's cells with information took place after the first two steps of transcription and familiarization with the conducted interviews. In order to do so, data were firstly coded. The coding step, as third step, refers to "applying a paraphrase or label (a 'code') that describes what ... [the researchers] have interpreted in the passage as important" (Gale et al., 2013, p. 4).

For the present study, each interview was read in depth to decide which part(s) of the tables were applicable and to assign responses to the corresponding cells. A deductive approach was favored for the coding of the interviews, since it was carried out according to a predefined framework and themes (Gale et al., 2013).

The fourth step within the *Framework Method* consists of developing a working analytical framework. In the present case, as already explained, the analytical framework was already at hand. The focus was therefore directed into the next step, consisting in applying the analytical framework "by indexing subsequent transcripts using the existing categories and codes" (Gale et al., 2013, p. 5) and then charting the data into the resulting matrix including insightful quotes.

The use of the *Framework Method* appeared appropriate because of its comprehensibility and the order in which the data is reported by means of its application. Since two people were working on this research, it seemed particularly suitable because it allowed the possibility to go back over the contents of the previous cells to make sure that all the relevant information had been summarized correctly, for example. In short, the management of the data was enormously facilitated as its matrix form provided an intuitively structured overview of them.

The last stage of the *Framework Method* consists in interpreting the data. In order to identify the similarities and discrepancies between the data coming from the eleven interviews, an inspection of each column for all the cases was equally carried out. As Gale et al. (2013) point out, it is possible, if the data are rich enough, to go beyond describing specific cases to explain, for example, how social actors react to a certain phenomenon (represented within the case of this research by the compliance to the CO₂ Act currently in force).

4.2 Analysis of specific contents of the companies' websites

As previously outlined (see subchapter 2.8), many companies now outline policies or actions targeted at environmental sustainability as part of their annual Corporate Social Responsibility (CSR) statements or in specific corporate sustainability reports (Melville, 2010 in Boros & Fogarassy, 2019; Riyadh et al., 2019), which are often to be found on their websites (Gulluscio

et al., 2020; Lim & Pope, 2021). Consequently, a content analysis of specific contents within the websites of the companies considered was carried out, as means to obtain further insights on the first thematic area of this study regarding their efforts towards the call for action against climate change, as advocated by SDG 13 but not forcefully needing to be reported in connection to the latter.

The need for this second content analysis, which took place somewhat in parallel and somewhat once the carrying out and analysis of the semi-directed interviews had been completed, resulted as means of providing further grounds to the statements made by the actors during the interviews that were carried out with them. Its relevance was equally supported and inspired by the answers of several actors during the semi-structured interviews conducted. Namely, without a specific question being asked, several actors reported the existence of additional information on their companies' websites, such as the above-mentioned CSR-Reports, sustainability reports or even just webpages, where their commitment to environmental protection or the steps taken to reduce climate change is indicated.

For the analysis of the selected website contents relevant to this research, the *Framework Method* was used as well. Although it is most suitable for the thematic analysis of semi-structured interview transcripts, it can in fact be adapted for other types of textual data, including documents and websites (Gale et al., 2013).

A thematic table was created and named "*Website's contents towards the call for action against climate change*" (see Appendix 8). It guided the collection of parts of the companies' websites and documents relating to the call for action against climate change. The columns in this table were created inductively. In particular, the table was constructed both on the basis of the theoretical considerations set out in subchapters 2.1 and 2.2 regarding SDG 13 and the interconnection of the SDGs with each other and, above all, on the basis of the considerations set out in subchapter 2.8. In parallel, an overview of the websites and their different pages was also crucial.

The next chapter will be dealing with the presentation of the results of this study. Further insights on the proceedings related to the content analysis reported within this subchapter will be exposed under subchapter 5.2, dealing with the State-owned enterprises' and the selected private companies' inclination towards SDG 13 and, more specifically, towards the call for actions to be taken against climate change and its impacts.

5. Results

5.1 Introductory remarks

The presentation of the results of this research will be laid out following its 5 key thematic areas, which have been previously outlined (see chapter 4). In other words, each subchapter will be devoted to one key thematic area of the study. While subchapter 5.2 and 5.6 present findings related to theme fields that are not directly linked to the theoretical framework and hypotheses formulated in chapter 3, subchapters 5.3 to 5.5 are on the contrary connected to the hypotheses guiding this research and will therefore deal with their testing as well.

As exposed in subchapter 4.3.1, in order to assure the promised anonymity of the people interviewed, letters were assigned to them. Apart from interviewees working for private companies DPD and DHL, which were respectively named F1 and G1, letters A, B, C, D and E were respectively assigned to people working for the Swiss Post, SBB, Swisscom, Sunrise-UPC and Planzer and for the two workers, the letter was respectively followed by the number 1 or 2 (for example, A1 and A2 are the two people working for the Swiss Post).

Every subchapter starts with findings relating to public companies - i.e., State-owned enterprises – and, in a second instance, exposes findings extracted from the semi-directed interviews relating to private companies. For the sake of structure and clarity, the results presented in subchapters 5.3, 5.4, and 5.5, will be displayed in the same order as the various compliance dimensions theorized by Parker and Nielsen (2017).

As exposed in section 4.1.1, the two compliance dimensions “respect for the law in general” (namely, the third point within the category “*Economic, social and normative motives*”) and “respect for the regulator” (namely, the fourth point within the second category “*Characteristics and capacities of members of the target population*”) have been both obtained through questions relating to Murphy’s definition and components of procedural justice (see questions 10, 10.a, 10.b, 10.c and 11 under the block *Company’s respect for the law and the regulator* in Appendix 4). Therefore, similar formulations are to be expected in the presentation of the results relating to these two dimensions of compliance.

The results exposed in subchapter 5.2 equally contain insights derived from specific contents responding to the call for action against climate change which were to be found through specific contents of companies’ websites. Finally, within subchapters directly related to one of the three hypotheses formulated, an answer to the hypothesis in question will be formulated as well.

5.2 Companies' inclination towards SDG 13

5.2.1 The case of State-owned enterprises

The Swiss Post

The propensity of the Post's towards SDG 13 appears prominent. Indeed, not only is SDG 13 central to the Swiss Post's actions, but it was mentioned during the semi-structured interviews that the company goes much further, applying "...measures that are naturally much more concrete than the SDGs." (A1, 2021). It was mentioned that other very concrete sustainability targets such as the Science Best Targets Initiative (SBTi) (Science Based Targets, n.d.), are endorsed by this State-owned enterprise, making it appear extremely ambitious and even tending to exceed the aspiration englobed within the SDGs in general, including SDG 13.

This tendency is confirmed by the analysis of its website, where its 2020 sustainability report (Swiss Post, 2021b) is available as part of its annual report and directly addresses sustainable development and the SDGs. Despite SDG 13 not being directly mentioned, SDGs 3, 7, 8, 9, 11 and 12 are explicitly addressed and are at least indirectly aimed at the reduction of CO₂ emissions targeted by SDG 13, thus showing the interconnectedness or the challenges addressed by Agenda 2030. The Swiss Post's Global Reporting Initiative (GRI) index (Swiss Post, 2021c) addresses SDG 13 in relation to GRI-Indicators 302-1 to 302-5, referring to energy consumption within and outside the organization, energy intensity, reduction of energy consumption and reduction of energy demand for products and services. On the other hand, GRI-Indicators 305-1 to 305-5 directly refer to SDG 13 as well: while 305-1 to 305-3 respectively refer to direct greenhouse gas emissions (Scope 1), indirect energy-related greenhouse gas emissions (Scope 2) and other indirect greenhouse gas emissions (Scope 3)⁴. Finally, GRI-Indicators 305-4 referring to greenhouse gas emissions intensity and 305-5 referring to the reduction of greenhouse gas emissions equally address SDG 13.

The Schweizerische Bundesbahnen SBB

Confronted with the same thematic, State-owned enterprise SBB goes very far in its inclination towards SDG 13 as well. According to the information gathered through the interviews with actors B1 and B2, this State-owned enterprise has set itself the goal of becoming climate neutral by 2030 and of at least halving its emissions by 2050. Therefore, it not only contributes to SDG 13 but it further goes further autonomously through its internal measures

⁴ Scopes serve as indicators and targets for greenhouse gas emissions for companies. Scope 1 concerns direct emissions from company facilities and vehicles. Scope 2 covers indirect emissions from purchased electricity, steam and heating and cooling. Scope 3 concerns emissions that occur in the value chain of the company, including both upstream and downstream emissions such as transportation and distribution, end-of-life treatment of sold products, business travel and capital goods (Plan A Academy, 2020).

(such as switching from diesel to electric power, relying mainly on hydraulic energy and replacing technical gas with natural gas for heating) and to be integrating other objectives such as the ones outlined by Scope 3 which the company has adopted.

In its website, the SBB's inclination towards SDG 13 can be perceived by its explicit mention of sustainable development and the presence of a tab devoted to it (SBB, 2021b). Although the SDGs are not explicitly mentioned, concrete themes concerning a climate-friendly future, environmentally friendly mobility, climate neutrality, a circular economy, sustainable energy, a second life for the actor's waste and logistics, predominantly hydroelectric energy use and solar development are directly considered.

The SBB's sustainability report for 2020 is structured according to GRI-standards. Unlike the Swiss Post, the different sustainability-related aspects considered are not explicitly linked to SDGs. Nevertheless, GRI-Indicators 302-1 to 302-5, referring to energy consumption within and outside the organization, energy intensity, reduction of energy consumption and reduction of energy demand for products and services are addressed within SBB's sustainability report (SBB, 2021a). GRI-Indicators 305-1 to 305-3, referring to Scopes 1-3 are addressed there as well, like GRI-Indicators 305-4 referring to greenhouse gas emissions intensity and 305-5 referring to the reduction of greenhouse gas emissions.

Swisscom

From the answers given by actors C1 and C2, it clearly appears that Swisscom's inclination towards SDG 13 is even stronger than it is the case for the Swiss Post and SBB.

According to the interviews conducted, Swisscom clearly exposes climate protection and the fight against climate change as one of the pillars of its Climate protection strategy and is active in this sense in two ways. Firstly, it aims at internally reducing its carbon footprint as much as possible, with regards to mobility, heating, energy use and efficiency and supply chain. Secondly, the interviews provide solid grounds for recognizing that Swisscom directly focuses on the sustainability of its own products, which results in a minor impact on the environment and has allowed the company to reduce the carbon footprint by half a million tons of CO₂. Like the actors operating for the other two State-owned enterprises, actors C1 and C2 provide detailed examples of the own internal measures that Swisscom undertakes towards sustainability. These go beyond the federal legislation and are provided for example by Scopes 1, 2, 3 and "4" (decreasing footprint). Swisscom equally aims at a total electrification of vehicles by 2030 (a half of which is aimed to be reached by 2025) and it no longer installs heating equipment running on fossil fuels.

On Swisscom's website, a page is devoted to sustainability (Swisscom, 2021c). The latter makes its inclination towards SDG 13 perceptible through the explicit mentioning of this goal, together with the objective to reduce greenhouse gas emissions. On the same page, SDGs 3, 4, 5, 7, 8, 9, 11 and 12 are as well given attention to and they contribute at least indirectly to the achievement of SDG 13 as well. Direct contributions to SDG 13 are instead outlined within its sustainability report (Swisscom, 2021b), in the framework of its Sustainability Strategy 2025. These include the expansion of the portfolio of sustainable services for CO₂ savings and efforts toward energy efficiency and climate protection. For both, the target is a reduction of CO₂ emissions by 500,000 tons by 2025.

The reporting on sustainability according to GRI-standards is adopted as well but, unlike the Swiss Post, the different sustainability-related aspects considered are not explicitly linked to SDGs. GRI-Indicators 302-1 to 302-5, referring to energy consumption within and outside the organization, energy intensity, reduction of energy consumption and reduction of energy demand for products and services are addressed within Swisscom's sustainability report (Swisscom, 2021b) and within Swisscom's climate report (Swisscom, 2021a). GRI-Indicators 305-1 to 305-3, referring to Scopes 1-3 are addressed on the same documents, as well as GRI-Indicators 305-4 referring to greenhouse gas emissions intensity and 305-5 referring to the reduction of greenhouse gas emissions.

5.2.2 The case of private companies

Sunrise-UPC

The inclination towards SDG13 of Sunrise-UPC goes very far, as it is a central point labelled as "very important for the company ... for ... [its] customers, stakeholders and for the shareholders of Liberty Global [which the company is a part of]" (D1, 2021). Through the analysis of the interviews, it is possible to grasp that its technologies are not only in line with sustainability objectives but, as sustainable technologies, they "also pioneer innovative solutions to reduce carbon emissions, use of pesticides ... [and] waste" (D1, 2021). In the same vein as the three State-owned enterprises, Sunrise-UPC is not only dedicated to reducing CO₂ emissions, but it even goes further than the federal legislation by directly integrating its own measures into organizational daily life - notably concerning energy efficiency. It aims at switching its electricity provision, so that it comes exclusively from renewable energy sources, and has been in discussion with the State since 2012-2013 with regards to this matter.

The website of Sunrise-UPC is at the time being composed by two different addresses, namely the one of UPC and the one of Sunrise. Within the latter, environmental, social and

governance (ESG) related topics are specifically addressed among which climate emissions, environment and climate strategy, climate & environmental targets (Sunrise, 2021). Explicit references to SDG 13, however, are missing. On the other hand, the UPC website refers to their commitment to the environment (UPC, 2021) and, in reference to sustainable development goals, the reference page is that of the parent company Liberty Goal (Liberty Goal, 2021) where its commitments to SDGs 9 and 12. The latter only partially cover SDG 13, which is however not explicitly mentioned. Despite this partial connection, the website equally outlines various ambitious and detailed climate plans. Concrete reductions of CO₂ emissions within the framework of Scopes 1, 2 and 3 are equally exposed as well.

Planzer

The analysis of the answers provided by actor E1 provides grounds for affirming that Planzer's inclination towards SDG 13 is not as much pronounced as it was the case for the public companies considered. It appears from the interviews that sustainability enjoys an important consideration, and that investments are made in renewable energy vehicles and in newly constructed buildings, where attention is paid to good insulation values and usually a PV system is installed. At the same time, Planzer's employees are informed of and sensitized to the importance of reducing energy consumption. However, SDG 13 is not directly used as a framework for sustainable development in the company.

On Planzer's website, a "sustainability" tab is available (Planzer, 2021a). However, it only describes the consumption of the electric and diesel trucks it uses, mentioning that sustainability is an important theme that goes hand in hand with the objective of reducing CO₂ emissions. To fill this gap, the website redirects to a sustainability report (Planzer, 2021b), which refers directly to the 17 SDGs as a whole and sets out visions for sustainability and for the reduction of GHG emissions. Going into detail about the sustainable elements of Planzer's *daily business*, this report makes up for the lack of information on its website. However, it is limited to being extremely factual and descriptive without precisely stating the changes, strategies and transformations that Planzer aims to carry out with regards to sustainable development.

DPD

DPD's inclination towards SDG 13, operationalized through the attention given to SDG 13 and the undertaken measures in relation to SDG 13, is not as much pronounced as it was the case for the public companies considered. Measures against CO₂ emissions are nevertheless being undertaken.

Actor F1 admits not having an organizational objective specifically addressing the SDGs. However, the reduction of CO₂ emissions is considered as an absolutely central objective. DPD

has committed to make its branches carbon neutral in 5 cities where it operates in Switzerland by 2025. Regarding concrete measures, it is electrifying its entire fleet of delivery vehicles, which has also been its strongest emission factor until today. In addition, its energy supply to the buildings is increasingly coming from renewable energies, in particular from solar energy in which DPD invests through the placing of PVs on the roofs of its new buildings.

On the website of DPD, a page is devoted to “environmental responsibility” (DPDgroup, 2021b). Neither SDG 13 nor the SDGs are directly mentioned. A consistent environmental approach is nevertheless discussed. In particular, the use of solar or hydroelectric power in all its depots is highlighted and a statement is made according to which shipment delivered is carbon neutral and at no additional cost to the consumer. The website in question further highlights that DPD Schweiz wants to halve its CO₂ emissions by 2025 and confirms that it plans to build a fully electric delivery vehicle, with which to eventually replace its entire fleet. A sustainability report of the company is available but only on an international scale and not referring to Switzerland (DPDgroup, 2021a). However, a section related to SDG commitments is present on the report. Attention is given to SDGs 8, 11, 13 and 17. With regards to SDG 13, the DPD group’s role on low carbon transition is highlighted as means of reaching the objectives prefixed by the Paris Agreement, and namely to avoid temperatures from rising over 1.5 degrees Celsius above preindustrial levels.

DHL

DHL’s inclination towards SDG 13 is fairly pronounced. However, no explicit reference to the goal per se is made in the interview. Actor G1 states that the reduction of CO₂ emissions plays a central role in the company and that, consequently, a package of measures called "green operations" has been implemented as an integral part of the company's strategy as means of reducing greenhouse gas emissions as much as possible. In the interview, Actor G1 directly admits that this is an important gap in the current situation, that they have a shortcoming and that they must remedy it. There are many energy standards in place and the current challenge is to make this consumption resulting in greenhouse gas emissions (light, heating, traffic etc.) as efficient and sustainable as possible. The intention is to electrify the fleet of delivery vehicles as quickly as possible and to invest massively in the purchase of electric vehicles, but this has not yet been achieved. For its imports and exports from Switzerland, DHL also uses air fleet and although it pollutes, it is intended to optimize the energy emission. The DHL-Group is currently thinking about the acquisition of electric aircraft, as stated by actor G1, which could be realized in the course of the next year.

On its website, DHL also sets out the theme of sustainability and summarizes its approach in three points: *clean operations for climate protection, a great company to work for and a highly trusted company* (ref. Instead of a sustainability report, a *sustainability roadmap* is available on its website, where its commitments to SDGs 4, 5, 8, 11, 13 and 17 are shown, together with sustainability milestones of the company (ref

5.3 The role of economic, social and normative motives with regards to the compliance with the CO₂ Act

This chapter will present the findings related to the determinants of compliance enclosed in the first category *Economic, social and normative motives* theorized by Parker and Nielsen (2017). This first category includes the economic and social costs and benefits [of compliance], the degree of the acceptance of the regulation in question, the respect for the law in general and the existence of non-official influence over the targeted group's compliance.

5.3.1 The case of State-owned enterprises

The Swiss Post

Through the analysis of the questions related to the first category of determinants of compliance as theorized by Parker and Nielsen (2017), it appears that economic, social and normative motives are strongly promising in determining compliance in the case of the Swiss Post. From the interviews conducted, apart from an economic investment in photovoltaic technology, which is calculated to be profitable, there would essentially be no economic or social costs involved in the correct compliance with the currently in force CO₂ Act. The interviewees predominantly see advantages, both in economic and social terms. This is both the case because funds have been specifically directed to this State-owned enterprise in order to contribute to the achievement of SDGs by 2030 and because, eventually, the application of sustainable measures is perceived as both an opportunity to save in e.g. energy costs and for the enterprise to be more competitive and improve the company's image and the working conditions of its employees.

As far as the degree of acceptance of the regulation is concerned, it appears that the Swiss Post essentially accepts the CO₂ Act. Indeed, it is mentioned by actor A1 that it has "... integrated these standards for a long time" and that "the objectives of the Post are much more ambitious", other than the fact that the Post "... has been on the road to these climate goals for 15 years...and that the Post has already gone much further" (A1, 2021) than what the current

CO₂ Act provides. According to actor A2, the only negative point reproached to the CO₂ Act is the timeframe within which the planned measures are to be implemented, which is "much too long" (A2, 2021). The current CO₂ Act is thus considered too unambitious by actors A1 and A2 since the State-owned enterprise they work for is already exceeding the measures foreseen by this regulation since several years.

Concerning the respect for the law in general, which it appears that the interviewees, otherwise aware of answering subjectively and conscious of the fact that the company belongs to the State, consider the Swiss authorities as being very respectful, even going so far as to consider them as a "large extended family" (A2, 2021). The Swiss authorities are considered to be very neutral and benevolent. Moreover, the interviewees have no example of a legislative sector where State-owned enterprise A would not find his voice heard, since it is systematically consulted, whenever it is of its own will, within areas of its interest. Finally, actor A1 relativizes the benevolent character of the Swiss Parliament by stating that while "authorities rather benevolent, at the Parliament there are probably 200 and more opinions...". On the other hand, A2 positively estimates it.

Whereas the stakeholders with whom the Post collaborates who would have an interest in an optimal application of the CO₂ Act consist of various private and public actors, including the federal government (DFA, DETEC) and for example startups or interest groups, no concrete examples are provided as far as those among them who would have an interest in its sub-optimal application of the CO₂ Act are mentioned.

The Swiss Federal Railways (Schweizerische Bundesbahnen, SBB)

In the case of SBB, economic, social and normative motives are very likely to determine its compliance with the CO₂ Act. From the interview conducted with actor B1, it appears that while no social costs are caused by the correct application of the currently in force CO₂ Act, economic costs essentially refer to the initial investments which

... may be higher. But in the life cycle, the costs for renewable energies and for energy efficiency are lower. So, in the end there are economic advantages: ... [SBB has] lower costs for the future and an economic advantage ... [can be derived from the fact] that climate issues are becoming more and more relevant for the customers ... (B1, 2021).

In other words, the introduction of these measures saves expenses in the long term. Social benefits, on the other hand are not directly addressed: actor B2, however, emphasizes the role

model that SBB as State-owned enterprise wants to be in the sustainability domain and therefore in the compliance with relevant environmental regulation as well.

On the other hand, actor B1 considers that the SBB displays a high degree of acceptance of the regulation considered and is aware that it may be a natural thing, since affirming that “as a State-owned enterprise ... [it] cannot be against federal law, that would be a problem.” (B1, 2021).

With regards to the respect of SBB for the law in general, B2 considers the Swiss authorities as being very respectful and this is also the case for actor B1, stating that it can be that they “disagree on issues, but logically it is a partnership” (2021). While B1 does not really see Swiss authorities as neutral, as they are “no judge” (2021), together with B2 they however agree on their trustworthiness. Both actors B1 and B2 further consider that the SBB’s voice is heard by the Swiss authorities in all the desired areas of concern during consultations that are part of the legislative process. Moreover, in case of problems, SBB can also try to “get an exemption” (B1, 2021). Both B1 and B2 positively estimate the Swiss Parliament.

Among the stakeholders with whom State-owned enterprise SBB collaborates who would have an interest in an optimal application of the CO₂ Act from its part, the Swiss State as well as its sustainability initiative “Vorbild Energie und Klima” (Swiss Confederation, 2021) to which SBB adheres are mentioned other than other State-owned companies, the Energieagentur der Wirtschaft (EnAW) and various environmental associations. Here again, it appears from the interviews that informal influences on a sub-optimal application of the CO₂ Act by the State-owned enterprise presently under consideration are non-existent.

Swisscom

Economic, social and normative motives are strongly favorable to determine compliance with the CO₂ Act in the case of State-owned enterprise Swisscom as well. From the interviews conducted with actors C1 and C2, it appears that the interviewees do not see any social costs or disadvantages for compliance with the currently in force CO₂ Act. As for the economic costs, these are again investment costs that should, however, be equalized in “...2-3 years” (C2, 2021), before making a profit and turning into a de facto economic advantage. Actor C2 states that Swisscom will benefit from the “Rückerstattungsfond” (C2, 2021) which results for specific companies in case of compliance with the CO₂ Act and C2 further adds that Swisscom “[has] always received relatively good amounts of CO₂ redistribution” (C1, 2021). Among the social benefits, C2 mentions that “it contributes to intrinsic motivation to work for a company that takes its responsibility seriously [in the sustainability domain]” (2021).

Both interviewees C1 and C2 display a high degree of acceptance of the CO₂ Act. Actor C1 however believes that „The existing law, which is still in force, is probably a little too unambitious to be able to achieve the goals” (2021). Actors C1 and C2, aware of the fact that Swisscom legally belongs to the State, consider the Swiss authorities to be very respectful towards Swisscom. Actor C2 (2021) recognizes however that „the Competition Commission [*Wettbewerbskommission*] is hypercritical of ... [them]”. When asked whether they find the swiss authorities neutral, C1 admits „we do not have the same opinion as the legislator in every dossier. ... Therefore, the application of the law does not appear neutral from ... [their] own perspective”. However, C2 states that authorities are neutral to the extent that they include various stakeholders in the consultation phase during a legislative process. Authorities are considered as benevolent by both C1 and C2.

Swisscom’s voice is systematically heard by the authorities, especially in case of topics where Swisscom is directly affected. Within a legislative process, when it comes to less important topics, Swisscom takes part in it not as such, but through business associations, ICT-associations and telecom associations, such as *economiesuisse* and *Swisscleantech*. This has been the case for the legislation considered within this paper, as actor C1 (2021) recognizes that many aspects of the CO₂ Act were "not so directly relevant for Swisscom in relation to other industries”. Actors C1 and C2 estimate the Swiss Parliament positively as well. Actor C2, in particular, particularly values the Parliament as an interlocutor and a mirror of the different social developments.

Among the stakeholders with whom Swisscom collaborates who would have an interest in an optimal application of the CO₂ Act from its part, the Swiss State is mentioned as well as other environmental NGOs and lobbies and even customers, who fully want to know “how much environmental risk or climate protection ambition they are buying into” (C1, 2021). On the other hand, no informal influences emerged as having an interest in its sub-optimal compliance with the CO₂ Act.

5.3.2 The case of private companies

Sunrise-UPC

In case UPC-Sunrise, economic, social and normative motives are strongly favorable to compliance with the currently in force CO₂ Act.

From the interview conducted with actors D1 and D2, it appears that there are no concrete economic or social disadvantages with regards to compliance with the CO₂ Act, since it contains

requirements comparable to "minimum standards " (D1, 2021). On the contrary, it is important for actor D1 that the law is well enforced: as a result of this correct enforcement, only economic and social benefits can result. The latter include energy saving, as stated by actor D2, which eventually translates into a financial advantage and a better image of the company.

Both actors accept the regulation under consideration. They further highlight that company D has been introducing similar and much more far-reaching measures for a long time already and that it is important to reach the goals of the Paris agreement. As D1 further states, Sunrise-UPC will do the necessary on its side " with or without revision of the CO₂ Act" (2021).

With regards to the dimension of the respect for the law in general, the Swiss authorities are viewed as respectful and very neutral regarding the application of sustainability-related regulations, such as the present one. The Swiss authorities are considered to be benevolent and the voice of Sunrise very well heard in the various legislative processes. Both D1 and D2 positively estimate the Swiss Parliament.

Concerning the stakeholders with whom Sunrise-UPC collaborates who would have an interest in an optimal application of the CO₂ Act, Swisscleantech and EnAW are mentioned. On the contrary, no actors with whom it collaborates exist who would have an interest in its sub-optimal application from the company's part.

Planzer

From the analysis of the interview conducted, it appears that actor E1 believes that the economic and social costs are substantial and will be integrated financially by the consumers. The interviewee E1 does not see direct benefits, neither economically nor socially to the compliance with the CO₂ Act. The interviewee believes however that sustainability has an emotional value to it, which can be a gain for the company's image. E1 also finds that good enforcement of the CO₂ Act can improve people's quality of life.

When asked about the degree of acceptance of the regulation under analysis, the objectives of the current CO₂ Act are regarded by E1 as being ambitious and high but still realistic, as long as the resources necessary for its realization are at disposal. The interviewee however insists on the fact that, according to federal statistics, "the CO₂ emissions caused by [Planzer] ... are around 6.5%, i.e. 4%, which are trucks [...] and 2.5% are motor vehicles" in contrast to the private transport, "which accounts for 23%" thereof (E1, 2021).

Concerning the respect for the law in general, E1 believes that the Swiss authorities are mostly respectful. Concerning the neutral application of a regulation, Actor E1 considers that it depends on the federal office and it sometimes happens that the political ideology has a margin of maneuver. The same is true for its estimation of benevolence, as well as for the perception

of having its voice heard in the legislative processes. The predictability of the Swiss political landscape and the Parliament, on the other hand, are valued.

Concerning the stakeholders with whom Planzer collaborates who would have an interest in an optimal application of the CO₂ Act, suppliers and customers are mentioned. No interests in a sub-optimal application of the CO₂ Act are mentioned.

DPD

In case of DPD, economic, social and normative motives strongly favorably determine its compliance with the CO₂ Act.

From the interviews conducted, it appears that the interviewee believes that the social costs are "...not very high..." (F1, 2021) and that the economic costs will not be very high either, as the implementation of the CO₂ Act does not require much change. Actor F1 identifies economic and social benefits as manifesting through better on-site working conditions and through returns on investments in renewable energy.

Concerning the degree of acceptance of the regulation, DPD is in line with the current CO₂ Act, considering that the adoption of the revised version of it in June 2021 would have been even better. Thus, actor F1 implies that it is easy to comply with the present law and that it would not have been difficult to comply with its revised version either.

As far as the respect for the law is concerned, Actor F1 does not consider itself competent to determine whether the Swiss authorities are respectful in relation to DPD since the interviewee admits having had "nothing to do with the FOEN or FEDRO so far" (2021). The belief is however expressed that authorities are mostly neutral in applying a regulation, despite the room for political interpretation left from time to time. Since not having been involved in any initiative, and only possibly intervening through lobbies, Actor F1 equally considers himself incompetent to determine whether DPD's voice is heard during the legislative processes. As it can be read from this extract concerning the Swiss Parliament "[DPD doesn't] have a negative opinion, so to speak, because we don't really have much to do with ... [it] either..." (F1, 2021). Therefore, a neutral feeling exists.

An interest in an optimal application of the CO₂ Act of DPD is supported by suppliers and customers, as well as cities where actor F operates and logistic partners. No collaborating actors are mentioned who would have an interest in DPD sub-optimally complying with the CO₂ Act.

DHL

The interview conducted with actor G1 provides grounds for affirming there are no concrete social or economic disadvantages deriving from compliance of DHL with the CO₂ Act. According to Actor G1, both the current CO₂ Act and its failed revision remain too unambitious

to bring quantifiable economic and social benefits. One advantage in the proper compliance with this legislation is the maintaining of a good and green image of the company.

DHL accepts the CO₂ Act and its various objectives and measures and, as far as the respect for the law in general is concerned, actor G1 considers the Swiss authorities as being respectful, since not having and never having heard of any negative examples and further rates them as "absolutely neutral" (G1, 2021). Their benevolent nature was not mentioned. In general, Actor G1 feels that the company's voice is heard during the various legislative processes; however, no concrete examples regarding experiences in this regard within the framework of sustainable development were provided, since never having been involved in any kind of legislative process or meetings. Actor G1 further states having no opinion about the Swiss Parliament, since it is not of concern to the company.

There isn't any stakeholder with whom DHL collaborates who would have an interest in an optimal application of the CO₂ Act in Switzerland. That is notably because of its international provenance and because it is more the case in its home country, where such relations subsist with German authorities. No actors among the ones which DHL collaborates are mentioned either who would have an interest in a sub-optimal application of the CO₂ Act by the company.

5.3.3 Answer to the first hypothesis (H1)

The first hypothesis formulated within the scope of our research, and to which this section will be devoted to giving an answer to, is the following:

1. Hypothesis (H1): *Economic, social and normative motives are more likely to determine the Swiss State-owned enterprises' compliance with the CO₂ Act as opposed to selected private companies*

Based on the results exposed in sections 5.3.1 and 5.3.2, the following remarks can be made by grouping the findings according to the companies' public or private character.

If on one hand actors working for State-owned enterprises generally only mention economic costs due to initial investments in green measures, on the other hand actors working for private companies equally mention low economic costs, from the actor working for Planzer who mentions the necessity to pass on additional costs to customers if necessary. As far as social costs and benefits are concerned, mostly benefits are estimated, by both types of companies.

Both State-owned enterprises and private companies show a very high degree of acceptance of the regulation and a high respect for the law in general, operationalized through the respect for the Swiss Parliament the above-mentioned elements of procedural justice (Murphy, 2017). As far as the existence of non-official influence is concerned, while State-owned enterprises mention official and non-official influence in favour of their compliance with the CO₂ Act, the private companies considered mainly mention official influence in favour of the CO₂ Act. Thus, although these factors are essentially positive for both state-owned actors and private actors regarding their compliance with the CO₂ Act, it appears that they are even stronger for State-owned enterprises than for the private companies under consideration. Therefore, the first hypothesis (H1) has to be confirmed.

5.4 Characteristics and capacities of State-owned enterprises and the selected private companies and compliance with the CO₂ Act

This chapter will present the findings related to the determinants of compliance enclosed in Parker and Nielsen (2017)'s second category *Characteristics and capacities of members of the target population*. The latter are represented within the scope of this study by both the three State-owned enterprises and the selected private companies. The mentioned determinants of compliance, instead, include the business model, the knowledge of the rules, the capacity to comply and the respect for the regulator.

5.4.1 The case of State-owned enterprises

The Swiss Post

The Swiss Post's business model consists of three main branches: a public transport service, a logistics service and a letter and parcel delivery service. Almost all its business plans and strategies are publicly available on its website. Because it has been for a long time already implementing measures that go far beyond the provisions of the CO₂ Act, by carrying out its activity, it has enough resources to comply with the currently in force CO₂-Act. Actor B2 further highlights the extent to which the company's sustainability strategy is "actually aligned with the three sectors analogous to the sustainability definition, people, environment economy" and crucial for its success as a "socially responsible employer" (A2, 2021).

While actor A2 knows the main points of the regulation, A1 further mentions details of it. The actual CO₂ Act is, as a whole, relevant for the Post, which goes a lot further in every one

of its levers for action (previously outlined in section 2.5.1). Both interviewees mention the energy efficiency of the various shipments as being of utmost importance.

The capacity to comply is high for the Swiss Post. In fact, it has and had all the resources (financial, technical, temporal, managerial and educational) necessary to do so. What is more, the Board of Directors as well as the Group Executive Board are mentioned as pushing for the implementation of sustainability, as actor A2 highlights.

Concerning the respect for the regulator, the same considerations apply as with the Swiss Post's respect for the law in general, outlined in section 5.3.1. Namely, the respect for the Parliament – considered as the regulator because of its role in the shaping of the CO₂ Act – is high on the part of the two actors operating for the Swiss Post, as it was for the Swiss authorities, regarded as a "large extended family" (A2, 2021).

The Swiss Federal Railways (Schweizerische Bundesbahnen, SBB)

The SBB is a railroad company and actually aims to connect Swiss regions, cities and people and to provide a good public service. Almost all its business plans and strategies are available on its website. Because it has already been implementing measures that go far beyond what the CO₂ Act provides, by carrying out its activity, it has enough resources to comply with this regulation as well. It also appears that the interviewees B1 and B2 know the main points and important details of the rules very well. The current CO₂ Act is, as a whole, is relevant for SBB with the exception of emissions trading. SBB is however also going a lot further in every dimension and even applying voluntary measures according to EnAW.

As informed by actors B1 and B2, SBB is fully capable of complying with the CO₂ Act. Like the Swiss Post, it had and has all the resources (financial, technical, temporal, managerial and educational) necessary to do so; as actor B1 points out, "that was no problem, it even saved money, because saving energy is saving money" (2021).

According to the two actors interviewed for SBB, Swiss authorities are very respectful in their interactions with them, and the company's voice is heard in all the desired areas. As it was the case for the Swiss Post, interviews conducted with people working for SBB equally provide grounds for affirming that their respect for the regulator is high. The same observations reported with regards to the respect for the law in general, outlined in section 5.3.1. apply.

Swisscom

As actor C1 puts it, the "core of [Swisscom's] business model is actually telecommunication networks or ICT networks, glass headers-based and also mobile networks and the required computing capacities" (2021). A lot of its business plans and strategies are publicly available on its website. Because it has and has been already implementing measures that go far beyond

what the CO₂ Act provides, by carrying out its activity enough resources are available to comply with this legislation.

Regarding the knowledge of the CO₂ Act, both actors C1 and C2 appear to know quite a lot about the CO₂ Act. They also stated having followed its revision closely and being happy to support it. However, C1 admits not believing “that the ICT sector has been specifically affected by the law, more [...] than the economy as a whole” (2021). C2 recognizes that the regulation is relevant for the company because of the existence of their resulting CO₂ agreement with the EnAW, allowing them to benefit from an exemption from the CO₂ levy subsists for Swisscom, which “is important, because it means that ... [Swisscom] get[s] money back from the CO₂ levy” (2021) which can be in turn used for environmental measures as well.

It further appears that Swisscom is fully capable of complying with the CO₂ Act. In fact, it has and had all the resources (financial, technical, temporal, managerial and educational) necessary to do so, like it was the case for the Swiss Post and SBB. As resumed by actor C1, “A large part of the efforts that the CO₂ law would now have included or still includes in the sustainability strategy are already in there and have already committed us to it and have already set up a plan” (2021).

Here again, concerning the respect for the regulator, the same observations reported with regards to Swisscom’s respect for the law in general outlined in section 5.3.1. apply.

5.4.2 The case of private companies

Sunrise-UPC

Sunrise-UPC, which is also an ICT company, makes almost all its business plans and strategies publicly available on its website. Because it has and had already implemented measures that go far beyond the provisions of the CO₂ Act, its daily business activities leave it with enough resources to comply with the regulation considered.

The two interviewees operating for Sunrise-UPC know the CO₂ Act in detail in a particularly thorough manner. They do not know it by heart but they know it in depth. They are also very clear about the different measures that concern Sunrise-UPC more directly.

Sunrise-UPC is fully capable of complying with the CO₂ Act. The necessary financial, technical, temporal, managerial and educational resources are at its disposal; as D1 states “there are no problems with the application of the law, and... there is also no need for significant additional measures or other changes” (2021). On the same line, D1 and D2 both highlight that compliance is not an issue with regards to resources.

Concerning the respect for the regulator, the same observations reported with regards to the company's respect for the law in general apply as outlined in section 5.3.2.

Planzer

Planzer is a logistic-road and shipping company. As an element of its business model, the optimization of the energy balance and investments in employees in the form of training and further education are highlighted by interviewee E1. The sustainability report available on its website also includes part of its business plan and strategy.

By carrying out its activity, the company seems to have enough resources to comply with the CO₂ Act. Actor E1 however states that financial resources must always be weighted up with the company's overall investments.

With respect to the knowledge of the rules, actor E1 seems to be familiar with the text of the CO₂ Act and in particular with the points directly concerning his company (i.e. duties and levies on fossil fuel).

As far as the capacity to comply per se is concerned, actor E1 states that "as long as the means are available, ... [Planzer] is able to comply with the law." since "it is ... [in Planzer's] culture ... to comply with the law and to fulfil the requirements with the technical aids" (2021). It is furthermore manifest that Planzer did initially not have all the resources necessary to comply with the CO₂ Act. Nevertheless, it was willing to take the necessary steps to do so.

Concerning the respect for the regulator, the same observations reported with regards to the company's respect for the law in general outlined in section 5.3.2. apply.

DPD

DPD is an international logistics and shipping company which, being initially focused on B2B, is becoming more and more B2C. However, business plans and strategies available on its website are mainly on an international scale and more specifically concern its motherland. By carrying out its activity,

Regarding the knowledge of the rules, the interviewee does not know the text in detail. The main measures, among others those concerning taxes e.g. on fuel and for different transport vehicles, are however mentioned since they directly concern the company.

By carrying out its activity, DPD seems to have enough resources to comply with this legislation. The only nuance given by actor F1 concerns the financial aspects, mentioned when stating that "in Switzerland... everyone wants sustainability, but no sender [...] wants to pay extra for it" (2021).

Here again, concerning the respect for the regulator, the same observations reported with regards to Swisscom's respect for the law in general outlined in section 5.3.2. apply.

DHL

DHL is an international logistics and shipping company as DPD and has its principal basis in Germany. Almost all its business plans and strategies publicly available on its website. When talking about its business model, Actor G1 highlights that sustainability is an important topic as well as CO₂ reduction and environmental protection. Sustainability, together with diversity and compliance, are further said to be the main themes of the company's vision.

By carrying out its activity, the company has enough resources in order to comply with the CO₂ Act, as “an internal mandate [exists in order] to drive these programs forward” (G1, 2021) since the company also has to report on its compliance.

As it was the case for actor F1, interviewee G1 declares not knowing the text in detail but recalls specific points directly concerning DHL.

It further appears that DHL is fully capable of complying with the CO₂ Act. In fact, it has and had all the resources (financial, technical, temporal, managerial and educational) necessary to do so. Plus, the changes which were necessary in order to comply with the law under consideration almost inexistent. Finally, concerning the respect for the regulator, the same observations reported with regards to Swisscom's respect for the law in general outlined in section 5.3.2. apply.

5.4.3 Answer to the second hypothesis (H2)

2. Hypothesis (H2): *Characteristics and capacities of Swiss State-owned enterprises are more likely to determine compliance with the CO₂ Act as opposed to those of the selected private companies*

Regrouping the findings exposed according to the public or private character of the companies considered, diverse considerations can be made, which will be exposed in what follows.

State-owned enterprises operate according to different business models (transports-logistic-post, railroad, and ICT) and make their business plans and strategies which publicly available, including their business plans and strategies. On the other hand, the selected private companies operate according to different business models as well (ICT, logistic and shipping), but their business plans and strategies are not always publicly available.

It can then be affirmed that actors working for the State-owned enterprises considered know the CO₂ Act in detail, as opposed to their private “counterparts” which only ‘generally’ know the rules it sets out, and especially as far as the company is directly concerned.

The Swiss Post, SBB and Swisscom are then also fully able to comply with the CO₂ Act and show a very high respect for the regulator. On the other hand, Sunrise-UPC, Planzer, DPD Schweiz and DHL are able to comply with the regulation considered and show a high respect for the regulator. Thus, although these factors are both essentially positive in determining the selected private actors' compliance with the currently in force CO₂ Act as legal basis contributing to the achievement of SDG 13, it appears that these same factors are even stronger determining compliance for the State-owned enterprises. Consequently, the second hypothesis (H2) is confirmed.

5.5 Deterrence dimensions' impact on the compliance with the CO₂ Act

5.5.1 The case of State-owned enterprises

The Swiss Post

In the case of the Swiss Post, it appears actor A1 mentions that a possible sanction for non-compliance with the CO₂ Act is a fine to be paid, thus having financial consequences. Actor A2 indulges in a similar reflection.

The Swiss Federal Railways (Schweizerische Bundesbahnen, SBB)

Concerning the SBB, both actors B1 and B2 highlight that non-compliance is not considered. Financial fines would be applied as sanctions in case of breach of the CO₂ Act. Actor B1 repeatedly points out that this is an extremely unlikely scenario and believes that "*SBB has no choice, it must be respected, that's all.*" (2021). Actor B1 also states not being aware of possible inspection procedures.

Swisscom

Actor C1 and C2 working for Swisscom both highlight the extent to which non-compliance would only be a hypothetical possibility. Actor C2 further states that „hypothetical consequences of non-compliance [are] potentially somewhat greater for ... [public] companies than for those that are purely private or have no public attention” (2021). Consequences for Swisscom could be a damage to its reputation. It equally emerged that Swisscom has to comply with the legislation even in case of non-agreement. And there is no area where this is not the case.

5.5.2 The case of private companies

Sunrise-UPC

For Sunrise-UPC, actor D1 mentions a fine as financial consequence of non-compliance. However, both actors D1 and D2 repeatedly point out that this is an extremely unlikely scenario.

Planzer

Actor E1 working for Planzer felt that even if a regulation was not in its best interest, Planzer would never violate the law and would at worst seek solutions with the various legislative partners. Thus, the company would comply in all cases.

DPD

Actor F1 mentioned that in case of non-compliance from DPD with the regulation under consideration there would most certainly be consequences. However, this hypothesis remains very unlikely.

DHL

Regarding DHL, actor G1 answered questions relating to this dimension in an extremely hypothetical manner, since it was not a matter of concern to DHL and that the company complied with all regulations in all cases.

5.5.3 Answer to the third hypothesis (H3)

3. Hypothesis (H3): *The deterrence dimensions will not have any effect on either Swiss State-owned enterprises or the selected private companies in their compliance with the CO₂ Act*

Compliance questions relating to the deterrence dimensions of compliance as theorized by Parker and Nielsen (2017) were mostly irrelevant. Indeed, the context in which the different actors interviewed operate, i.e. the Swiss economic environment seems to make a non-respect of public regulation implausible. Comparing Swiss State-owned enterprises and the selected private companies with regards to this third hypothesis allows for it to be confirmed: the results are in fact the same for every actor, who considers fines as direct (and hypothetical) consequences of non-compliance with the CO₂ Act. Generally speaking, non-compliance is not seen as an option.

5.6 Companies' hypothetical adaptations to the revised CO₂ Act

5.6.1 The case of State-owned enterprises

The Swiss Post

By the analysis of the answers provided by actors A1 and A2 to the questions aimed at grasping the company's position towards the revised CO₂ Act, the propensity of the Post's towards its acceptance appears prominent.

Firstly, regarding the knowledge and relevance of its content, actors A1 and A2 demonstrate a very thorough knowledge. For what's relevant, they quote the CO₂ tax exemption, the 12 centimes, the compensation obligation, the plane ticket tax, the repayments and the buildings' dispositions.

Secondly, regarding the costs and benefits of adopting the revised CO₂ Act, actor A1 states that it would not have been a big challenge because Swiss Post already has much more ambitious targets and financial means for these sustainability provisions. Actor A2 also states that the Swiss Post would have received a larger amount from the climate fund.

Regarding the hypothetical implementation of the revised CO₂ Act and the necessary changes, actor A1 sees only one difficulty consisting of more expenses. Actor A2 does not see this and believes that similar measures and strategies are already in place.

Regarding the chances of a new revision of the CO₂ Act along the same lines, actor A1 believes that this will certainly be the case and if it was not accepted last June it was because of miscommunication on its regard. Actor A1 is convinced that a better communication would have led to the acceptance of the revised CO₂ Act, if not the visible consequences of climate change, which will lead the Swiss population to adopt similar measures. Actor A2 also believes that the revised CO₂ Act was poorly timed and communicated, however the conviction stands that "We will get it" (A2, 2021).

Finally, and regarding the political influence of the Swiss Post, actor A1 believes that it can play a role as an example in sustainable development but that it cannot take part in the political game. Actor A2 believes that it is possible for Swiss Post to assert its interests insofar as it has connections in the Parliament, but this influence will only be achieved in the case of consultation procedures.

The Swiss Federal Railways (Schweizerische Bundesbahnen, SBB)

Confronted with the same thematic, State-owned enterprise SBB goes very far in its positive position regarding the revised CO₂ Act as well.

First of all, and concerning the knowledge and relevance of its content, actors B1 and B2 shows a thorough knowledge of it and mentions the climate fund as a measure concerning SBB. Concerning the costs and benefits of the adoption of the revised CO₂ Act, Actor B1 does not see any costs in particular as SBB's climate strategy has already anticipated the measures concerned. The same applies to the hypothetical implementation of the revised CO₂ Act in that SBB has already anticipated the various measures. The only difficulty estimated concerns the initial investments, the initial financing. Regarding the changes brought about by the adoption

of the revised CO₂ Act, the financial support for the night trains and other internal projects allowing the necessary changes to be made easily.

Regarding the chances of a similar revision proposal to the revised CO₂ Act, both actors B1 and B2 believe that for this to happen the draft needs to be reworked, especially regarding taxes on fossil fuels and taxes on airline tickets. Regarding SBB's potential political influence, Actor B1 believes that "... [SBB does not] have the permission, as a State-owned enterprise, to lobby for something that doesn't directly concern ... [its] central business." (B1, 2021).

Swisscom

From the answers given by actors C1 and C2, it clearly appears that Swisscom goes far as well in its positive position regarding the revised CO₂ Act.

Firstly, regarding the knowledge and relevance of its content, actor C1 considers knowing practically every paragraph. Concerning its relevance, actor C1 mentions the impact on mobility and actor C2 the possibilities of reimbursement via the CO₂ tax.

Regarding the costs and benefits of its adoption, actor C2 considers that there are no relevant costs, only benefits.

Regarding its hypothetical implementation, actor C1 states that a package of measures is already part of Swisscom's climate protection strategy and that this would only be a confirmation. Regarding the changes brought about by the adoption of the revised CO₂ Act, actor C1 believes that there would not have been any major changes in that Swisscom, in its core business, is very largely electrified. Actor C2 believes that acceptance of the revised CO₂ Act would have led to greater legal certainty and better general framework conditions for companies regarding sustainability. Actor 2 also believes that Swisscom would have further reduced its CO₂ emissions.

Regarding the chances of introducing a measure similar to the revised CO₂ Act, Actor C1 believes that it is very likely and even necessary to achieve long-term climate protection goals. However, Actor C1 notes that the text needs to be reworked to aim for a higher probability of popular acceptance. Actor C2 makes a similar point and believes that the elements on fuel taxes and airline tickets should be discarded. However, measures on oil and gas taxes for heating and the related exception rules should remain.

With regard to political influence, actors C1 and C2 believe that these could be indirectly influenced by Swisscom's membership of various interest groups and lobbies.

5.6.2 The case of private companies

Sunrise-UPC

Sunrise-UPC shows a relatively favourable position towards a hypothetical adoption of the revised CO₂ Act.

With regards to the knowledge and relevance of its content, actors D1 and D2 show a good general knowledge. Concerning the relevance for Sunrise-UPC, actor D1 considers it to be moderate. Actor D2 makes a similar point, explaining that the text focuses on CO₂ reduction, whereas regarding sustainability, Sunrise-UPC is more concerned with efficiency and use.

Regarding the costs and benefits of adopting the CO₂ Act, actor D1 mentions the climate fund and the fuel issue as positive points. Actor D2 mentions the refund mechanism as a positive point and the tax on airline tickets as a negative element.

Regarding the hypothetical implementation of the CO₂ Act, both actors feel that they did not really anticipate it because, as mentioned above, it is not so much the CO₂ emissions that concern them fundamentally, but the relatively marginal importance accorded to energy use within the text.

As for the changes brought about by the hypothetical adoption of the CO₂ Act, according to actor D1 there would not have been any direct ones, for the reasons already mentioned. Regarding the chances of a similar proposal in the future, actor D1 believes that it is most likely, especially due to the respect of the Paris agreements, and that the question is not whether there will be a new proposal but what it will look like. Actor D1 thinks that the reimbursement mechanism is too complicated and should be changed. Actor D2 gave similar points and also felt that the text should be reworked.

Regarding potential political influence, actor D1 believes that Sunrise-UPC can do this as an example through the internal measures it incorporates that go beyond the measures of federal environmental legislation. Actor D2 believes that Sunrise-UPC can do so in part through the lobbies of which it is a part.

Planzer

Planzer shows a relatively unfavourable position towards a hypothetical adoption of the revised CO₂ Act.

Firstly, Actor E1 broadly knows its content. Secondly, and concerning its relevance for Planzer, the increase in fuel costs is noted.

The costs and benefits of the hypothetical adoption of the revised CO₂ Act have, according to actor E1, not been thoroughly checked, since Planzer predicted the popular rejection of the text. The same applies to the changes brought about by the adoption of the revised CO₂ Act, since actor E1 believes that the interdependence between different business areas within Planzer would create some challenges.

Regarding the chances of a proposal similar to the revised CO₂ Act, actor E1 believes that "In the current situation, Swiss citizens have other priorities" (2021) and that it is therefore highly unlikely. The question about political influence couldn't be answered.

DPD

DPD shows a relatively favourable position towards a hypothetical adoption of the revised CO₂ Act.

First of all, concerning the knowledge and relevance of its content, actor F1 shows targeted knowledge of the text, particularly concerning the elements dealing with fuel, which is the most important element for DPD.

Concerning the costs and benefits of the adoption of the revised CO₂ Act, actor F1 foresees higher costs due to fuel, while stating that E-Vans will be twice as expensive Diesel-Vans.

Regarding the hypothetical implementation of the revised CO₂ Act, the perceived challenges concern the financial costs on diesel and on the planning of the transformation of the DPD fleet.

The changes induced by the adoption of the revised CO₂ Act were not clearly mentioned by the interviewee.

As far as the chances of a new proposal similar to the revised CO₂ Act, actor F1 believes that this will certainly be the case for some parts of the text but that others will have to be reworked.

Regarding political influence, actor F1 stated that DPD-Schweiz remains very politically neutral but can show the direction by its behaviour.

DHL

DHL shows a favourable position towards a hypothetical adoption of the revised CO₂ Act. Firstly, actor G1 shows a general knowledge of the text, especially concerning the different taxes and measures concerning buildings.

What is relevant for DHL, according to actor G1, is in particular everything related to buildings, fuel and business travel in relation to taxes on air tickets. Actor G1 sees the costs and benefits of adopting the CO₂ Act as a financial challenge, which is the only obstacle for DHL.

Regarding the hypothetical implementation, actor G1 does not see any concrete problems. On the other hand, Regarding the changes brought about by the adoption of the revised CO₂ Act, actor G1 does not see any major changes apart from financial ones.

Regarding the chances of a proposal similar to the revised CO₂ Act, actor G1 has no particular opinion. And political influence of DHL towards its acceptance in society is not seen.

6. Discussion of the results

6.1 Focus on social, economic and normative motives for compliance

The above outlined confirmation of H1, namely that the economic, social and normative motives resulted as more likely to determine the State-owned enterprises' compliance with the CO₂ Act, confirms theoretical insights according to which greater technical and financial capacity as well as commitment to the values behind a regulation enhance compliance (Haines 1993; Braithwaite, 2009; Gunningham et al., 2003; Weaver, 2014) as well as the importance of the public sector in the creation of the value of sustainability within the value category theorized by Bozeman (2007) called "public sector contribution to society".

According to Ritz & Thom (2020), since public actors act a lot nearer to the State environment than private actors, they are more likely to be influenced by the State. Thus, they are more likely to comply with State regulation as it is in the State interest, as the State formulated the regulation. This assumption is confirmed as State-owned actors show a high degree of respect for the law and for the regulator in the interviews. The results highlight the extent to which State-owned enterprises see economic and social benefits in the correct application of the CO₂ Act, that they deeply accept the regulation as a whole, that they have a high degree of respect for the law in general, and that they have influences in their close circle that favor an optimal application of the regulation. These factors also lead to a positive balance in favor of compliance with the CO₂ Act among private actors, albeit in a relatively atrophied form.

6.2 Focus on the role of companies' characteristics and capacities on their compliance

Second, H2 is validated as well since in that the characteristics and capabilities are more likely to enhance the State-owned enterprises' ability to comply with the CO₂ Act. It appears, like the results for H1, that both State-enterprises and private companies under consideration have characteristics and capacities that positively favour compliance with the CO₂ Act. However, State-owned actors are even more likely to comply than private actors. Indeed, business models, publicity of business plans and strategies, knowledge of the CO₂ Act, intrinsic ability to comply and respect for the regulator are significantly higher among State-owned enterprises. Sustainability's profound public nature may have been underestimated. Once again and still along Ritz & Thom (2020), as State-owned actors show a higher degree of respect for the regulator, they are more likely to comply with the regulation. These results confirm the fact that greater knowledge of regulations enhance the ability to comply (Winter & May, 2001), as

State-owned actors show better knowledge of the CO₂ Act's details. Finally, the difference noted in in one or the theoretical justifications apported to H2 (see section 3.2.1) appears to influence the result. Indeed, the size of the actors and the resources they have at their disposal considerably influence their compliance with regulations. It turns out that State-owned enterprises are larger in size and have more resources at their disposal and are more trusted by the State than private actors, theoretically putting them in a more favourable position to comply, along with the findings of Grabosky and Braithwaite (1986) and Parker & Gilad (2011).

6.3 Focus on the deterrence dimensions of compliance

Third, hypothesis 3 is validated in that the deterrence aspects have equally no effects for both State-owned and private actors. However, this assertion must be qualified by the fact that, from all the interviews conducted, it appears that deterrence questions are irrelevant. Indeed, for all the actors interviewed, the possibility of non-compliance with the CO₂ Act seems improbable, even fanciful, and none of the interviewees was in fact able to anticipate this possibility in concrete terms, as it seemed so unlikely to them. Thus, despite the validation of this third hypothesis, it is worth emphasizing that its content is in itself of little relevance to the proper compliance with the CO₂ Act in Switzerland. This finding goes along with the previously outlined consideration that compliance can equally originate from a feeling of social or legal responsibility, rather than fear of inspections, sanctions or other legal repercussions (Thornton et al; 2005).

6.4 Further discussion

In a parallel time, the inclination of the companies for which the interviewed actors worked for towards SDG 13 was equally investigated. The usefulness the latter lays in the possibility to show the propensity of the different actors towards sustainable development and the fight against climate change in particular. It appears that, as with the results of hypotheses 1 and 2, both State-owned enterprises and private companies are relatively far along in this inclination, with the first situating even further. Among the private actors, Sunrise-UPC stands out in this inclination and even goes in a similar direction as the State-owned enterprises by showing a higher propensity for compliance, both in terms of the economic, social and normative motives and in terms of characteristics and capabilities. A potential explanation could be that, as communicated directly in the interviews, Sunrise-UPC is largely more concerned with sustainability through energy use and efficiency. Another explanation could reside in its

economic size, which places it on the same level as its State-owned competitors. Thus, despite its independence from the public authorities, Sunrise-UPC has substantial resources, even more substantial than the other private actors interviewed, which may enable it to "catch up" with State-owned enterprises in terms of compliance with environmental regulations, or at least with the CO₂ Act. The resources at disposal might as well result from the fusion of Sunrise with UPC.

At the end of the interviews conducted, the propensity of the different companies to hypothetically comply with the revised CO₂ Act, had it been adopted, is also assessed. As this element is not part of the exposed hypotheses and theoretical framework, it nevertheless seems interesting to highlight the potential differences between State-owned enterprises and private companies in this regard. Indeed, as this revision goes further in terms of CO₂ emissions reduction, and is less soft than the current version, the contrasts could be more marked. Indeed, it appears that state-owned enterprises show a more favourable position to the adoption of the revised CO₂ Act than private companies - with Sunrise-UPC once again in the middle - on all the points discussed: knowledge and relevance of its content, cost and benefits of its adoption, hypothetical implementation of it, changes induced by its adoption, chances of its renewed proposal and political influence of the company in relation to it. Thus, it appears on this point that state-owned companies would have been far more likely to comply with the revised CO₂ Act than private actors, in sharp contrast to the current CO₂ Act.

From the results of the interviews conducted, it appears that both state-owned enterprises and private companies are able to comply with the CO₂ Act. Although both are in a positive compliance position, State-owned enterprises are ahead of private companies in terms of perceived ease of compliance. This is the case for the social, economic and normative motives for compliance and for the characteristics and capabilities of companies on their compliance, with the deterrence dimensions remaining irrelevant for both State-owned enterprises and private companies. The intermediate case of Sunrise-UPC can be justified on the basis of the resources available to it, having recently been at the centre of the merge of two major ICT players.

The results obtained in this study are not generalizable beyond Switzerland's borders, as they depend on the legal, social, economic and cultural context in which the companies under consideration evolve. Moreover, the legal model of State-owned enterprises is not necessarily the same abroad, which makes an additional difference. Again, the perception of sustainability issues can vary considerably from one country to another and even from one region to another. However, it remains possible to estimate that both State-owned companies

and private companies in Switzerland are capable of contributing to sustainable development, to the 2030 agenda of Switzerland and more generally to the SDGs. Indeed, despite the nuances observed, both State-owned enterprises and private companies considered demonstrated a willingness to achieve a more sustainable environment and mentioned numerous internal corporate practices that have been taken autonomously in this direction. Thus, economic actors, whether private, public or even State, are essential to the achievement of sustainable development objectives.

7. Limitations of the study

The initial idea for constructing the research background and justifying the hypotheses exposed was to report on differences of compliance directly due to the public or private legal character of the companies considered. This however proved to be a difficult endeavor due to the encountered difficulties in obtaining literature regarding this specific topic. Consequently, in order to justify the hypotheses formulated, considerations were mostly derived from the literature exposing similarities and differences among public and private actors, which proved to be a valuable proxy that could be justified by the research's background idea that both public and private actors are internationally implied in the achievement of Agenda 2030 and nationally addressed by the CO₂ Act as legal basis adopted as means of contributing to the realization of SDG 13.

Having adopted the theoretical compliance framework proposed by Parker and Nielsen (2017), the hypotheses guiding the response to the research question of this paper corresponded each to one broad category into which the 14 compliance questions are divided. The three hypotheses included multiple dimensions. Consequently, for every one of those dimensions, a sub-hypothesis was made. The resulting hypothesis followed the predominant direction of the sub-hypotheses made; however, a different logic could have also been followed, putting more emphasis on either one or another component for each category. H3 is the exception: it refers to the third category of deterrence dimensions (Parker & Nielsen, 2017) and was conceived as a whole and not the result of more considerations relating to the category's components.

As Parker and Nielsen mention (2017), the 14 formulated compliance-questions are adequate for conducting interviews with either experts or targets of regulations to ascertain how they comprehend and deal with compliance to them, wherever an adequate and sufficiently diverse sample is used. Within the present study the sample selected consisted of eleven people in total, which were in charge of sustainability or environmental concerns either for the three State-owned enterprises (Swiss Post, SBB and Swisscom) or the four private companies working in Switzerland within similar domains as the former. Whilst the results can be generalized as far as the three State-owned enterprises are concerned, since they are the main only three, the same cannot be said for private companies considered. The responses obtained from individuals working for the private companies considered may therefore not be representative of all companies operating in their respective domains.

The choice to conduct interviews with managers of the companies considered has been made given their role and importance in compliance-related topics within a company (see for example

McManus, 2020; Vazquez-Brust & Plaza-Úbeda, 2021) and therefore alleged specific knowledge of both regulatory requirements⁵ and organizational measures undertaken as to meet the latter. Another reason was their role as major impetus for the adoption of (environmental) sustainability projects within organizations (Bakos et al., 2020; Gelderman et al., 2017). On the other hand, other than the necessity to consider their statements as always being related to the unique relationship between him/her and the researcher (Van Campenhoudt & Quivy, 2017), a subjectivity component within the answers they provided cannot be overlooked.

As a matter of fact, just like regulatory compliance does not occur in a vacuum (Nielsen & Parker, 2012), neither does the conduction of empirical research. In particular, the bias of social desirability, referring to “the tendency to present oneself and one’s social context in a way that is perceived to be socially acceptable, but not wholly reflective of one’s reality” (Bergen & Labonté, 2020, p.1) is not to be underestimated “because it can lead to overestimation of the positive and diminished heterogeneity in responses” (p.2). In order to reduce the bias of subjectivity, as anticipated in section 4.1.3, two managers per company were interviewed. On the other hand, the responses were very similar to each other. This could be due, in addition to the social desirability bias just mentioned, to the fact that they work in the same environment and therefore probably possess similar information and are permeated by the same organizational culture.

Despite having interviewed managers of the selected public and private companies, the interview guideline adopted for this research did not contain any questions resuming the managers’ role in assuring compliance with a regulation. This is due to the fact that the mentioned guideline has been developed on the basis of Parker and Nielsen’s theoretical framework (2017) and could be considered as a limitation since it did not explicitly foresee the manager’s role as having an influence in compliance. However, when referring to social costs and benefits of compliance, as theorized within the first category of compliance dimensions of Parker and Nielsen (2017) and therefore addressed in the interview guideline of this study, some interviewees indirectly mentioned the importance of CEOs in guiding the organization towards the respect of green regulations and therefore towards sustainability.

Analytically speaking, a broader limitation could be represented by the above discussed and previously hypothetically anticipated irrelevance of the deterrence dimensions of compliance

⁵ As far as the knowledge of the regulation (CO2 Act) is concerned, the researchers’ idea was initially to equally carry out interviews with experts, and namely people working for the FOEN, for example, as to ascertain the role of the selected companies in the shaping of the revised CO2 act. The latter was supposed to be at the center of this research, but its non-adoption changed the research plans.

(questions 9 to 14 in appendix 3), to which an extensive importance is accorded within the adopted theoretical framework of Parker and Nielsen (2017). This irrelevance was clear already from the first few interviews conducted and, when it was the case already starting from question 13 that it was going to be the case, the following questions were sometimes not asked and the interview then continued with question 17, the first among the ones relating to the companies' hypothetical adaptations in case the revised CO₂ Act had been accepted (see appendix 4 for the interview guideline and reference of the questions). However, the authors themselves recognize that not all their compliance questions will be equally relevant in any given circumstance; on the contrary, it is generally clear that a selection of factors will be more relevant in comprehending compliance (and, respectively, non-compliance, even if the considered regulation within this research on proved to be a source of particular barriers in compliance with it by the actors interviewed). Consequently, based on this single empirical application, it cannot be affirmed that this identified "flaw" in the theoretical framework provides enough grounds for stating that its application in Switzerland is not relevant. Considerations must, for example, also be made about the basis of the specific regulation considered and the objectives it sets as well as, for example, their longevity.

Connected to the considerations just exposed, another limitation within the scope of this study could be represented by the fact that the currently in force CO₂ Act dates back to 2013, which could equally explain the similar responses that both interviewees working for the same company as well as the sample altogether provided. Namely, no particular difficulties were found in the responses obtained regarding the compliance to this regulation. An explanation for this could therefore be found in the fact that the companies in question and, more specifically the sustainability managers interviewed, have had time and opportunity to adapt to the CO₂ Act's contents and therefore now easily comply with it.

After the hypotheses had been formulated, and more precisely at the time of their empirical verification (see sections 5.3.3, 5.4.3 and 5.5.3), a difficulty emerged concerning the decision as to whether hypotheses H1 and H2 were to be confirmed or rejected, since their components proved to be really similar in determining of the compliance with the CO₂ Act of both State-owned enterprises and private companies. This hardship did not manifest because of the lack of empirical data; on the contrary, it appeared as a consequence of their nuanced qualitative and subjective interpretable nature. As Yauch and Steudel (2003) recognize, since deriving from positioned subjects, qualitative researchers' interpretations are limited precisely because it is the participants who detain control over the content of the data collected. Parker and Nielsen (2017) equally recognize that the qualitative interviews do not procure a good judgement of the

absolute quantitative proportions of obstacles and drivers of compliance. However, if on one hand carrying out a quantitative analysis would have avoided this problem; on the other hand, it would have reduced perceptions and believes of participants to numbers (Dudwick et al., 2006). Grasping those perceptions, or even, to a lesser extent, the organizational culture of the companies that regulatees work for, is important: while the former is not visible in quantitative survey research, research on compliance inside corporations should and is deploying different research techniques to further its understanding (Parker & Gilad, 2011).

8. Conclusion

The results of this work show that both state-owned and private companies are able to comply with the current CO₂ Act. In general, the deterrence dimensions are considered irrelevant in the context of this regulation and the actors considered, while the companies' characteristics and capacities on their compliance and the social, economic and normative motives for compliance show a positive ability to comply for both samples. To qualify the results a bit further, State-owned enterprises stand out as showing an even greater potential ability to comply than private companies, even though private companies show a positive ability to comply with the CO₂ Act. Thus, the research question driving this work

“To what extent do Swiss State-owned enterprises and selected private companies differ in their compliance with the CO₂ Act as legal basis contributing to the achievement of SDG 13?”

can be answered by stating that State-owned enterprises are a little stronger determined to comply with the CO₂ Act with regards to *social, economic and normative motives* and their *capacities and characteristics* as theorized by Parker and Nielsen (2017)'s compliance framework. The private companies considered, on the other hand, are as well complying with the regulation under consideration, but the determinants of compliance just mentioned are a little weaker in their case. With regards to a hypothetical revision of the currently in force CO₂ Act, however, State-owned enterprises have shown more willing to comply than the private companies considered.

This work also aimed to fill a gap in the literature, particularly concerning the differences in compliance between State-owned enterprises and private companies. Moreover, as this element was only very weakly addressed, neither was it the case for an additional level of detail, the difference in compliance between Swiss State-owned enterprises and private companies with regards to environmental regulation. Thus, this work has sought to establish a new research stratum mixing elements of sustainability, regulation and legislation, compliance, and different economic actors within Switzerland.

In conclusion, it should be noted that it is extremely simple for both State-owned enterprises and private companies to comply with the current CO₂ Act. This regulation is considered to be a basic standard and remains objectively woefully unambitious both in terms of sustainable development and its purpose, i.e. the reduction of CO₂ emissions. To give a more general dimension of interpretation to the environmental regulation situation, it thus seems clear that

the current CO₂ Act is largely insufficient to achieve the objectives determined by both the Paris Agreement, which is indirectly related to the UN 2030 Agenda for sustainable development.

It also appears that the revision that the people rejected in June 2021, which would have allowed better resonance with the Paris Agreements and Switzerland's 2030 Agenda, would have been applicable in practice by both State-owned actors and private companies, although some private companies might have done so reluctantly, at least in the short term.

But if the considered economic actors were factually capable of applying this revised text, then whose fault is it? Why was it not accepted by the people if it was actually applicable by the actors concerned? Did it come down to details such as taxes on airline tickets? Were fuel taxes fundamentally a problem? Was it due, as some of the interviewees often suggest, to very poor communication on the part of the initiators and supporters of the text? Or was it due to an effective campaign by the opponents of the text? What are the conditions for Switzerland to adopt environmental regulations that will allow it to take a concrete step towards a more environmentally sustainable world? Does the Swiss context not (yet) allow the adoption of such regulation? To what extent should companies be able to adopt environmental measures by themselves without being legally bound?

This work raises many questions that can only be answered by further scientific work and that would be of crucial importance for the success of sustainable development in Switzerland, and more specifically for the success in the fight against climate change.

Appendixes

Appendix 1: The 17 Sustainable Development Goals (SDGs)

UN_SDGs	Definition	Description
UN_SDG_1	No poverty	End poverty in all its forms everywhere.
UN_SDG_2	Zero hunger	End hunger, achieve food security, and improved nutrition and promote sustainable agriculture.
UN_SDG_3	Good health and well-being	Ensure healthy lives, and promote well-being for all at all ages.
UN_SDG_4	Quality education	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.
UN_SDG_5	Gender equality	Achieve gender equality and empower all women and girls.
UN_SDG_6	Clean water and sanitation	Ensure availability and sustainable management of water and sanitation for all.
UN_SDG_7	Affordable and clean energy	Ensure access to affordable, reliable, sustainable and modern energy for all.
UN_SDG_8	Decent work and economic growth	Promote sustained, inclusive and sustainable economic growth, full and productive employment, and decent work for all.
UN_SDG_9	Industry, innovation, and infrastructure	Build resilient infrastructure, promote inclusive, and sustainable industrialization and foster innovation.
UN_SDG_10	Reduced inequalities	Reduce inequality within and among countries.
UN_SDG_11	Sustainable cities and communities	Make cities and human settlements inclusive, safe, resilient, and sustainable.
UN_SDG_12	Responsible consumption and production	Ensure sustainable consumption and production patterns.
UN_SDG_13	Climate action	Take urgent action to combat climate change and its impacts.
UN_SDG_14	Life below water	Conserve and sustainably use the oceans, seas, and marine resource for sustainable development.
UN_SDG_15	Life on land	Protect, restore, and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.
UN_SDG_16	Peace, justice, and strong institutions	Promote peaceful and inclusive societies for sustainable development; provide access to justice for all and build effective, accountable, and inclusive institutions at all levels.
UN_SDG_17	Partnership for the goals	Strengthen the means of implementation and revitalize the global Partnership for Sustainable Development

Table 1 – The Sustainable Development Goals. From Tsalis, T. A., Malamateniou, K. E., Koulouriotis, D., & Nikolaou, I. E. (2020). New challenges for corporate sustainability reporting: United Nations' 2030 Agenda for sustainable development and the sustainable development goals. *Corporate Social Responsibility and Environmental Management*, 27(4), 1617-1629, p. 1620.

Appendix 2: SDG 13 and its targets

Target	Description
13.1	Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries
13.2	Integrate climate change measures into national policies, strategies and planning
13.3	Improve education, awareness raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning
13.4	Implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change to a goal of mobilising jointly \$100 billion annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalise the Green Climate Fund through its capitalisation as soon as possible
13.5	Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing states, including focussing on women, youth and local and marginalized communities

Table 2 – Goal 13. Take Urgent Action to Combat Climate Change and its Impacts. From <https://sdg-tracker.org/climate-change> in Doni, F., Gasperini, A., & Soares, J. T. (2020). *SDG13–Climate Action: Combating Climate Change and its Impacts*. Emerald Publishing Limited, p. 23.

Appendix 3: The 14 compliance questions

<i>Economic, social and normative motives</i>	1. Social and economic costs and benefits	Does the target group believe that it costs too much time, money and effort to comply? Does the target group believe that there are tangible advantages to be gained from breaking the rules? Does the target group see any advantage to them in complying with the rules?
	2. Degree of acceptance of this regulation	Does the target group agree with the policy objectives and the principles that underpin the rules surrounding their licensed activity? Do they agree with how the policy and principles have been put into practice—for example, do they think particular obligations are unacceptable?
	3. Respect for the law in general	Does the target group generally believe in abiding by the law; do they believe that complying with the law is a good thing to do regardless of whether they agree with a specific obligation?
	4. Existence of non-official influence over the targeted group's compliance	Do industry groups and other regulatees, customers, investors, trading partners, local communities, industry groups, nongovernmental organisations or other stakeholders facilitate compliance?
<i>Characteristics and capacities of members of the target population</i>	5. Business model	Is compliance relevant to the target group's business model or is it an 'afterthought', or even irrelevant?
	6. Knowledge of the rules	Is the target group aware of their obligations? Do they know the rules that govern the particular activity? Are the rules comprehensible or are they too complex to understand?
	7. Capacity to comply	Does the target group have the capacity to comply with the rules? Or do they lack the money, time, education or expertise to become aware of their obligations, decide to comply and implement compliance? Do they have good enough management systems to implement compliance?
	8. Respect for the regulator	Does the target group respect the regulator and how it goes about its tasks? Do they have a relationship with the regulator? Do they respect the judgement of those responsible for law enforcement?

<i>Deterrence factors</i>	9. Risk that any violations of the rules will be reported to the authorities	Is there a high risk of violations being reported to the authorities, either by members of the target group's community or by the public? Is the target group deterred from noncompliance because they fear they will be complained about or reported if they do not comply?
	10. Risk of inspection	Is there a low risk of particular businesses being inspected by the regulator, either by a physical inspection or by a records inspection? Do members of the target group perceive themselves as likely to be subject to inspection?
	11. Risk of detection	Is there a high risk of any violations of the rules being detected if there is an inspection or some other monitoring (such as an audit)? What is the impact of factors such as an inspection only selectively examining records, particular violations being difficult for inspectors to detect or the ease of falsification of records? How does the target group perceive the risk of detection?
	12. Selectivity of inspection and detection by the regulator	Is the regulator selective in identifying and prioritising targets for inspection? Do some members of the target group perceive themselves as falling outside the priority targets for inspection? Are they aware of how the regulator 'screens' for breaches when inspecting or investigating?
	13. Risk of sanction	Is there a major risk of a violation, once detected, being sanctioned? Does the regulator have a practice or policy of dismissing charges or not enforcing charges? Does the target group believe that the risk of being sanctioned is low even if they are caught and the breach can be proved?
	14. Severity of sanction	Does the target group believe that the sanction they will face for a particular violation is severe, that it will be imposed quickly and will have other tangible disadvantages for the person concerned? For example: does the person suffer a loss of reputation from being sanctioned that has a negative impact on their business activities?

Legend: ☐ Spontaneous compliance dimensions
☒ Enforced compliance dimensions

The 14 compliance questions. Adapted from Parker, C. & Nielsen, V. L. (2017). Compliance: 14 questions. In P. Drahos (Ed.), *Regulatory Theory: Foundations and Applications* (pp. 217-232). ANU Press, p. 221.

Appendix 4: Interview guideline

General background and company's inclination towards SDG 13

1. Can you describe your role inside your company.
2. To what extent is sustainable development and in particular SDG 13 “Take urgent action to combat climate change and its impacts” paid attention to in your company?
3. What kind of measures do you currently implement toward this goal?

The CO2 Act and the specific measures it foresees

4. How much do you know about the details of the CO2 Act, which was adopted in 2013 and is still in force since its revision was not accepted by the Swiss people last June?
- 4.a. Could you explain to us what part of its content might be relevant for your company?

Degree of acceptance of the foreseen measures by the CO2 Act

5. How much do you agree with the foreseen measures within the CO2 Act that are relevant for your company and the objectives, principles and the timetable of their implementation? Is there any particular reason for this score?

Company's characteristics

6. Describe your organizational model: what is your long-term vision and purpose and what are your company's most important activities? How are you concretely achieving them?
- 6.a. Exercising its business activity, to what extent does your company have sufficient resources left in order to comply with the CO2 Act?

Company's capacity to comply

7. To what extent is your company able to comply with the measures foreseen by the CO2 Act which are relevant for your company? What are the changes that would be necessary? What kind of measures would you need to take?

7.a. To what extent does your company have the financial, technical, temporal, managerial and educational necessities in order to decide to and effectively comply?

7.b. Can you mention some examples of how prepared you are in relation to the just mentioned resources and necessities? What difficulties do you see?

Social and economic costs and benefits of compliance to the relevant measures foreseen by the CO2 Act

8. How do the social and economic costs of the implementation of these measures look like for your company? Why is it so?

8.a. How do the social and economic benefits of the implementation of these measures look like for your company? Why is it so?

Existence for the company of non-official influence over its compliance to the relevant measures foreseen by the CO2 Act

9. Are there any stakeholders with whom you collaborate, or you have frequent exchanges with who have an interest in ensuring that you can optimally implement the measures in the CO2 Act that are relevant to your company? If yes, who are those stakeholders and why do they support the measures' implementation?

9.a. Are there any stakeholders with whom you collaborate, or you have frequent exchanges with who have an interest in your suboptimal application of the measures in the CO2 Act that are relevant to your company? If yes, who are those stakeholders and why do they oppose the implementation?

Company's respect for the law and the regulator

10. To what extent does your company consider the Swiss authorities as respectful when dealing with you?

10.a. To what extent does your company consider the Swiss authorities as neutral when applying a regulation?

10.b. To what extent does your company consider the Swiss authorities as objectively benevolent and caring while applying the law?

10.c. To what extent does your company consider having its voice heard by the Swiss authorities regarding the legislation? And when is it the case (for which areas/domains)?

11. How much would you say your company values the Swiss Parliament? And why would you say so?

Deterrence dimensions

12. Do you think that refusing to comply with the relevant foreseen measures by the CO2 Act for your company would have any consequences? If so, what type of consequences would they be and what type of effect would this have on your company?

13. Would the non-compliance of your company to the relevant foreseen measures by the CO2 Act cause any sanction?

13.a. If yes, how severe could it be?

13.b. How would you react to a severe sanction?

14. Are there any risks of inspection in your company regarding your compliance with the CO2 Act? Is such an inspection likely to happen in your company?

15. Let's imagine that your company violated one or more of the relevant foreseen measures by the CO2 Act for your company and it is being inspected. Are there any risks of detection?

16. In case your company violates the CO2 Act, what are the chances that it will be reported to the authorities?

Company's hypothetical adaptations in case the revised CO2 Act had been accepted

17. What do you know about the content of the revised Swiss CO2 Act voting that has taken place on the 13th of June?

18. Could you explain to us what part of its content might have been relevant for your company?

19. What would have been, for your company, the costs and benefits of the revised CO2 Act adoption?

20. How would you have implemented the foreseen measures?

21. What would have changed for your company? Why?

22 To what extent would it have been relatively easy or difficult to implement those new measures?

23. Do you think the revised CO2 Act has a chance of being re-proposed in the near future/future? Why do you think so?

24. To what extent do you think your company can push the political environment towards the acceptance of such an Act? (*which means of influence could the company have to push towards it, assuming that it is in the best interest of the company itself?*)

Conclusion of the interview

25. Regarding this interview, is there anything you would like to mention or add or anything you think we didn't ask you that might be relevant?

Appendix 5

Table 1. Number of employees and operating income of the considered public and private companies (data referring to 2018)

Actor	Number of employees at an activity rate of 100% (2018)	Operating income in billions CHF (2018)
Swiss Post⁶	41'632	7.691
SBB⁷	32'309	9.645
Swisscom⁸	19'845	2.069
Sunrise⁹ UPC¹⁰	1'611 / +- 1'500	1.876 (turnover) / 1.296 (turnover)
DPD Schweiz¹¹	900	/
DHL Schweiz	/	/
Planzer¹²	5'300 (2021)	0.451 (2005)

As can be seen, data reported in this table refers to the year 2018, before the COVID-19 pandemic and its socio-economic consequences, and before Sunrise's acquisition by Liberty Global (who detains UPC). Therefore, the data referring to them are given separately.

DPD Schweiz's operating income and DHL Schweiz's information weren't publicly available. As international groups, the available information focused on the international data. Finally, UPC's number of employees in 2018 is publicly given but implicitly as an estimation of more or less 1'500 people. Again, Planzer's 2018 operating income is not publicly available and the only information that is is on his Wikipedia page and dates back to 2005.

⁶ Swiss Post (2018)

⁷ SBB (2018)

⁸ Swisscom (2020)

⁹ Sunrise (2018)

¹⁰ UPC (2018)

¹¹ DPD (2018)

¹² Wikipedia (2021)

Appendix 6: Message template for contacting the concerned actors

Sehr geehrte Damen und Herren,

Wir sind zwei Studierende der Universität Bern und beenden dieses Jahr unser Studium in Public Management & Policy mit einer Masterarbeit über die Einhaltung des aktuellen CO₂-Gesetzes als Rechtsgrundlage, die zur Erreichung des Ziels 13 der UN-Agenda 2030 für nachhaltige Entwicklung beiträgt. Unsere Masterarbeit wird von Dr. Susanne Hadorn des KPM Kompetenzzentrum für Public Management der Universität Bern betreut.

In diesem Rahmen würden wir sehr gerne zwei Interviews mit Mitarbeitenden von [*Name des Unternehmens*] führen, die Auskunft über die Strategie und die Aktivitäten Ihres Unternehmens im Bereich Nachhaltigkeit geben können. Dies um Informationen zur Umsetzung des aktuell gültigen CO₂-Gesetzes sowie zu hypothetischen Auswirkungen des im Juni vom Volk abgelehnten CO₂-Gesetzes auf [*Name des Unternehmens*] zu erhalten. Wir erlauben uns daher, Sie anzufragen, ob Sie selbst Zeit für ein solches Gespräch hätten oder uns anderenfalls Kontaktdaten von ExpertInnen aus diesem Bereich geben könnten.

Wenn es für Sie möglich wäre, würden wir uns über für Sie mögliche Terminvorschläge freuen. Die Interviews würden rund eine Stunde dauern. Die würden wir gerne per Zoom führen und würden Ihnen nach Festlegung des Termins den entsprechenden Zoomlink schicken (falls Zoom für Sie nicht gehen würde, könnten Sie uns das natürlich noch mitteilen, damit wir eine Alternative finden).

Da wir beide Deutsch, Englisch, Französisch und Italienisch sprechen, können wir den Dialog an Ihre Bedürfnisse anpassen.

Wir würden uns sehr freuen, wenn Sie sich bereit erklären würden, ein Gespräch mit uns zu führen oder wenn Sie uns andere GesprächspartnerInnen vorschlagen könnten. Bei Fragen stehen wir Ihnen sehr gerne zur Verfügung und sind gespannt auf Ihre Rückmeldung.

Freundliche Grüsse,

Gauthier Dorthé [*Telefonnummer*]

Nita Neziri [*Telefonnummer*]

Appendix 7: Thematic tables for the content analysis of the semi-directed interviews

Following the *Framework Method*, five tables were created: one for each of the central themes of the study. The columns of each table represent sub-themes. While the sub-themes for Table 2, 3 and 4 correspond to the compliance-questions for each main category of Parker and Nielsen's theoretical framework (2017), questions from our interview guideline with similar content were grouped together in order to create the sub-themes for Tables 1 and 5.

The numbers in the columns of the tables below correspond to the questions in the interview guideline. The numbering of the questions in our interview guideline is available in Annex 4.

TABLE 1	<i>Company's inclination towards SDG 13</i>	
Interviewee	Attention paid to SDG 13	Undertaken measures in relation to SDG 13
	2	3

TABLE 2	<i>Company's economic, social and normative motives</i>				
Interviewee	Social and economic costs	Social and economic benefits	Degree of acceptance of the regulation	Respect for the law in general	Existence of non-official influence
	8	8.a	5	10; 10.a; 10.b; 10.c, 11	9; 9.a

TABLE 3	<i>Company's characteristics and capacities</i>			
Interviewee	Business model	Knowledge of the rules	Capacity to comply	Respect for the regulator
	6; 6.a	4; 4.a	7; 7.a; 7.b	10; 10.a; 10.b; 10.c; 11

TABLE 4	<i>Deterrence factors</i>					
Interviewee	Risk of violations being reported to the authorities	Risk of inspection	Risk of detection	Selectivity of inspection and detection by the regulator	Risk of sanction	Severity of sanction
	12; 16	14	12; 15	14; 15	12; 13	13.a, 13.b

TABLE 5	<i>The revised CO2-Act</i>				
Interviewee	Knowledge and relevance of its content	Cost and benefits of its adoption	Hypothetical implementation of it	Changes induced by its adoption	Chances of its renewed proposal and political influence of the company in relation to it
	17; 18	19	20; 22	21	23; 24

Appendix 8: Thematic table for the content analysis of companies' websites and reports

This table, which was created with the *Framework method* in mind as well, guided the collection of parts of the companies' websites and documents relating to the call for action against climate change. The columns in this table were created inductively. In particular, the table was constructed both on the basis of the theoretical considerations set out in subchapters 2.1 and 2.2 regarding SDG 13 and the interconnection of the SDGs with each other and, above all, on the basis of the considerations set out in subchapter 2.8. In parallel, an overview of the websites and their different pages was also crucial.

TABLE 6	Website's contents towards the call for action against climate change				
Company	GRI-Index or other sustainability reporting tools	Sustainability report	Mention of SDG 13	Mention of other SDGs	Green objectives, strategies and measures

Selbstständigkeitserklärung

Wir erklären hiermit, dass jeder von uns an dieser Arbeit mit selbstständigen Teilen beteiligt war. Wir erklären ferner, dass wir keine anderen als die angegebenen Hilfsmittel benutzt haben. Alle Stellen, die wörtlich oder sinngemäss aus Quellen übernommen wurden, haben wir als solche kenntlich gemacht. Es ist uns bekannt, dass andernfalls der Senat gemäss dem Gesetz über die Universität zum Entzug des auf Grund dieser Arbeit verliehenen Titels berechtigt ist.

Ort und DatumLe-Mont-Sur-Lausanne, 11/10/2021.....

Gauthier Dorthe



Ort und DatumTaverne-Torricella, 11/10/2021.....

Nita Neziri



Einverständniserklärung zur Veröffentlichung der Masterarbeit

Wir erklären hiermit, dass wir der Veröffentlichung der von uns verfassten Masterarbeit im Falle einer Benotung von 5.0 oder höher auf der Homepage des KPM zustimmen. Die Arbeit ist öffentlich zugänglich.

Ort und DatumLe-Mont-Sur-Lausanne, 11/10/2021.....

Gauthier Dorthe



Ort und DatumTaverne-Torricella, 11/10/2021.....

Nita Neziri



References

- Allen, C., Metternicht, G., & Wiedmann, T. (2019). Prioritising SDG targets: Assessing baselines, gaps and interlinkages. *Sustainability Science*, 14(2), 421–438. <https://doi.org/10.1007/s11625-018-0596-8>
- Ansah, R. H., & Sorooshian, S. (2019). Green economy: Private sectors' response to climate change. *Environmental Quality Management*, 28(3), 63-69. <https://doi.org/10.1002/tqem.21620>
- Ardakani, D. A., & Soltanmohammadi, A. (2019). Investigating and analysing the factors affecting the development of sustainable supply chain model in the industrial sectors. *Corporate Social Responsibility and Environmental Management*, 26(1), 199–212. <https://doi.org/10.1002/csr.1671>
- Ashrafi, M., Adams, M., Walker, T. R., & Magnan, G. (2018). How corporate social responsibility can be integrated into corporate sustainability: A theoretical review of their relationships. *International Journal of Sustainable Development & World Ecology*, 25(8), 672-682. <https://doi.org/10.1080/13504509.2018.1471628>
- Atkinson, G. (2000). Measuring corporate sustainability. *Journal of Environmental Planning and management*, 43(2), 235-252. <https://doi.org/10.1080/09640560010694>
- Bakos, J., Siu, M., Orengo, A., & Kasiri, N. (2020). An analysis of environmental sustainability in small & medium-sized enterprises: Patterns and trends. *Business Strategy and the Environment*, 29(3), 1285-1296. <https://doi.org/10.1002/bse.2433>
- Ball, A. & Grubnic, S. (2007). Sustainability accounting and accountability in the public sector. In Unerman, J., Bebbington, J. and O'Dwyer, B. (Eds), *Sustainability Accounting and Accountability*, (pp. 243-265). Routledge, London,
- Ball, A., Grubnic, S., & Birchall, J. (2014). Sustainability accounting and accountability in the public sector. In Bebbington, J., Unerman, J. and O'Dwyer, B. (Eds), *Sustainability accounting and accountability* (pp. 194-214). Routledge, London.

- Barnes, M. M. (2019). State-Owned Entities as Key Actors in the Promotion and Implementation of the 2030 Agenda for Sustainable Development: Examples of Good Practices. *Laws*, 8(2), 10. <https://doi.org/10.3390/laws8020010>
- Batista, A. A. D. S., & Francisco, A. C. D. (2018). Organizational sustainability practices: A study of the firms listed by the corporate sustainability index. *Sustainability*, 10(1), 226. <https://doi.org/10.3390/SU10010226>
- Bellehumeur, A. (1985). A propos de l'interchangeabilité des mesures de taille d'entreprise. *Revue d'économie industrielle*, 33(1), 44-57.
- Bergen, N., & Labonté, R. (2020). “Everything is perfect, and we have no problems”: detecting and limiting social desirability bias in qualitative research. *Qualitative health research*, 30(5), 783-792.
- Boros, A., & Fogarassy, C. (2019). Relationship between corporate sustainability and compliance with state-owned enterprises in Central-Europe: A case study from Hungary. *Sustainability*, 11(20), 5653. <https://doi.org/10.3390/su11205653>
- Boyne, G. A. (2002). Public and private management: what's the difference?. *Journal of management studies*, 39(1), 97-122. <https://doi.org/10.1111/1467-6486.00284>
- Bozeman, B. (1987). *All organizations are public: Bridging public and private organizational theories*. Jossey-Bass. <https://doi.org/10.1177/1049732319889354>
- Bozeman, B. (2007). *Public values and public interest: Counterbalancing economic individualism*. Washington, DC: Georgetown University Press.
- Brinkerhoff, D. W., & Brinkerhoff, J. M. (2011). Public–private partnerships: Perspectives on purposes, publicness, and good governance. *Public administration and development*, 31(1), 2-14. <https://doi.org/10.1002/pad.584>

- Braithwaite, J. & Grabosky, P. (1986). *Of Manners Gentle: Enforcement Strategies of Australian Business Regulatory Agencies*. Oxford University Press.
- Breu, T., Bergöö, M., Ebnetter, L., Pham-Truffert, M., Bieri, S., Messerli, P., ... & Bader, C. (2021). Where to begin? Defining national strategies for implementing the 2030 Agenda: the case of Switzerland. *Sustainability science*, 16(1), 183-201. <https://doi.org/10.1007/s11625-020-00856-0>
- Buhmann, K., Jonsson, J., & Fisker, M. (2019). Do no harm and do more good too: Connecting the SDGs with business and human rights and political CSR theory. *Corporate Governance: The International Journal of Business in Society*, 19(3), 389–403. <https://doi.org/10.1108/CG-01-2018-0030>
- Cater, J. K. (2011). Skype: A cost-effective method for qualitative research. *Rehabilitation Counselors & Educators Journal*, 4(2), 1017-1019.
- Creswell, J. W. (2014). *Research design: qualitative, quantitative, and mixed methods approaches* (4th edition). Los Angeles: Sage.
- Danish, & Ulucak, R. (2020). How do environmental technologies affect green growth? Evidence from BRICS economies. *Science of The Total Environment*, 712, 136504. <https://doi.org/10.1016/j.scitotenv.2020.136504>
- Deutsche Post DHL Group. (2021). *Sustainability Roadmap*. <https://www.dpdhl.com/content/dam/dpdhl/en/media-center/responsibility/dpdhl-sustainability-roadmap-facts-figures.pdf>.
- DHL. (2021a). *Excellence. Simply delivered. In a Sustainable Way*. Retrieved from: <https://www.dhl.com/global-en/home/about-us/sustainability.html>. Accessed on 27th August 2021.
- Doni, F., Gasperini, A., & Soares, J. T. (2020). *SDG13–Climate Action: Combating Climate Change and its Impacts*. Emerald Publishing Limited.

DPD. (2018). *DPD (Suisse) SA fête ses 25 ans*. Retrieved from: <https://www.dpd.com/group/fr/2018/03/14/dpd-suisse-sa-fete-ses-25-ans/>. Accessed on 11th October 2021.

DPDgroup. (2021a). *Driving Change TM. Sustainability Report 2020*. Retrieved from: <https://7efd0784.flowpaper.com/DPD2021CSRREPORTA4280521/#page=1>. Accessed on 25th August 2021.

DPDgroup. (2021b). *Umweltverantwortung*. Retrieved from: <https://www.dpd.com/ch/de/verantwortung/umweltverantwortung/>. Accessed on 25th August 2021.

Dudwick, N., Kuehnast, K., Jones, V. N., & Woolcock, M. (2006). Analyzing social capital in context. *A guide to using qualitative methods and data*, 1-46.

ElAlfy, A., Palaschuk, N., El-Bassiouny, D., Wilson, J., & Weber, O. (2020). Scoping the evolution of corporate social responsibility (CSR) research in the sustainable development goals (SDGs) era. *Sustainability*, 12(14), 5544. <https://doi.org/10.3390/su12145544>

Elkington, J. (1998). Accounting for the triple bottom line. *Measuring Business Excellence*, 2(3), 18-22. <https://doi.org/10.1108/eb025539>

Federal Department of Foreign Affairs (FDFA). (2017). *Instrument of ratification deposited: Paris climate agreement to enter into force for Switzerland on 5 November 2017*. Retrieved from: <https://www.admin.ch/gov/en/start/documentation/media-releases.msg-id-68345.html>. Accessed on 23rd May 2021.

Federal Department of Foreign Affairs (FDFA). (2020). *Switzerland's International Cooperation Strategy 2021-24*. Retrieved from: <https://www.fdfa.admin.ch/eda/en/fdfa/fdfa/publikationen.html/content/publikationen/en/deza/diverse-publikationen/broschuere-iza-2021-24>. Accessed on 15th August 2021.

Federal Department of Foreign Affairs (FDFA). (2021). *17 Sustainable Development Goals*. Retrieved from: <https://www.eda.admin.ch/agenda2030/en/home/agenda-2030/die-17-ziele-fuer-eine-nachhaltige-entwicklung.html>. Accessed on 14th May 2021.

Federal Department of the Environment, Transport, Energy and Communications (DETEC). (2016). *Der Service public in der Schweiz*. Retrieved from: <https://www.uvek.admin.ch/uvek/de/home/uvek/abstimmungen/abstimmung-service-public/service-public-in-schweiz.html>. Accessed on 30th July 2021.

Federal Office for Spatial Development (ARE). (2012). *Sustainable development in Switzerland – A guide*. Retrieved from: <https://www.are.admin.ch/are/de/home/medien-und-publikationen/publikationen/nachhaltige-entwicklung/nachhaltige-entwicklung-in-der-schweiz-ein-wegweiser.html>, Accessed on 17th May, 2021.

Federal Office for Spatial Development (ARE) & Swiss Agency for Development and Cooperation. (2018). *Switzerland implements the 2030 Agenda for Sustainable Development Baseline assessment of Switzerland serving as basis for the country report 2018*. Retrieved from: <https://www.are.admin.ch/are/en/home/media/publications/sustainable-development/die-umsetzung-der-agenda-2030-fur-nachhaltige-entwicklung-durch-.html>. Accessed on 16th May 2021.

Federal Office for the Environment (FOEN). (ed.) 2018: Switzerland's climate policy. Implementation of the Paris Agreement. Federal Office for the Environment, Bern. Environmental Info no. 1803: 28 p.

Federal Office for the Environment (FOEN). (2021). *Les principales mesures de la loi sur le CO2 révisée*. Retrieved from: <https://www.bafu.admin.ch/bafu/fr/home/themes/climat/dossiers/protection-du-climat-et-loi-sur-le-co2/les-principales-mesures-de-la-loi-sur-le-co2-revissee.html>. Accessed on 25th May 2021.

Federal Statistical Office. (2021). *The MONET 2030 indicator system*. Retrieved from: <https://www.bfs.admin.ch/bfs/en/home/statistics/sustainable-development/monet-2030.html>. Accessed on 10th May 2021.

- Frey, M., & Sabbatino, A. (2018). The role of the private sector in global sustainable development: The UN 2030 Agenda. In G. Grigore, A. Stancu, & D. McQueen (Eds.), *Corporate responsibility and digital communities. Palgrave studies in governance, leadership and responsibility* (pp. 187-204). Cham: Palgrave Macmillan.
- Fottler, M. D. (1981). Is management really generic?. *Academy of management review*, 6(1), 1-12. <https://doi.org/10.5465/amr.1981.4287972>
- Gale, N. K., Heath, G., Cameron, E., Rashid, S. et Redwood, S. (2013). Using the framework method for the analysis of qualitative data in multi-disciplinary health research. *BMC Medical Research Methodology*, 13(117). <https://doi.org/10.1186/1471-2288-13-117>
- Gelderman, C. J., Semeijn, J., & Vluggen, R. (2017). Development of sustainability in public sector procurement. *Public Money & Management*, 37(6), 435-442. <https://doi.org/10.1080/09540962.2017.1344027>
- Gray, L. M., Wong-Wylie, G., Rempel, G. R., & Cook, K. (2020). Expanding qualitative research interviewing strategies: Zoom video communications. *The Qualitative Report*, 25(5), 1292-1301. <https://doi.org/10.46743/2160-3715/2020.4212>
- Gulluscio, C., Puntillo, P., Luciani, V., & Huisingh, D. (2020). Climate Change Accounting and Reporting: A Systematic Literature Review. *Sustainability*, 12(13), 5455. <https://doi.org/10.3390/su12135455>
- Gunningham, N., Kagan, R. A., & Thornton, D. (2003). *Shades of green: business, regulation, and environment*. Stanford University Press.
- Gupta, J., & Vegelin, C. (2016). Sustainable development goals and inclusive development. *International environmental agreements: Politics, law and economics*, 16(3), 433-448. <https://doi.org/10.1007/s10784-016-9323-z>

- Haque, S., & Islam, M. A. (2015). Stakeholder pressures on corporate climate change-related accountability and disclosures: Australian evidence. *Business and Politics*, 17(2), 355-390. <https://doi.org/10.1017/S1369525800001674>
- Hajer, M., Nilsson, M., Raworth, K., Bakker, P., Berkhout, F., De Boer, Y., et al. (2015). Beyond cockpitism: Four insights to enhance the transformative potential of the sustainable development goals. *Sustainability*, 7(2), 1651–1660. <https://doi.org/10.3390/su7021651>
- Hall, P. A. (1993). Policy Paradigms, Social Learning, and the State: The Case of Economic Policymaking in Britain. *Comparative Politics*, 25(3), 275–296. <https://doi.org/10.2307/422246>
- Höchner, C. (2020). *Parlamentarische Obergeraufsicht über öffentliche Unternehmen des Bundes: Analyse und Folgerungen im Kontext der Aufsicht und Steuerung durch den Bundesrat*. Stämpfli Verlag.
- Hopkins, A. (1994). Compliance with what? : The Fundamental Regulatory Question. *The British Journal of Criminology*, 34(4), 431-443. <https://doi.org/10.1093/oxfordjournals.bjc.a048445>
- Ingold, K. (2011). Network structures within policy processes: Coalitions, power, and brokerage in Swiss climate policy. *Policy studies journal*, 39(3), 435-459. <https://doi.org/10.1111/j.1541-0072.2011.00416.x>
- Ingold, K. & Fischer, M. (2013). Drivers of collaboration to mitigate climate change: An illustration of Swiss climate policy over 15 years. *Global Environmental Change*, 24(2014), 88–98. <https://doi.org/10.1016/j.gloenvcha.2013.11.021>
- Ingold, K. & Varone, F. (2012). Treating Policy Brokers Seriously: Evidence from the Climate Policy. *Journal of public administration research and theory*, 22(2), 319-346. <https://doi.org/10.1093/jopart/mur035>
- Jørgensen, T. B., & Bozeman, B. (2007). Public values: An inventory. *Administration & society*, 39(3), 354-381. <https://doi.org/10.1177/0095399707300703>

- Kälin, W., Lienhard, A., & Wytttenbach, J. (2007). Auslagerung von sicherheitspolizeilichen Aufgaben. In *Kälin, Walter; Lienhard, Andreas; Wytttenbach, Judith (2007). Auslagerung von sicherheitspolizeilichen Aufgaben. Bibliothek zur Zeitschrift für Schweizerisches Recht: Vol. 46. Basel: Helbing & Lichtenhahn (Vol. 46). Helbing & Lichtenhahn.* <https://boris.unibe.ch/26175/>
- Kaur, A. & Lodhia, S.K. (2019). Sustainability accounting, accountability and reporting in the public sector: An overview and suggestions for future research. *Meditari Accountancy Research*, 27(4), 498-504. <https://doi.org/10.1108/MEDAR-08-2019-510>
- Kagan, R. A., Gunningham, N., & Thornton, D. (2003). Explaining corporate environmental performance: how does regulation matter?. *Law & Society Review*, 37(1), 51-90. <https://doi.org/10.1111/1540-5893.3701002>
- Khan, A. R., & Khandaker, S. (2016). Public and Private Organizations: How Different or Similar are They. *Journal of Siberian Federal University. Humanities & Social Sciences*, 12(9), 2873-2885. <https://10.0.68.108/1997-1370-2016-9-12-2873-2885>
- Lalaguna, P. D. Y., & Dorodnykh, E. (2018). The role of private–public partnerships in the implementation of sustainable development goals: Experience from the SDG Fund. In W. L. Filho (Ed.), *Handbook of sustainability science and research* (pp. 969–982). Cham: Springer.
- Lange, B. (1999). Compliance construction in the context of environmental regulation. *Social & Legal Studies*, 8(4), 549-567. <https://doi.org/10.1177/a010430>
- Liberty Goal. (2021). The UN sustainable development Goals. Retrieved from: <https://www.libertyglobal.com/stories/sdgs/>. Accessed on 5th October 2021.
- Lienhard, A. (2002). Organisation und Steuerung der ausgelagerten Aufgabenerfüllung. *Aktuelle juristische Praxis*, 11(10), 1163-1174. <https://boris.unibe.ch/id/eprint/116718>

- Lim, A., & Pope, S. (2021). What drives companies to do good? A “universal” ordering of corporate social responsibility motivations. *Corporate Social Responsibility and Environmental Management*, 1–23. <https://doi.org/10.1002/csr.2199>
- Lune, H. & Berg, B. L. (2017). Chapter 4: A Dramaturgical Look At Interviewing. In *Qualitative research methods for the social sciences* (9th edition, pp. 65–93). Harlow: Pearson.
- May, P. J. (2004). Compliance motivations: Affirmative and negative bases. *Law & Society Review*, 38(1), 41-68. <https://doi.org/10.1111/j.0023-9216.2004.03801002.x>
- McManus, P. (2020). Environmental Regulation. In A. Kobayashi (Ed.), *International Encyclopedia of Human Geography (Second Edition)* (2nd edition, pp. 241–246). Elsevier.
- Meier, K. J., & O’Toole, L. J. (2011). Comparing public and private management: Theoretical expectations. *Journal of Public Administration Research and Theory*, 21(suppl 3), i283–i299. <https://doi.org/10.1093/jopart/mur027>
- Mio, C., Panfilo, S., & Blundo, B. (2020). Sustainable development goals and the strategic role of business: A systematic literature review. *Business Strategy and the Environment*, 29(8), 3220-3245. <https://doi.org/10.1002/bse.2568>
- Morton, S., Pencheon, D., & Squires, N. (2017). Sustainable Development Goals (SDGs), and their implementation A national global framework for health, development and equity needs a systems approach at every level. *British medical bulletin*, 124(1), 81–90. <https://doi.org/10.1093/bmb/ldx031>
- Murphy, K. (2017). Procedural justice and its role in promoting voluntary compliance. In Peter Drahos (Ed). *Regulatory Theory: Foundations and Applications* (pp.43-58). Canberra: ANU Press. <https://doi.org/10.22459/RT.02.2017.03>
- Murray, M. A. (1975). Comparing public and private management: An exploratory essay. *Public Administration Review*, 35(4), 364-371. <https://doi.org/10.2307/974538>

- Nguyen, T.-H. & Bellehumeur, A. (1985). A propos de l'interchangeabilité des mesures de taille d'entreprise. *Revue d'économie industrielle*, 33(1), 44-57.
<https://doi.org/10.3406/rei.1985.2155>
- Nielsen, V. L., & Parker, C. (2012). Mixed motives: economic, social, and normative motivations in business compliance. *Law & Policy*, 34(4), 428-462.
<https://doi.org/10.1111/j.1467-9930.2012.00369.x>
- Parker, C., & Gilad, S. (2011). Internal corporate compliance management systems: Structure, culture and agency. *Explaining compliance: Business responses to regulation*, 170-197.
https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1790283
- Parker, C. & Nielsen, V. L. (2017). Compliance: 14 questions. In P. Drahos (Ed.), *Regulatory Theory: Foundations and Applications* (pp. 217-232). ANU Press.
- Perry, J. L. & Rainey, H. G. (1988). The Public Private Distinction in Organisation Theory: A Critique and Research Strategy. *Academy of Management Review*, 13(2): 182-201.
<https://doi.org/10.5465/amr.1988.4306858>
- Pineda-Escobar, M. A. (2019). Moving the 2030 agenda forward: SDG implementation in Colombia. *Corporate Governance: The International Journal of Business in Society*, 19(1), 176–188. <https://doi.org/10.1108/CG-11-2017-0268>
- Plan A Academy. (August 12, 2020). *What are Scopes 1, 2 and 3 of Carbon Emissions?* Retrieved from: <https://plana.earth/academy/what-are-scope-1-2-3-emissions/>. Accessed on August 27th 2021.
- Planzer (2021a). Zug um Zug weitsichtig unterwegs. Retrieved from: <https://www.planzer.ch/de/unternehmen/umwelt>. Accessed 20th September 2021.
- Planzer (2021b). Nachhaltigkeitsbericht 2020. Retrieved from: <https://planzerwebsitestorage.blob.core.windows.net/files/Content/pdfs/Nachhaltigkeitsbericht/Nachhaltigkeitsbericht%202020.pdf>. Accessed 20th September 2021.

- PWC. (2019). *Creating a strategy for a better world*. SDG Challenge 2019. <https://www.pwc.com/gx/en/sustainability/SDG/sdg-2019.pdf>. Accessed on June 23rd 2021.
- Rainey, H. G., Backoff, R. W., & Levine, C. H. (1976). Comparing public and private organizations. *Public administration review*, 36(2), 233-244. <https://doi.org/10.2307/975145>
- Rainey, H. G. (2009). *Understanding and Managing Public Organisation*. John Willy & Sons: San Francisco.
- Rashed, A. H., & Shah, A. (2021). The role of private sector in the implementation of sustainable development goals. *Environment, Development and Sustainability*, 23(3), 2931-2948. <https://doi.org/10.1007/s10668-020-00718-w>
- Ritchie, J., Spencer, L. & O'Connor, W. (2003). Carrying out qualitative analysis. In J. Ritchie et J. Lewis (dir.). *Qualitative research practice. A guide for social science students and researchers* (pp. 219–262). London: SAGE.
- Ritz, A., & Thom, N. (2020). *Public Management: Erfolgreiche Steuerung öffentlicher Organisationen*. Springer-Verlag.
- Riyadh, H. A., Sukoharsono, E. G., & Alfaiza, S. A. (2019). The impact of corporate social responsibility disclosure and board characteristics on corporate performance. *Cogent Business & Management*, 6(1), 1647917.
- Sager, F., Ingold, K., & Balthasar, A. (2017). Policy-Analyse in der Schweiz. *Besonderheiten, Theorien, Beispiele*. Zürich: NZZ Libro-Buchverlag Neue Zürcher Zeitung NZZ Libro (*Politik und Gesellschaft in der Schweiz, Band 4*).
- Salvia, A. L., Leal Filho, W., Brandli, L. L., & Griebeler, J. S. (2019). Assessing research trends related to Sustainable Development Goals: Local and global issues. *Journal of cleaner production*, 208, 841-849. <https://doi.org/10.1016/j.jclepro.2018.09.242>

- Savoye, B. (1994). La taille des entreprises, élément structurant du système productif: analyses française et communautaire. *Revue d'économie industrielle*, 67(1), 103-119. <https://doi.org/10.3406/rei.1994.1510>
- SBB. (2018). Bilan 2018: Grâce à leur bon résultat, les CFF peuvent baisser les prix et investir dans le service- une année exigeante sur le plan de l'exploitation. Retrieved from: <https://company.sbb.ch/fr/medias/service-de-presse/communiques-de-presse/detail.html/2019/3/1903-1>. Accessed on 11th October 2021.
- SBB. (2021a). *Bericht gemäss GRI-Standards. 2020*. Retrieved from: <https://company.sbb.ch/de/ueber-die-sbb/verantwortung/nachhaltigkeit/umweltschutz/klimaneutrale-sbb.html>. Accessed on 31st July 2021.
- SBB. (2021b). *Moving towards a climate-friendly future together*. Retrieved from: <https://company.sbb.ch/en/the-company/responsibility-society-environment/sustainability.html>. Accessed on 31st July 2021.
- Schneider, A., & Ingram, H. (1993). Social construction of target populations: Implications for politics and policy. *American political science review*, 87(2), 334-347. <https://doi.org/10.2307/2939044>
- Scheyvens, R., Banks, G., & Hughes, E. (2016). The private sector and the SDGs: The need to move beyond 'Business as Usual'. *Sustainable Development*, 24(6), 371–382. <https://doi.org/10.1002/sd.1623>
- Science Based Targets. (n.d.). *About Us*. Retrieved from <https://sciencebasedtargets.org/about-us>. Accessed on 10th September 2021.
- Steiner, R., Saxenhofer, A., Kaiser, C., & Räss Brenner, K. (2020). *Die Public Corporate Governance der Schweizer Kantone und grösseren Städte: eine empirische Analyse*. KPM-Verlag.

- Sullivan, K., Thomas, S., & Rosano, M. (2018). Using industrial ecology and strategic management concepts to pursue the sustainable development goals. *Journal of Cleaner Production*, 174, 237–246. <http://doi.org/10.1016/j.jclepro.2017.10.201>
- Sunrise. (2018). Chiffres. Retrieved from: <https://www.sunrise.ch/fr/corporate-communications/entreprise/chiffres.html>. Accessed on 11th October 2021.
- Sunrise. *Environmental*. (2021). Retrieved from: <https://www.sunrise.ch/de/corporate-communications/esg/environmental.html>. Accessed on 21st September 2021.
- Swiss Confederation. (2021). *Exemplary Energy and Climate*. Retrieved from: <https://www.vorbild-energie-klima.admin.ch/vbe/en/home.html>. Accessed on 3rd August 2021.
- Swisscom. (2020). Evolution sur cinq ans. Retrieved from: https://www.swisscom.ch/fr/about/investisseurs/chiffres-cles/evolution-sur-cinq-ans.html?login&nevistokenconsume&pps=TABLET&L=fr&T=469824c3-da6f-4390-973b-8aeb4104ae1c&TS=Py0_Pz99Qz8_Tw0FPz8_P3saZD8aYQk_PzgoPzM_Pw. Accessed on 11th October 2021.
- Swisscom (2021a). *Klimabericht Swisscom 2020 nach ISO 14064*. Retrieved from: https://reports.swisscom.ch/download/2020/de/swisscom_klimabericht_2020_de.pdf. Accessed 5th August 2021.
- Swisscom. *Nachhaltigkeitsbericht 2020*. (2021b). Retrieved from: https://reports.swisscom.ch/download/2020/de/swisscom_nachhaltigkeitsbericht_gesamt_2020_de.pdf. Accessed 5th August 2021.
- Swisscom. (2021c). *Ready for the environment*. Retrieved from: https://www.swisscom.ch/en/about/sustainability/environment.html?login&nevistokenconsume&error=NOT_LOGGED_IN. Accessed on July 31st, 2021.

Swiss Federal Council. (2016). *Sustainable Development Strategy 2016–2019*. Retrieved from: <https://www.are.admin.ch/are/en/home/media/publications/sustainable-development/strategie-nachhaltige-entwicklung-2016--2019.html>. Accessed on 3rd May 2021.

Swiss Federal Council. (2021a). *Switzerland's Long-Term Climate Strategy*. <https://www.news.admin.ch/news/message/attachments/65879.pdf>. Accessed on 15th May 2021.

Swiss Federal Council. (2021b). *2030 Sustainable Development Strategy*. Retrieved from: <https://www.are.admin.ch/sne>. Accessed on 4th July 2021.

Swiss Federal Office of Energy (SFOE). (2020). *Energy Strategy 2050*. Retrieved from: <https://www.bfe.admin.ch/bfe/en/home/policy/energy-strategy-2050.html>. Accessed on 3rd August 2021.

Swiss Post. (2018). *Rapport de gestion 2018*. Retrieved from: https://geschaeftsbericht.post.ch/18/ar/app/uploads/FR_Post_Geschaeftsbericht_2018.pdf. Accessed on 11th October 2021.

Swiss Post. (2021a). *Our contribution to achieving the global Sustainable Development Goals*. Retrieved from: <https://geschaeftsbericht.post.ch/20/ar/en/sustainability/>. Accessed on July 31st 2021.

Swiss Post. (2021b). *Sustainability Report 2020*. Retrieved from: https://geschaeftsbericht.post.ch/20/ar/en/sustainability/?_ga=2.65865705.630560125.1633820096-614253902.1630232135. Accessed on July 31st 2021.

Swiss Post. (2021c). *Wir sind der Motor für eine moderne Schweiz. Global-Reporting-Initiative-Index 2020*. Retrieved from: https://geschaeftsbericht.post.ch/20/ar/app/uploads/DE_Post_GRI-Index_2020.pdf. Accessed 24th August 2021.

The Investopedia Team. (n.d.). *Private Sector*. Investopedia. Retrieved from <https://www.investopedia.com/terms/p/private-sector.asp>. Accessed on 30th June 2021.

THE SDG PARTNERSHIP GUIDEBOOK: A practical guide to building highimpact multi-stakeholder partnerships for the Sustainable Development Goals, Darian Stibbe and Dave Prescott, The Partnering Initiative and UNDESA 2020

Thornton, D., Gunningham, N. A., & Kagan, R. A. (2005). General deterrence and corporate environmental behavior. *Law & Policy*, 27(2), 262-288. <https://doi.org/10.1111/j.1467-9930.2005.00200.x>

Tosun, J., & Leininger, J. (2017). Governing the interlinkages between the sustainable development goals: Approaches to attain policy integration. *Global Challenges*, 1(9), 1-12. <https://doi.org/10.1002/gch2.201700036>

Tourais, P., & Videira, N. (2019). Innovative approaches to organisational sustainability: state-of-the-art and conceptual framework. In *Social Responsibility and Sustainability* (pp. 37-56). Springer, Cham. <https://doi.org/10.1002/csr.1910>

Tsalis, T. A., Malamateniou, K. E., Koulouriotis, D., & Nikolaou, I. E. (2020). New challenges for corporate sustainability reporting: United Nations' 2030 Agenda for sustainable development and the sustainable development goals. *Corporate Social Responsibility and Environmental Management*, 27(4), 1617-1629. <https://doi.org/10.1002/csr.1910>

Tyler, T.R. (2006). *Why People Obey the Law*. Princeton, NJ: Princeton University Press.

Ulucak, R., Khan, S. U. D., Baloch, M. A., & Li, N. (2020). Mitigation pathways toward sustainable development: Is there any trade-off between environmental regulation and carbon emissions reduction?. *Sustainable Development*, 28(4), 813-822. <https://doi.org/10.1002/sd.2032>

United Nations Climate Change. (2015). *The Paris agreement*. Retrieved from: <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>. Accessed on 20th May 2021.

- UN General Assembly, *Transforming our world: the 2030 Agenda for Sustainable Development*, 21 October 2015, A/RES/70/1, available at: <https://www.refworld.org/docid/57b6e3e44.html> [accessed 12 June 2021]
- UPC. (2018). Chiffres trimestriels de UPC. Retrieved from: <https://www.upc.ch/fr/qui-sommes-nous/societe/chiffres/>. Accessed on 11th October 2021.
- UPC. (2021). *Umwelt*. Retrieved from: <https://www.upc.ch/de/ueber-uns/engagement/umwelt/>. Accessed 5th October 2021.
- Van Campenhoudt, L., Marquet, J., & Quivy, R. (2017). *Manuel de recherche en sciences sociales-5e éd.* Dunod.
- Vazquez-Brust, D. A., & Plaza-Úbeda, J. A. (2021). What Characteristics Do the Firms have That Go Beyond Compliance with Regulation in Environmental Protection? A Multiple Discriminant Analysis. *Sustainability*, 13(4), 1873. <https://doi.org/10.3390/su13041873>
- Vishwakarma, A. K., Nema, A. K., & Sangle, S. (2019). What determines environmental proactiveness in the Indian cement sector? An empirical study. *Journal of Cleaner Production*, 234, 961-971. <https://doi.org/10.1016/j.jclepro.2019.06.291>
- Weaver, R. K. (2014). Compliance Regimes and Barriers to Behavioral Change. *Governance*, 27(2), 243–265. <https://doi.org/10.1111/gove.12032>
- Whiting, L. S. (2008). Semi-structured interviews: guidance for novice researchers. *Nursing Standard (through 2013)*, 22(23), 35-40. <https://doi.org/10.7748/ns2008.02.22.23.35.c6420>
- Wikipedia (2021). Planzer Transport. Retrieved from: https://fr.wikipedia.org/wiki/Planzer_Transport#:~:text=Avec%20environ%204%20200%20salari%C3%A9s,transports%20de%20marchandises%20en%20Suisse. Accessed on 11th October 2021.

- Winter, S. C., & May, P. J. (2001). Motivation for compliance with environmental regulations. *Journal of Policy Analysis and Management: The Journal of the Association for Public Policy Analysis and Management*, 20(4), 675-698. <https://doi.org/10.1002/pam.1023>
- Wolde-Rufael, Y., & Mulat-Weldemeskel, E. (2021). Do environmental taxes and environmental stringency policies reduce CO 2 emissions? Evidence from 7 emerging economies. *Environmental Science and Pollution Research*, 28(18), 22392-22408. <https://doi.org/10.1007/s11356-020-11475-8>
- World Commission on Environment and Development (WCED). (1987). Report of the World Commission on Environment and Development: Our Common Future. UN Documents: Gathering a Body of Global Agreements.
- Wu, J. (2009). Environmental compliance: the good, the bad, and the super green. *Journal of environmental management*, 90(11), 3363-3381. <https://doi.org/10.1016/j.jenvman.2009.05.017>
- Yauch, C. A., & Steudel, H. J. (2003). Complementary use of qualitative and quantitative cultural assessment methods. *Organizational research methods*, 6(4), 465-481. <https://doi.org/10.1177/1094428103257362>
- Zoom Video Communications Inc. (2016). *Security guide*. Zoom Video Communications Inc. Retrieved from: <https://d24cgw3uvb9a9h.cloudfront.net/static/40580/doc/Zoom-Security-White-Paper.pdf>. Accessed on 25th July 2021.

Legal references

- AS 2012 6989 Bundesgesetz über die Reduktion der CO₂-Emissionen (CO₂-Gesetz) in <https://www.fedlex.admin.ch/eli/oc/2012/855/de> (10.10.2021).
- BB 2021 462 Referendum gegen das Bundesgesetz vom 25. September 2020 über die Verminderung von Treibhausgasemissionen (CO₂-Gesetz) in <https://www.fedlex.admin.ch/eli/fga/2021/462/de> (10.10.2021).
- BB 2020 7847 Bundesgesetz über die Verminderung von Treibhausgasemissionen (CO₂-Gesetz) in <https://www.fedlex.admin.ch/eli/fga/2020/2013/de> (10.10.2021).
- RS 101 Bundesverfassung der Schweizerischen Eidgenossenschaft in <https://fedlex.data.admin.ch/filestore/fedlex.data.admin.ch/eli/cc/1999/404/20140518/de/pdf-a/fedlex-data-admin-ch-eli-cc-1999-404-20140518-de-pdf-a.pdf> (10.10.2021).