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Strategic Priorities under Swiss Energy Regulation - Propositions from Ownership Structure and Board of Directors

A Master's Thesis submitted for the degree of
"Master of Science"

supervised by
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Affidavit

I, **VERENA KONTSCHIEDER**, hereby declare

1. that I am the sole author of the present Master's Thesis, "STRATEGIC PRIORITIES UNDER SWISS ENERGY REGULATION - PROPOSITIONS FROM OWNERSHIP STRUCTURE AND BOARD OF DIRECTORS", 99 pages, bound, and that I have not used any source or tool other than those referenced or any other illicit aid or tool, and
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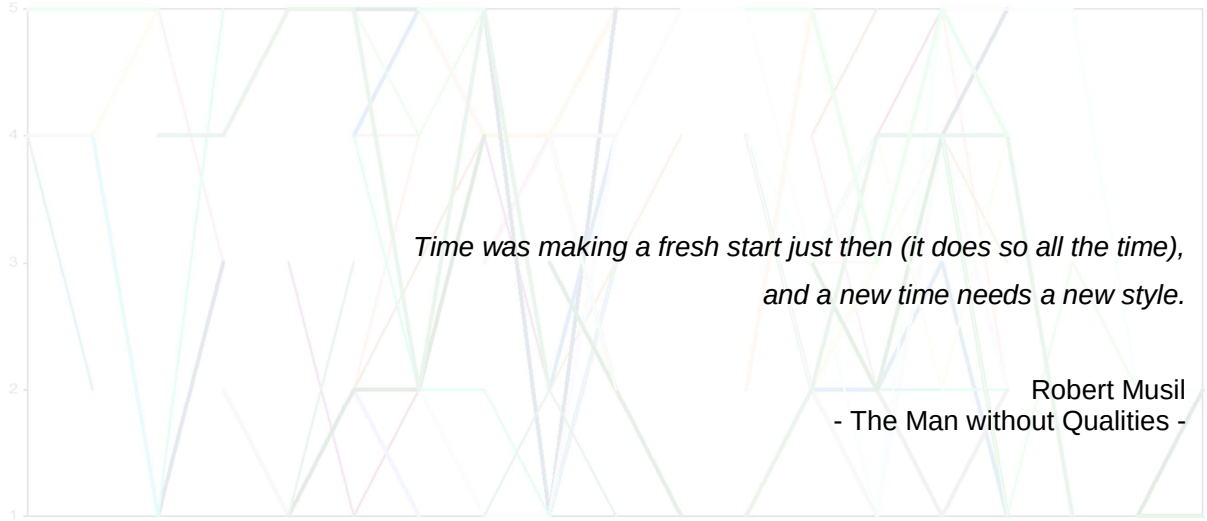

Time was making a fresh start just then (it does so all the time),
and a new time needs a new style.

Robert Musil
- The Man without Qualities -

Abstract

This thesis contributes to the understanding of public governance operationalization through public- and private corporate management reality. Their interface deserves special attention, as comprehending corporate strategic behavior helps to derive implications for energy transition – and enacting of climate policy in general - for the corporate world. As such, the underlying study derives propositions for the strategic response and proactivity of Swiss energy utilities under Switzerland's *EnergyStrategy2050,* the federation's energy regulatory greening and liberalization guidelines for energy transition. It locates its inquiry on the influence of corporate ownership and board of directors. Results confine themselves to thirty energy utilities that are active in the Swiss energy industry, covering over ninety per cent of the market in electricity sales.

Most importantly, the service public nature of the Swiss energy industry impacts strategy deployment and formation. It was found that energy regulation triggers corporate strategies that are similar across the industry and meet regulation. Yet, magnitude of action for these strategic priorities differs across energy utilities - meaning, positive strategic deviance from regulatory norms is given. In line with the energy regulatory requirements, renewables-based energy generation, efficiency and ecology-enhancing investments, strengthening ties with the regulator, and perceiving energy transition as a business case are dominant strategic priorities. What is more, owner type and interest concentration may moderate positively strategic proactivity towards energy transition: Results across strategic priorities suggest that city-owned as majority-owned utilities, and diffused ownership with free float participation for minority-owned utilities are moderating positively the formation of strategic priorities pro energy transition. Finally, exploratory analyses indicate a tendency for boards composed of community influentials and left-wing politicians to moderate positively the formation of strategic priorities pro energy transition - albeit depending on owner type. Based on these findings the author implies that even though complete market liberalization and renewables-based energy efficiency measures overwhelm the Swiss energy industry, work to regulatory requirements prevails.

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List of abbreviations

PG	Public governance
PCG	Public corporate governance
AR	Annual report
LSh	Letter to the shareholders
CO_2	Carbon dioxide
SEU	Sustainable energy utility
EMG	Energiemarktgesetz/ Energy Market Law
CO_2-G	CO_2-Gesetz/ CO_2-Law
EU	European Union
OECD	Organization of Economic Cooperation and Development
EnG	Energiegesetz/ Law on Energy
RES	Renewables

Abbreviations of energy utilities in the study

AGE	Acqua Gas Elettricità SA
AEW	AEW Energie AG
Alpiq	Alpiq Holding Ltd.
Axpo	Axpo Holding AG
AET	Azienda Elettrica Ticinese
AIL	Aziende Industriali di Lugano SA
BKW	BKW Energie AG
CKW	Centralschweizerische Kraftwerke AG
EWZ	Elektrizitätswerk der Stadt Zürich
EKS	Elektrizitätswerk des Kantons Schaffhausen AG
EOS	Energie Ouest Suisse Holding AG
EKZ	Elektrizitätswerk des Kantons Zürich
EWB	Energie Wasser Bern
EWL	Energie Wasser Luzern Holding AG
FMV	Forces Motrices Valaisannes SA
EBL	Genossenschaft Elektra Baselland

EBM	Genossenschaft Elektra Birseck Münchenstein
GD	Grande Dixence SA
GE	Groupe E SA
IBA	IBAarau AG
IWB	Industrielle Werke Basel
ESR	L'Energie de Sion-Région SA
SIL	Les Services industriels de Lausanne
REP	Repower
REG	Romande Energie Groupe SA
SGSW	Sankt Galler Stadtwerke
SIG	Service Industriels de Genève
SAK	St. Gallisch-Appenzellische Kraftwerke AG
SWW	Stadtwerk Winterthur
WWZ	Wasserwerke Zug

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To elaborate on the interplay between public and private corporate governance, change-induced innovation, and entrepreneurial tendencies in the Swiss energy sector has been, pre-eminently, an exciting and inspiring task. I thus like to express special gratitude to Florian Nägele, who, rather than a thesis supervisor, accompanied me through this process as a mentor. Equally I thank Bastien Girod, for providing me with scientific guidance throughout this final stage of my postgraduate studies. Very special thanks I submit to Prof. Dr. Volker Hoffmann and the entire SusTec community for unreservedly welcoming me as an equal member of the team with whom to exchange not just professional experience and scientific knowledge, but hours of laughter and moments of joy.

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Last but not least, I deeply respect the unforgettable irony of fate of a 36 hours power outage the day I started putting my thoughts down in writing.

1. Introduction

The first part of this thesis illustrates the motivation for the topic. Firstly, it addresses the relevance of regulation to changes in corporate strategic response. Secondly, it motivates the role of corporate governance, i.e., ownership and board, to strategic response. Two corresponding research questions are derived and subsequently illustrated in the research framework underlying this paper. Finally, the formal introduction to the structure of this document is given.

1.1 Motivation

The transition towards a cleaner and more efficient energy industry is posing unprecedented challenges to traditional players in the energy market (BCG, 2014). Switzerland's *EnergyStrategy2050*[1]*,* which is the regulatory action program that foments progress in Swiss energy transition since the year 2000, aims, e.g., at lowering average yearly per capita energy usage by 43 per cent or 245 TWh by 2035 (relative to 2000). Legal documents such as the *Energy Market Law* (*EMG*) operationalize the *Strategy*. Developed in the period from 1995 to 2003, the *EMG* had originally envisioned a fully open electricity market by 2015 and laid the cornerstone for the EU-Switzerland common internal electricity market (Sonderegger and Schedler, 2010, p. 3). Already since the 90s, Switzerland has established and renewed on a regular basis its regulatory action programs that change the industry's face towards a greener and more efficient one.

Today, roughly a decade after, partial market liberalization and the expected full one revolutionize Switzerland's energy industry and affect incumbent players' business models especially.[2] - Questioning the marketability of their business touches Swiss energy utilities more than ever (Schedler et al., 2007). Especially cost- and service quality considerations have become fundamental to once state-protected energy utilities (Schedler et al., 2007). Utilities' annual reports (AR) show a wide array of

[1] *EnergyStrategy2050* is the long-term action program guiding energy policy action in Switzerland since the year 2000

[2] So-called '*Phase I*' or *partial* market liberalization of the energy industry in Switzerland. It entrained free energy supplier choice for consumers with annual electricity demand of at least 100,000 kWh. Full market liberalization had been envisaged for January 2014, yet shifted back by at least one year

strategic response measures taken to regulation-induced market transition. On the one hand, measures range from proactive engagement in the *EnergyStrategy* via enforced investments into district heating and the promotion of biogas (IBAarau, AR 2013). On the other hand, support for energy transition can be hesitating as utilities perceive energy transition often as inconvenient, rendering cost-cutting measures and investments into secure supply indispensable (EBM AR 2013). Understanding what is important to the incumbent industry players' struggle for survival could help understand implications from energy transition regulation for the corporate world.

Though to date it is insufficiently clear *what* the deployed strategies by which Swiss energy utilities choose to respond to regulatory change exactly are. Theory so far agrees that institutional context limits such organizational response (Pache and Santos, 2010). Existing research further confirms that certain strategic choices are required when institutional context prescribes certain action (Dorado 2005). Nonetheless, a lack of understanding of Swiss utilities' preferentially deployed strategic topics in response to regulation-induced market change - i.e., strategic priorities - prevails. This is why this study's first focus is to investigate the strategic priorities of Swiss energy utilities, representative for the Swiss energy industry. Its first research question thus asks:

[RQ 1] *What are the strategic priorities under energy regulation for Swiss energy utilities?*

Apart from the missing knowledge on the nature of strategic priorities to Swiss energy utilities, it is also unclear *how* the latter are different across the utilities operating in the industry. Indeed, a recent benchmarking study undertaken by the Swiss *Bundesamt für Energie* (Swiss Federal Office for Energy, BFE/SFOE) sees different strategic proactivity in response to regulatory requirements prevail across Swiss energy utilities (Vettori et al., 2014). The benchmark of the fifty-five Swiss utilities under the federal energy action program *SwissEnergy* reveals different levels of proactivity for utilities' strategic action that address its main constituents energy efficiency and renewables-based electricity generation. A phenomenon that theory terms "*positive deviance from institutional norms*" (Walls and Hoffman, 2013, p. 253) can thus be observed for the strategies Swiss utilities deploy in response to energy regulation. Strategic proactivity can thus be understood as the sum of deployed strategic priorities each attending levels of action that go beyond the regulator's requirements.

What matters to proactivity in utility strategic priorities is the public sector context in which Swiss energy utilities traditionally operate. Researchers found that characteristics of an industry influence the process of strategic decision making (Hitt and Tyler, 1991). A recent survey on 1,600 state-owned enterprises (SOE) in Switzerland revealed, that two thirds found themselves curtailed in entrepreneurial freedom due to direct public sector dominance in ownership structures (Schedler et al. 2007: 41). In fact, governments worldwide struggle in repositioning their relation to the corporate world specifically and civil society in general (Edwards, 2002, p. 51). For example, since the entry into force of the *Federal Electricity Supply Law (StromVG)* in 2008, electricity supply is officially regulated as a Swiss-wide public responsibility [3] (Schweizerische Bundesversammlung, 2012; Sonderegger and Schedler, 2010, p. 12). Hence, public sector governance is of central interest - alongside structural changes - to the formation of strategic priorities in traditionally public industries (Schedler and Finger, 2008, p. 5).

Whereas governance describes the interrelation and coordination among public-private interests (Arienzo, 2004), public corporate governance addresses the corporate interface to change in its environment. Literature confirms that structural changes in the sector affect corporate governance in public sector industries (Hodges et al., 1996). For instance, under *'Phase I'* of Swiss electricity market liberalization (1995-2003, see above), utility legal entities have been transformed from public to private law ('*agencification*'), whereby share capital remained in public hands (Moynihan, 2006, p. 1029; Sonderegger and Schedler, 2010, p. 3). Today, 87% of the Swiss electricity industry is owned by the public hand (SES, 2014a). The specificity of publicly dominated shareholdings applies thus particularly well to Swiss energy utilities whose business is, traditionally, a *service public*.

Especially to the *'agents'* amongst Switzerland's energy utilities, ownership structure has a special role to play. Their business model lies upon acts of state sovereignty, in which the state formally assigns activities of *service public* to deregulated (state-independent), yet *still state-owned* corporations (*state-owned enterprises, SOE*) (Schedler et al., 2007, p. 12). Apart from this legal formality, ownership is also a precondition to promote radical change in the internal corporate environment.

3 Prior to that, electricity supply was purely in cantons' hands. For detailed information see Art. 5 *StromVG*, e.g., (5) … *"Der Bundesrat legt transparente und diskriminierungsfreie Regeln für die Zuordnung von Endverbrauchern zu einer bestimmten Spannungsebene fest. Er kann entsprechende Regeln für Elektrizitätserzeuger und Netzbetreiber festlegen."* …

Equally, ownership promotes the achievement of new goals of a corporation (Vo and Nguyen, 2011, p. 39). Out of its influence on corporate strategic response to environmental change and its specific role in energy *service public*, this thesis proposes ownership as a moderator to the formation of Swiss utilities' strategic priorities. Research question 2.1 subsequently asks:

[RQ 2.1] How does ownership structure of Swiss energy utilities influence the formation of strategic priorities under Swiss energy regulation?

Execution of ownership takes thus place at the firm board level[4] (Schedler et al., 2007, p. 3). Over fifty-five per cent of surveyed management representatives of public institutions in Switzerland indicate that the board is the central steering committee, through which strategic guidance from regulation is operationalized (Schedler et al., 2007, p. 40). State interests are thus vested in board mandates specifically reserved to the executive branch. Consequently, political control over energy utilities' performance mandate[5] is continuingly exercised and thus central to public corporations' governance (Finger, 2002). Literature confirms that boards are *"[…] at the interface between firms and their external environment […]" and are "[…] central to the organizational learning processes of transferring information […]"* (Tainio et al., 2001, p. 429). How its composition and relations affects strategic management practice under regulation is subsequently inquired in the second part of research question two. It addresses the role of the energy utilities' board of directors considered as the second important corporate governance constituent that is deemed to moderate proactivity in utilities' strategic priorities. It asks:

[RQ 2.2]: How does the board of directors of Swiss energy utilities influence the formation of strategic priorities under Swiss energy regulation?

In the light of the envisioned full electricity market liberalization in Switzerland, combined with the citizens' sustainability requirements, owner strategy, its execution at the board as well as the responsibility repartition between public and private sector are of ever more prominent importance (Sonderegger and Schedler, 2010, p. 4). This paper thus closely looks into the interrelation between regulation and formation of strategic priorities of Swiss energy utilities and subsequently determines how utilities'

[4] Unless indicated otherwise, ‚board' indicates the board of directors
[5] '*Öffentlicher Leistungsauftrag*'

corporate ownership and board structures influence the formation of the strategic priorities. The upcoming section visualizes this investigation logic underlying this paper's research.

1.2 Research framework

The research logic underlying this paper can be depicted in a research framework as illustrated in Figure 1. To understand how ownership structure and board composition moderate the formation of corporate strategic priorities under regulatory environment, the research approach is divided into two main relations. While research question one (RQ 1) explores the regulatory environment's influence on corporate strategic priorities (public governance), part two (RQ 2.1 and 2.2) explores the corporate environment, and how its two strategic variables owner and board moderate the regulatory environment's influence on the formation of corporate strategic priorities (corporate governance).

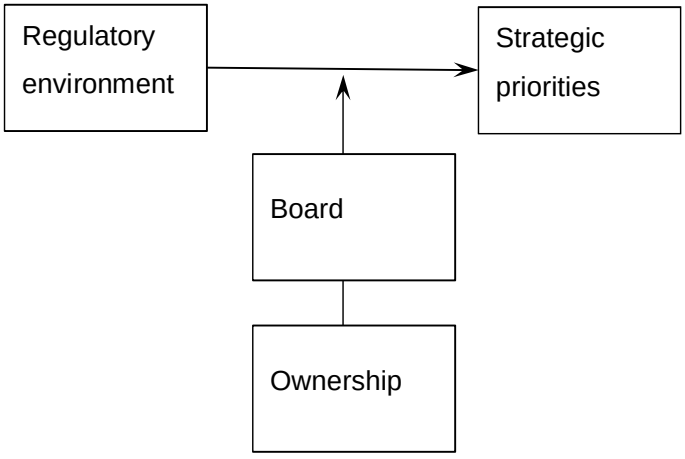

Figure 1 Research framework

Based on the example of the Swiss *EnergyStrategy2050*[6], the first research question pictures how energy utilities in the Swiss energy industry respond to their regulatory environment, which we name *strategic priorities*. Strategic priorities are the set of strategies preferentially deployed under regulatory influence. This provides a snapshot of what the industry believes is important to survive *today*, i.e., after the

[6] EnergyStrategy 2050 ("EnergieStrategie2050") is the long-term action program guiding energy policy action in Switzerland since the year 2000

decisive *Phase I* of *partial* electricity market liberalization and under energy transition as a whole. This can be seen as an indicator for utility strategic proactivity, or positive strategic deviation from regulatory requirements. As such, the thesis provides a brief introduction to corporate strategic response induced by public governance.

1.3 Structure of the thesis

This paper is divided into seven sections that lay down the exploratory research and deduced findings. After having outlined motivation and research framework in the initial section, section two introduces public governance theory and gives an overview on the role of ownership and board. Emphasis is put on corporate governance of public organizations (corporate and public corporate governance). Section three looks into the transition of the Swiss energy sector. A separate part is devoted to the role of regulation and institutional pressures under which energy utilities operate and are thus affected by in their corporate strategy making. Details on data and methodology follow in section four, prior to presenting the study's final results in section five. A discussion of the findings follows in the pre-final section six, which leads to final remarks and essential takeaways in the concluding section seven.

2. Theoretical foundation

This literature section provides a brief introduction to public governance (PG) theory. Theoretical understanding of the nature of public service provision and linked public-private sector relations is relevant to the study: Strategic priorities of Swiss energy utilities form in a traditionally public sector industry, shaped by a myriad of institutional requirements. The subsequent detailed overview on public corporate governance (PCG) provides the theoretical toolkit for the second part of the research: It addresses how ownership and board influence the formation of strategic priorities in public service industries. Ownership and board structures are separately discussed, alongside specific characteristics that serve the research aim. The section concludes with an analysis of the moderating role of the two selected corporate governance variables.

2.1 Public governance

Governance can be understood as the way issues of common interest are managed by the collective under concern (CGG, 1995)[7]. PG deals with the functioning and transient nature of public sector service provision. Leixnering and Polzer (2012, p. 94) discuss PG primarily as the *"malleable shapes and functions"* of public organizations for the management of the public sector. The evolution of public sector contemporary administrative theories, such as '*New Public Management'* or the '*Theory of Regulation'* indicate the transformative nature between the state and the dynamic forms by which it manages its services (Arienzo, 2004, p. 1) (e.g., *agencies*, *public private partnerships* (PPPs)). PG thus addresses the transformation of the public sector (Leixnering and Polzer, 2012) overall. Under such transformation, PG executes decisive functions to secure and regulate *service public*. In fact, the ultimate aim of PG therein is to *"create ordered rule and collective action"* (Stoker, 1998, p. 17). The Swiss energy industry as inherently public service industry undergoes such a decisive transformation: Altered energy policies bring a new set of rules to manage forms of interaction. How they affect utility strategies under the transition towards a more efficient and CO_2-neutral energy industry is still unclear.

Topics under energy governance touch upon more than just the state as the actor. Issues such as climate change naturally involve multiple parties in socio-political

[7] The Commission on Global Governance (CGG)

systems[8]. Diverse institutions are thus integrated in governing the energy transition, from utilities and civil society to the private sector (Matheson and Giroux, 2010; Mayntz, 1999). The United Nations Development Program (UNDP) see governance similarly as "*The exercise of economic, political, and administrative authority to manage a country's affairs at all levels. It comprises mechanisms, processes, and institutions through which citizens and groups articulate their interests, exercise their legal rights, meet their obligations, and mediate their differences* [9] *."* Public governance is thus a real *"policy network"* (Arienzo, 2004, p. 3) where coordination of diffused decision-making and codecision is required. Myriad actors and emotions as well as the degree of democratic legitimacy sought after render fields around environmental and climate policy special. How exactly energy utilities incorporate these collective exigencies of a multipliciy of actors into the formulation of strategic priorities remains unanswered.

Next to ecological consideration, efficiency criteria are paramount to energy transition specifically and *service public* transformation in general. Modern governance concepts integrate both business- and public sector aspects. As Arienzo (2004) puts it rightly: *"Urban governance constitutes, at its core, a process of negotiation and planning that involves multiple, hierarchically non-homogeneous, actors, whose cooperation though underlies the processes of policy-formulation and policy-making"* (Arienzo, 2004, p. 7). Public authorities are mainly held to provide the regulatory framework in which corporations and civil society perform as principal actors. A revival of action originating from localized group of actors services themselves takes place, where, ideally, they shall compete to deliver public services (Ostrom et al., 1961). Market efficiency is thus aimed at through privatization, ultimate control remains with the state. Tendencies of the so-called "electricity democratization" (e.g., Byrne and Mun, 2003, pp. 65–67) are fomented also in Switzerland's energy transition: via distributed generation, for instance, financial incentives, or direct payments channeled to households that behave in a more energy saving way (Gerigk et al., 2012, p. 1). Governing the interplay among Swiss private businesses -

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[8] *"Governance is the sum of the many ways individuals and institutions, public and private, manage their common affairs. It is a continuing process through which conflicting or diverse interests may be accommodated and co-operative action taken. It includes formal institutions and regimes empowered to enforce compliance, as well as informal arrangements that people and institutions either have agreed to or perceive to be in their interest"*, states, e.g., The Commission on Global Governance, in: *Our Global Neighbourhood*, Oxford: Oxford University Press, 1995, p. 4

[9] UNDP (1997) Governance and Sustainable Development, New York, p. 2-3

from incumbent energy utilities to lateral entrants - and civil society are landmark to an efficient, decentralized and thus democratized energy industry.

The radical transformation of traditionally public service industries renders a better understanding of the public organizations' new roles and controlled management indispensable. PG focuses on the mission behind the administration of traditionally public organizations: In line with the above, governing the Swiss energy industry involves a landscape of organizations and actors, from the regulator, to civil society, to the SOEs, or energy utilities. Theory emphasizes thus a *"holistic and consistent"* management approach (Leixnering and Polzer, 2012, p. 94). A careful balance between private- and public sector considerations – i.e., between market efficiency and democratic legitimacy – need be maintained. Indeed, the political (re-)orientation between public legitimacy and market efficiency, as well as responsibility repartition are a sensitive issue to public governance. Yet the issues have gained increasing attention only in the recent past, as *"dysfunctionalities and undesired effects"* from the *New Public Management* have occurred (Leixnering and Polzer, 2012, p. 85). It remains still unclear, how energy transition governance creates 'strategic order' in the corporate world. Also, not yet helps governance theory understand how the myriad collective interests - that paved the way for energy transition regulation - are incorporated into traditionally public sector corporate strategies. This thesis aims thus to close this gap by understanding how energy utilities reorient themselves under energy transition regulation, and how political or market logics shape their strategic rational. The latter requires a special focus on the corporate sphere: ownership and board as the corporate governing organs are thus looked into as follows.

2.2 Public corporate governance

Public corporate governance (PCG) applies to those cases where the state transfers its actually sovereign obligations of service public to separately established organizations (*agents*) or independent corporations, so-called state-owned enterprises (SOEs) (Al-Sunaidy and Green, 2006; Lienhard, 2009; OECD, 2011). While corporate governance (CG) deals with the internal mechanisms of the firm that aim at " […] bringing the interests of investors and managers into line … for the benefit of investors" (Mayer, 1997, p. 154), PCG is particularly exposed to corporation's external mechanisms. It equally addresses "[…] the relationship between the internal governance mechanisms of corporations *and* society's

conception of the scope of corporate accountability." (Deakin and Hughes, 1997, p. 2). Relevant as such to Swiss energy utilities, that are de facto state-owned, PCG builds upon CG and is a sub-discipline of PG: It discusses the organization and processes of economic corporations that – other than private corporations - are *owned, i.e., invested into, by the state*, and that *execute a public service mandate in the name of the state* (as investor).

Ultimate core underlying parameters for SOE's corporate action remain thus (civil) society's interests. Hermalin (2013, p. 734) emphasizes governance theory to be concerned with *"[…] what happens when investors seek to protect themselves against mismanagement, misallocation, and misappropriation of their investments by those who control the corporations in which they wish to invest."* This is why surveillance of SOE is usually secured by performance mandates (Finger, 2002). These stipulate requirements for the service public between the state and its owned, independent corporation. As soon as SOEs' financial success can be guaranteed *alongside* accountability issues (i.e., service public expectations are sufficiently met) one speaks about *'Good Governance'* (Arienzo, 2004, p. 5). As such, PCG can be interpreted as an indicator of proper service provision, or *good* strategic priorities that ensure quality standards of public service requirements are met - from both the market efficiency and democratic legitimacy angle.

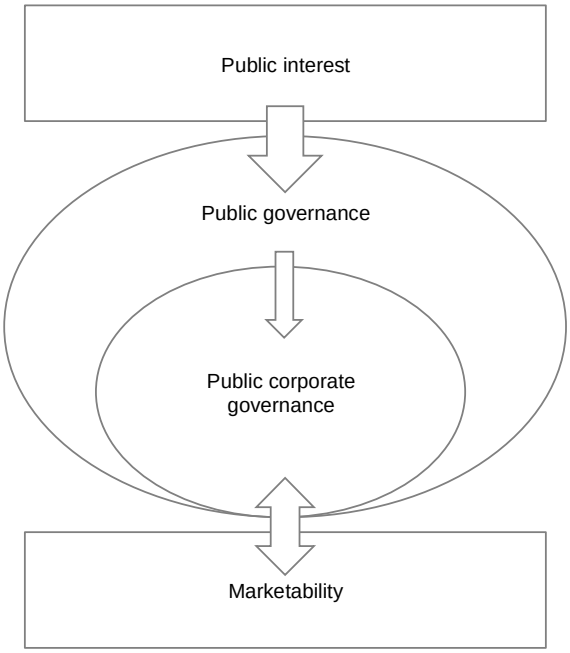

Figure 2 Link between public governance and public corporate governance
(Own illustration based on Schedler et al., 2007, fig. 3)

Applied to energy service provision, the state as owner has two functions when ensuring efficiency and democracy to be integrated in utility strategic priorities: He is the precondition for promoting corporate change and new goals but also remains accountable to the population in these actions. Figure 2 illustrates this relation and incorporates PCG and PG considerations. Where, on the one end, democratic interest determines the potential for PG, marketability of SOE services on the other end serves the owning state as indication for good service provision. As energy and electricity provision is an inherently public service the state maintains final administrative responsibility (Arienzo, 2004, p. 4; Deakin and Hughes, 1997).

Usually, the state transfers administrative responsibility for the fulfillment of service public to the non-federal polity level. Meaning, ownership rights are executed at the cantonal, communal, or municipal (city) level (e.g. Blumstein et al., 2005). These owning entities, on behalf of the state, execute their interests and surveillance function at the board level (Schedler et al., 2007, p. 3). Ownership sets the baseline for SOEs strategic priorities and is supported by service mandates (Schedler, 2008). The owner promotes change in the internal organizational environment and translates it into organizational goals (Vo and Nguyen, 2011). Boards constitute in line with ownership characteristics, and shape directly corporate strategic choice and implementation (Ruigrok et al., 2006). As central elements to corporate governance owner and board have thus a central say in strategic choice. Consequently both owners at the polity level and the boards they act upon influence the formulation of strategic priorities of Swiss energy utilities under federal energy regulatory environment.

The upcoming two sub-chapters discuss, based on existing literature, how owner and board as decisive organizational organs in PCG shape the formation of strategic priorities. As elements of private sector management mingle with the ones in the public sector sphere, public and private corporate governance aspects combine when exploring the role of ownership and board in detail. After a general introduction to their functions, the two governing bodies are analyzed alongside three characteristics each: *legal entity*, *owner type*, and *owner concentration*; as well as *board professional composition*, *board political affiliation* and *board interlocks*, respectively. The final part of this section discusses the effect of moderation owner and board might have on the formation of strategic priorities.

2.2.1 The role of ownership

This section explains first the owner's position under PCG with respect to strategy. Ownership sets the baseline for organizational strategic priorities. It promotes change in the internal organizational environment and supports organizational goals which translates into strategy formulation (Vo and Nguyen, 2011). Three detailed characteristics are frequently analyzed in literature when it comes to ownership: *Legal entity*, also called legal personality, organizational form, or economic agent, marking the boundaries of the firm (Hansmann, 2013, p. 896). *Owner type*, which are the *"patrons"* holding the contractual rights (Hansmann, 2013, pp. 914, 915): These can be private or corporate persons holding shares, or a public polity, such as a city, canton, etc. De facto control remains highest for those owners whose interests are sufficiently concentrated. *Owner concentration* depicts thus the concentration of control rights per owner type (Vitali et al., 2011), e.g., expressed as a percentage of shareholdings. As the three ownership characteristics are deemed equally decisive to this thesis' analysis, the subsequent paragraphs elaborate on them in detail.

Legal entity

From the legal view, legal entity defines the boundaries of a firm based on its assets (Hansmann, 2013, p. 896). It stands for the *"[…] legal capacities to hold and convey property, to make contracts […]"* (Kornhauser and MacLeod, 2013, p. 920). Different legal forms exist to doing so: sole proprietorship, partnership, business corporations, trusts, not-for-profit-organizations, employee-owned firms, institutions under public law, etc., which are termed *"standard legal forms"* (Hansmann and Haven, 2006, p. 911). Legal entity can also be viewed as a *"nexus of contracts"* (Hansmann, 2013, p. 896) (economic view): As *"[o]rganizations consist largely to get things done […]"* (Gibbons et al., 2013, p. 373) they are entities in relation with their environments which normally choose the environment in which they enter in contractual obligation, conclude Kornhauser and MacLeod (2013). They find also that firms are '*agents*' that remain passive towards the environment, or, alternatively choose to change the exchange environment actively. As such, legal entity establishes patterns of how owners and other parties (e.g. suppliers, consumers, citizens) relate to it (Hansmann and Haven, 2006). All of these legal entity considerations are vital to answering the questions posed in the thesis: The Swiss energy utility industry consists largely of business corporations (limited) and institutions under public law that fulfill (contractually) energy service public in Switzerland (SES, 2014a; Sonderegger and Schedler, 2010). These standard legal entity types are preferential forms for the organization of SOEs, serving market efficiency logics in the public sector. They

could influence the formation of strategic priorities of Swiss energy utilities. Equally, a performance mandate between the state and the SOE establishes contractual obligations that ensure a more or less active execution of the mandate. The administrative body as patron has, theoretically, the right to hold the SOE liable in case of default in public service fulfillment. Legal entity as the *"nexus of contracts"* and *"hub of assets"* (Hansmann, 2013, p. 896) thus stipulates corporate organs' task responsibilities and defines contractual relations. Meaning, the still strong public sector involvement might have an impact on the formation of utility strategic priorities under energy transition.

Owner type

Contractual rights are in the hands of the owner (Hansmann, 2013, pp. 914, 915) Theoretically, *anyone* could be the owner of a firm (Hansmann, 2013, p. 897). Usually, the owners are the shareholders of the firm, which is typical for investor-owned corporations (or energy utilities). Owner type refers thus to "[…] *a person or a firm owning another firm entirely or partially […]"* (Vitali et al., 2011, p. 2). Most importantly, the owner defines the finality and scope of corporate accountability (Arienzo, 2004; Deakin and Hughes, 1997). In Swiss SOEs, the state's executive branch (cantons, cities) assumes the ownership tasks – either as an investor into investor-owned utilities or as the owner of utilities under public law (Sonderegger and Schedler, 2010, p. 7). There are only few exceptions: cooperatives as non-investor owned utilities and listed companies that allow for majority holdings in the form of free float. The owner type is thus defined in this thesis as any kind of person or entity that possesses parts of or the entire firm, and ultimately secures its interest strategy making. Once secured its interest, substantial interference with the formation of strategic priorities under energy transition could take place. In the Swiss energy industry, where owner type is based in the hands of the state, the owner may have a particular influence on the formation of strategic priorities under energy transition.

The way control rights and decision-making power are distributed among owner types affects the cost of collective decision-making: Decisions may be skewed towards the interests of those owners who are better informed about their interests or strategically positioned to control the agenda (Hansmann, 2013, p. 903). Typically, the state assigns exclusive control rights or a certain quantity of shareholdings to *homogeneous* bodies, e.g., cantons and cities as exclusive owners or sub-group of shareholders. Multiple owner types may be involved in investor-owned or listed SOEs with a heterogeneous investor pool. Costs of collective decision-making

increase in the heterogeneity case (Hansmann and Haven, 2006; Pache and Santos, 2010). Such costs of collective decision-making include, e.g., the discussion of matters amongst owners, or formation and break-up of coalitions between owners. These costs are lowest for homogenous investor types, or a singly owner, who is able to enforce its interest without extensive discussion or coalition formation. Yet homogeneity comes at the cost of alternative options and creativity: It disadvantages non-privileged groups in the owner pool. These disadvantages would multiply in non-investor-owned corporations. The latter is thus crucial in the assignment of control rights in SOE and service public energy utilities: The good fulfillment of strategic priorities requires a balance of efficiency- *and* social aspects under PCG.

Owner concentration

De facto control remains for those owner types whose interests are concentrated. - Bluntly put, the larger the ownership share in a firm, the larger is the associated control over it (Vitali et al., 2011, p. 3). Following Vitali et al. (2011), control is computed from ownership[10]: Whereas the so-called *'majority shareholder'* has full control, non-majority or minority shareholders maintain some control (Vitali et al., 2011, p. 3). The degree of control depends upon the relative position of the shareholders, which implies that a certain threshold value need be passed. In the easy case of two shareholders the threshold value would be 50.01 per cent minimum. As soon as a threshold is exceeded, one party has full control, while the other loses control. In line with the above-described, control over strategic priorities stems from owner concentration that - once exceeded a certain threshold – has prevalence in its formation (Vitali et al., 2011, fig. 1). The executive branch of the state with a given concentration of control rights thus has the potential to shape the formation of strategic priorities. Owner concentration requires further scrutiny also in the Swiss energy industry case.

As stated at an earlier stage in this section, in PCG the owner exercises its control rights via the board. This is what is known as *"(partial) representation of the public as shareholder*" (Schedler et al., 2007, p. 49). The board`s position under PCG with respect to strategy is thus explained in the upcoming part of this section.

[10] It is recognized that *'separation of ownership'* is given in certain cases, e.g., in publicly traded corporations or business corporations with dispersed shareholdings, where firms owners ('*shareholders'*) lack the right to manage the firm directly. Yet, the author adopts the opinion of Hansmann (2013), that such a notion is contradictory: *"Ownership by definition comprises control"* (p.897)

2.2.2 The role of the board of directors

This section discusses literature on how the board impacts the formation of corporate strategy. Generally, the board of directors is the inner governing body responsible for integrating outside corporate issues under strategic change (Walls and Hoffman, 2013). It is thus central to this thesis' investigation from a PCG viewpoint. The board is analyzed alongside three characteristics that are widely recognized in literature: namely, *board composition*, board *political affiliation* and *interlocks*, i.e., board ties. Prior to this, a brief introduction provides the most important and general theoretical arguments on board effects on strategy.

Overall, literature describes the board as *"[…] the organizational body that interprets external issues and guides organizational response."* (Walls and Hoffman, 2013, p. 253). Concerning the two primary components of the board's internal administrative function, it is the provider of advice and counsel, and the organ that exercises control (Pfeffer and Salancik 1978). The board also selects and dismisses top management, or evaluates managers' performance (Ruigrok et al., 2006, p. 1201). Mizruchi (1983) noted that a company's board is in a position to establish the parameters within which strategic decision-making occurs. This study focuses in particular on the *"organizational response"* issue as addressed by Walls and Hoffman (2013) and Mizruchi (1983). These scholars found that boards of directors influence strategic response under environmental legislation. Energy policy and transition is one branch of environmental legislation. This is why the thesis explores the utilities' board role under organizational strategic response to energy industry change. With its specific focus on energy policy, the thesis also contributes to a more specialized understanding of boards' impact on strategy formation.

So far, literature has focused widely on two functions boards have with regards to the formation of corporate strategy: namely, the board's agency function (Baysinger and Hoskisson, 1990) and resource-dependence function (Pearce and Zahra, 1991). As agents, members of the board (directors) control strategic decision-making on behalf of the owner. This function is of special importance to boards of SOEs, due to their task of *"(partial) representation of the public as shareholder"* (Schedler et al., 2007, p. 49). Meaning, a defined quantity of SOE board mandates is reserved to delegates of the state that represent the public as owners. SOE board directors control executive

managers' decisions and their implementation (Hillman and Dalziel, 2003) with a view to good fulfillment of the public service mandate. As such, in publicly governed industries, service public is ensured by the corresponding public representation at the board level and subsequently executed by the chosen and assigned board members. Such a politically composed board can be expected for public service energy utilities. This suggests a formulation of strategic priorities that corresponds fully – or even surpasses – Switzerland's energy regulatory requirements.

Not just the board's agency function, but particularly the board's resource role is important to the questions this thesis poses: *"[[I]ndustry structure analysis needs to be supplemented by the analysis of social structure."*, goes Whittington (1992, p. 708). Giddens (1984) long ago developed its structurationist approach according to which managerial agents undertake *"selective information filtering"* (p. 27) depending on the social contexts ("structures") in which they operate. The so-called resource-dependence function of the board (Pearce and Zahra, 1991) refers to the provision of company-essential resources through external environmental links (Hillman and Dalziel, 2003; Pfeffer and Salancik, 1978) by board directors. Proposed by Hillman and Dalziel (2003) the *'concept of board capital*' provides a proxy for the board's capacity of resource provision: The sum of single board directors' human and social capital adds up to the total board capacity to engage in its functions of resource provision. This implies that utility boards dominated by public representatives in their composition dispose of a resource-base that is considerably politically shaped, as each public representative is to a certain extent politically shaped. – The whole board is more than the sum of its single parts, the board members. Such board capital would certainly promote strategic priorities that are supportive to energy transition.

The resource-provision perspective on human and social capital - brought to the board by its members - is adopted to explore how strategic priorities are formed at the Swiss energy industry level. Originally formulated by Pfeffer and Salancik (1978), Haynes and Hillman (2010) apply the following definition in their investigation of board effect on strategic response under environmental change from deregulation: *"[…] The board provides advice and counsel to the firm on strategy formulation, access to information outside the firm, preferential access to valuable resources through personal connections, skills and expertise, and legitimacy […]"* (Haynes and Hillman, 2010, p. 1145). What follows for the underlying research questions is that agency perspective is essentially part of the resource dependence function: Agency in energy utilities originates in public governance, thus the political sphere, due to

their inherently public nature of the task. The public sphere provides the social structure that serves as the boards' and board members' environment. Board is referred to in this thesis – in line with the above definition by Hillman and Dalziel (2003) - as the collective organ. Characteristics that are often ascribed to it in literature, are *board professional composition* and *board political affiliation* as well as brought-in social capital via *interlocks* (Baysinger and Hoskisson, 1990; Pearce and Zahra, 1991; Pfeffer and Salancik, 1978). These three are discussed as follows as they may influence – both from the agency and resource dependence function of utility boards –the formation of strategic priorities pro energy regulation.

Board professional composition

Goodstein and Boeker (1991) argued that emphasis in the composition of the board of directors motivates the adoption of specific strategies. An interesting categorization of board composition provide Haynes and Hillman (Haynes and Hillman, 2010, p. 1154). They separate boards according to their degree of "*breadth*" and "*depth*". They subsume under board *'breadth*' the portfolio of directors' functional, occupational, social, professional experiences and extra-industry ties. Board functional background, or professional composition, is divided into three professional groups (Hillman et al., 2000): There are *business experts*, who are directors with significant knowledge and expertise in general management. *Community influentials* include politicians, academics, or other community members. The third group holds *support specialists*, which are legal experts (e.g., attorneys), finance specialists, (e.g., bankers, venture capitalists, and investment bankers) as well as sales and marketing professionals (e.g., advertising executives). The thesis is based upon this simple taxonomy. As straightforward yet exhaustive categorization it is applicable also to public service institutions such as the energy industry.

Board political affiliation

From the logic on professional board composition political affiliation is extracted as an additional characteristic to explore in its influence on strategic priorities. In the public sector, political influence constitutes a challenge with regards to the development of an effective corporate governance structure (Schedler and Finger, 2008). Mostly, exclusive rights upon board representation reserved to the owning executive branch exist (resulting from the partial representation of the public shareholders) (Sonderegger and Schedler, 2010). This renders the analysis of politically enriched board capital important to explore (actually a sub-group of community influential typology), as control may flow from the regulator via its agents

upon strategic formulation. The latter may disrupt the balance between public corporate governance and purely corporate governance, which had been aimed at by *'agencification'* and lead to the *"politics-vs.-market dilemma"* (Schedler and Finger, 2008, p. 2) for SOE governance. Political affiliation on utility board could thus drive the boards' agent function, where politicians on SOEs represent the executive branch as owners. Again, a bias pro energy regulation could be present in the formation of strategic priorities for highly politically affiliated utility boards. This is why political affiliation deserves special attention in this thesis.

Board locks

As the third board characteristic director intra-industry and extra-industry ties are identified. Giddens (1984) states that managerial agents undertake *"selective information filtering"* (p. 27) depending on the social contexts *("structures"*) in which they operate. '*Inside directors'* serve on boards largely to provide firm-specific information (Fama and Jensen, 1983). While each inside director may have specific types of expertise as well as specific relationships or linkages with environmental contingencies, the primary resource each insider provides is internally focused. '*Outside directors'*, however, primarily provide resources needed to deal with external factors. In line with Haynes and Hillman (2010) and Hillman and Dalziel's (2003), board capital logic, board depth seeks to investigate directors' embeddedness into the firm's primary industry via intra-industry ties, board capital breadth captures heterogeneity of directors and includes extra-industry ties. Intra-industry ties address thus the Swiss energy industry in our case, extra-industry ties are ties to all industries apart from the former. The sum of intra-industry and extra-industry ties, or extra- and intralocks, are termed board locks for this thesis' purpose.

Pfeffer and Salancik (1978) assert four primary benefits resulting from environmental linkages through boards: (1) provision of specific resources, such as expertise and advice from individuals with experience in a variety of strategic areas; (2) channels for communicating information between external organizations and the firm; (3) aids in obtaining commitments or support from important elements outside the firm; and (4) legitimacy (Pfeffer and Salancik, pp. 145 and 161). We adopt this broadly accepted view of the four primary benefits of locked board members: Board intralocks are important for the energy industry in Switzerland due to the substantial number of "*Überlandwerke*", or *cross-regional utilities*. They exist due to cross-shareholdings among Swiss energy utilities. Investments may be up- or down the energy supply chain, i.e., range from conventional electricity generators to multi-

utilities. Cross-holdings depict thus the sum of economic value over which a given firm has influence (Vitali et al., 2011), whereby board directors' positions helps predict strategic proactivity based on resource provision (Walls and Hoffman, 2013). Board extralocks bring independence which is a prerequisite for strategic proactivity (Dalton and Daily, 1999; Judge and Zeithaml, 1992). On the one hand, a highly entrenched Swiss energy utility industry based on intralocks could drive the formulation of conservative strategies: intralocked utilities could form an energy-transition opposing alliance: they could form strategies that align minimally with energy regulation. Highly extralocked utilities, on the other hand, could drive the formation of strategic priorities pro energy transition. This relatively higher strategic proactivity pro energy transition could stem from, e.g., the more heterogeneous board member resources that constitute the board capital. Extralocked utilites could also show less risk aversion to industry change. Equally, extralocks could eradicate group dynamics upholding the industry mainstream and status quo. Utilities that are little intralocked but highly extralocked might thus suppress defensive formulation of utility incumbents' established strategies. Instead, they would support energy transition in the formation of strategic priorities pro energy transition.

As the concluding part of this section, Figure 3 illustrates the theoretical link from the corporate governance organs ownership and board on strategy.

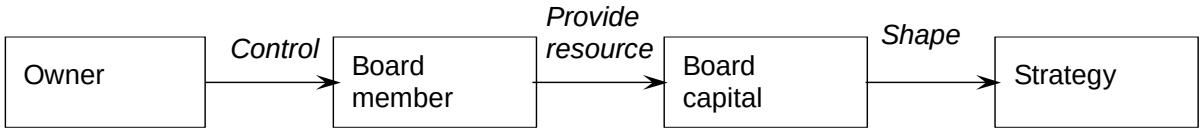

Figure 3 Pathway of ownership and board influence on strategic priorities
Own illustration, adapted from (Hillman and Dalziel, 2003, p. 2002)

Ownership structure, i.e., owner type and concentration are found to shape strategic priorities indirectly via the board of directors they control, i.e., board composition, political affiliation and board ties shape strategic priorities. Legal entity establishes the organizational boundaries (nexus of contracts and asset hub) upon which the owner acts. Depending on owner and board's exact characteristics, strategic priorities can be more or less pronounced. So may homogeneous ownership of SOEs decrease costs of decision-making, yet risk to neglect the careful balance of efficiency and democracy considerations. Also, the executive organ as owner of

public service energy utilities and majority owner of control rights may trigger the formulation of dominant strategic priorities. The board, on the other hand, may skew formulation of strategic priorities towards a certain direction out of functionally homogeneous board capital or heavily politically affiliated one. Heavily locked boards are deemed to serve synergy exploitation within or between industries (intra- vs. extralocks) or allow for timely knowledge transferal leading to relatively visionary strategic decision-making.

This study argues that corporations show more or less proactivity in strategic priorities. Meaning, the set of strategies that prevail to the utility at hand under energy regulation-induced industry change, which we term strategic priorities, as well as the more or less pronounced activity behind the strategic priorities, termed positive strategic deviation[11], may vary according to corporate governance organs ownership and board. The effect from ownership and board that induces (positive) deviance in strategic priorities is what we term moderation and discuss in the next section.

2.2.3 Moderator role of ownership and board

Walls and Hoffman (2013) make an explicit case how the board shapes the integration of environmental regulation on strategic agenda. In detail, their paper investigates the phenomenon of *positive organizational deviance from institutional norms covering environmental standards*. Applicability of their logic to this study is given as it deals with the influence from board and owner on the formation of strategic priorities in the Swiss energy industry. Energy regulation includes environmental issues and, in addition, utilities are prone to institutional pressures from the private business and political sphere, as explained theoretically as follows.

From environmental regulation institutional pressures arise. Institutional pressures are integrated into corporations' strategic agendas more or less *"intentionally"* (Baron, 2006). Namely, organizations may *"adhere"* or *"proactively adopt"* environmental practices. The latter is what is termed in *literature "positive strategic deviance"*, (Hoffman, 2001; Spreitzer and Sonenshein, 2004). Walls and Hoffman (2013) located their inquiry on boards and found that *"exceptional boards"* drive

[11] Corporations are expected to not deviate negatively from a regulation yet to fulfill at least its minimum requirements

positively strategic priorities beyond energy regulatory standards. Such boards would cause strategic priorities to deviate positively from the Swiss energy regulatory requirements. In other words, such boards would positively moderate the formation of strategic priorities pro energy transition. This study thus understands as *strategic proactivity* the adoption of strategic priorities that go beyond regulatory exigencies due to positive moderation by owner and board. Such proactivity would additionally create overall societal benefit, i.e., benefit to the public that is destined to be served by the *service public*, as both market efficiency and democratic legitimacy standards need be met by SOEs.

The interface of a multiplicity of actors thus lies at the core of this paper's investigation. This renders a governance point of view useful for the investigation of the changing face of the Swiss energy industry. Utilities' corporate strategic action is conditioned by the owner, mostly a polity (canton, or muncipality), and the board of directors, who both are subject to exigencies from regulating body (federation) and respond to demands by civil society (voting population, citizenry) and the public as a whole (climate change is a cross-border issue). What the regulator's exigencies are and how these have contributed to the energy industry's evolution is laid down in the following section on energy transition in Switzerland.

3. Energy transition in Switzerland

In the 90s, a decentralization wave of Swiss retail utilities aimed at higher efficiency and public sector independence for the industry. Still, the regulation-providing Swiss federation, and its regulation-executing bodies at the cantonal and municipal level continue to play a strong role in the management of the Switzerland's energy industry. Today, external stimuli to the Swiss market urge further action from regulatory side, to name but the Fukushima nuclear disaster in 2011, or the since 2001 ongoing bilateral electricity negotiations between the European Union and Switzerland[12]. At this stage we want to understand better the transformation of the Swiss energy industry. Historical conditions and regulatory changes lead to an alteration in the strategies industry players adopt: they condition the utilities' strategic priorities. Both these conditions that shape Swiss energy utilities as corporate representatives of the Swiss energy industry are discussed, based on available literature, under the respective headings of this section.

3.1 Swiss energy industry evolution

From a historical point of view, Switzerland's electricity industry lists amongst the most *"protected and cartelized"* in the OECD (Al-Sunaidy and Green, 2006, p. 769). A shift in the mid-90s started to disrupt the state-protected electricity industry (Accenture, 2007; OECD, 2001). Power liberalization became the panacea to stressed public financial households - equally so to the Swiss energy industry, where liberalization was being examined and *Energy Market Law* (*EMG*) developed since 1995[13] (Sonderegger and Schedler, 2010, p. 3). Modernizing the state-based electricity industry involved depoliticizing energy service public also in Switzerland: Its power liberalization addressed the transferal of electricity (energy) provision as a purely state-based task (public task) to a competition-driven market, where the process disrupts established politico-economic settings (Accenture, 2007, p. 4). Tasks falling under the domain of public service provision were transferred to *agents*, i.e., legally independent, autonomous institutions. This phenomenon of

[12] Since 2001, a EU-Switzerland bilateral electricity convention is being negotiated (DEA, 2013). The bilateral agreement envisages harmonization of the EU- with the Swiss electricity market, cross border movements, and network supply security. Even if suspended at the time of writing due to a positive Swiss-wide anti-freedom of movement vote (Hewitt, 2014) these accords are an indicator of the shape Swiss' future energy market likely adopts

[13] Market liberalization is laid down in EMG (Energiemarktgesetz). Full liberalization was rejected by Swiss population in the September 2002 plebiscite

decentralization and independence of public service providers (organizations) is well-known as '*agencification'* (Busuioc, 2012; Moynihan, 2006). Under its depoliticization and market efficiency enforcement *'Let the managers manage'* and '*increase of autonomy'* are characteristic buzzwords (Kettl, 1997). From the privatization waves utilities had already once undergone in the 90s, parallels to today's energy transition can be drawn: With emphasis on partial and full market liberalization, again, new organizational landscapes are being developed. Utilities undergo, once again, pressure for higher market efficiency. Their strategic priorities under energy regulation are expected to resemble efficiency considerations in particular.

Under agencification and PCG, the Swiss federation (represented by the parliament) maintains to functions (Sonderegger and Schedler, 2010, p. 11): guarantee for the provision of service public next to the function of ownership of the agent providing the service public. Meaning, even if the state assigns sufficient autonomy to the selected agent he can make use of his ownership function to push through his interests. Indeed, a survey reveals that parliamentary responsibility is decisive or strategic decision-making in Swiss utilities and increases, in fact, with utility size (in annual GWh sold) (Sonderegger and Schedler, 2010, p. 27). This intervening position, comparable to a veto right, is justified by the public interest the state represents by his engagement as owner. The state's (parliamentary) interests are executed by his executive branch, usually the cantons or cities, who act as owners on his behalf. The so-called owner strategy and the public service mandate stipulate the owners' intentions (Schedler, 2008; Schedler et al., 2007, p. 58). This notion is counterintuitive in the light of liberalization and agencification tendencies and thus of special interest to PG and PCG, where its is still little scientifically explored: Cities and cantons as - yet not *de lege* - but *de facto* owners would still be able to control energy service public. Such logic lets expect relatively little market efficiency in the formation of utility strategic priorities under energy transition.

Figure 4 illustrates graphically the above-described relation between parliamentary control and executive ownership and links it to the public governance discussion from section two. It also depicts that strategic priorities evolve at the intersection between the executive owner and the corporate board, due to the performance mandates applied by Switzerland. Schedler et al. (2007, p. 28) confirm, that conflicting interests between democracy and free market may arise in how today's ever more liberalized Swiss energy industry is structured. This stems not only from the above-described strategy intervention function of the state at parliamentary level: One fourth of Swiss

SOEs applies fixed public-private representative ratios at the corporate board (Schedler et al., 2007, p. 50). Nearly one third of the criteria applied to board member (director) selection are political (Schedler et al., 2007). Yet surveyed representatives

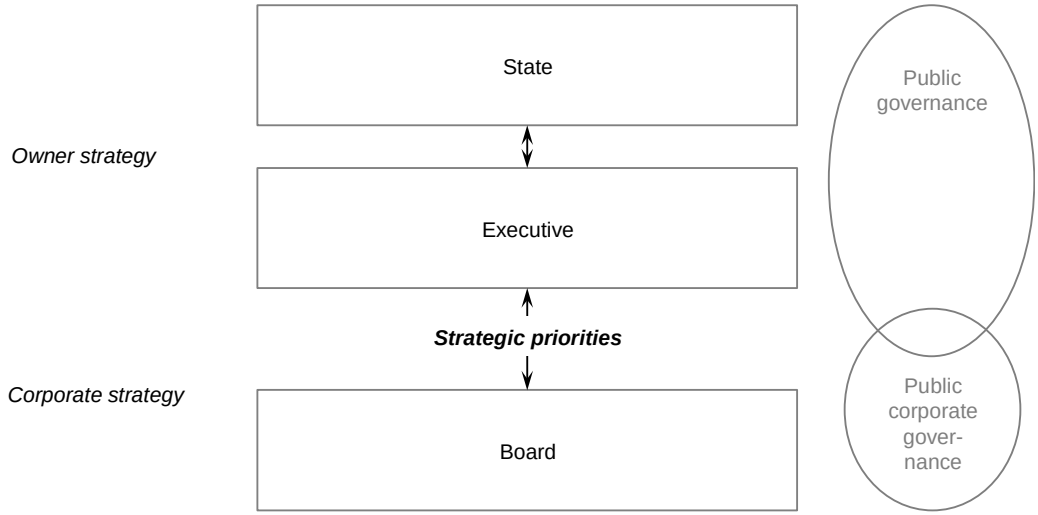

Figure 4 Public (corporate governance) applied in the Swiss energy industry
(Own illustration based on Schedler, 2008, p. 1; Schedler et al., 2007)

of Swiss SOEs wish rather for an *'economic board'*, without the domination of political thinking (Schedler et al., 2007, p. 51). Two issues are thus equally relevant for consideration regarding the changing face of the Swiss energy industry: First, which rational prevails – political or economic? Second, if it is politics, is the policy elite shaped by a *"pro-growth coalition"* or a *"pro-ecology"* one (?), as they are categorized by Kriesi and Jegen (2001). Insecure whether the one mindset precludes the other, the *'politics-vs.-market dilemma'* is present in today's energy industry in Switzerland: Utilities operate in an industry where public and private sphere seem to get more and more intertwined. This renders research on the formation of strategic priorities of energy utilities extremely important for successful policy guidelines and implementation in general, and environmental as well as climate policy in particular:

Subsuming the above, Switzerland enforces market readiness since the 90s – in line with the global power liberalization trend. The resulting structural market change enforced depoliticization and autonomy to corporate agents that replace the public sphere in electricity provision as traditional service public. Still, cantons and cities serve as owners in the industry. As state executive organs they fulfill, on behalf of the state as the guarantor, energy service provision. De facto, the industry remains a

state-owned albeit agencification. Influence of the political rational remains next to the enforced economic one - especially through the representation of political board members. How this industrial evolution from a global power liberalization trend is linked to the dominant energy transition regulatory framework in Switzerland is described in the upcoming section.

3.2 Energy policy provisions

Since 1990, energy policy has been enshrined in the Swiss constitution, as sufficient, broad, safe, economic and environmentally friendly energy supply, that serves economic and rational energy consumption (Eidgenossenschaft, 2013; Gerigk et al., 2012, p. 11). A major instrument to enhance energy efficiency and the deployment of renewable energies since 2000 has been the *SwissEnergy* program, which resulted in today's *EnergyStrategy2050* (SFOE, 2013a). Such action plans foresee, e.g., to decrease the consumption of fossil fuels by twenty per cent and to increase the portion of renewable energies of the total energy consumed by fifty per cent until 2020 (SFOE, 2013b). To ensure legal enforcement, both the *CO_2 Law* (Bundesversammlung and Eidgenossenschaft, 2013) and the *Energy Market Law*[14] (Bundesversammlung and Eidgenossenschaft, 2014) were enacted for the purpose of serving a greener and more liberalized energy industry (BFE, n.d.): they are built around the four pillars energy efficiency, renewable energies, the replacement and new construction of large-scale power plants, as well as foreign energy policy[15]. Overall, energy regulation is in place in Switzerland already since the 90s. Yet regulation became more frequent, concrete and enforceable over time in addressing both liberalization and ecological matters.

Both greening and liberalization requirements exert pressure to restructure on Swiss utilities. Utility board directors, in their letters to the shareholders (annual reports 2013), confirm market tensions: For instance, they are witnessing extensive and heavily subsidized construction of wind and solar plants (Alpiq Ltd.) leading to growing supply of subsidized energy (Axpo Ltd.) with low prices for CO_2 certificates.

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[14] Envisions fully open electricity market including small customers by 2015 and paves the way for the EU-Swiss common internal market

[15] EU directive 96/92 EG, replaced by 2003/54/EG and 2009/72/EG intends the liberalization and common EU-Swiss electricity market; Swiss ecological objectives are in line with the international climate convention (Kyoto Protocol): reduce CO_2-emissions by 10% (base year 1990; stipulated in the CO_2 Law)

EBL (cooperative) states that in all segments, competition gets harsher and margins melt away. One electricity generating utility indicates that targets and measures of the current parliamentary provisions are *„not realistic“,* that the current regulatory situation *„intimidates potential investors“* and that it is *„insecure“* how decentralized and centralized storage can be operated economically (CKW, Ltd.). As regards regulation in general, boards perceive politicians as the responsible to set credible frameworks for the future of energy (EBM, cooperative) yet at the same time deem *“overarching and artificial interference in the energy system”* behind politicians' deeds leading to *“insecure, energy political framework conditions”* (EKZ, cantonal energy utility).

According to the utility representatives' expressions above, partial and full market liberalization provisions from the Swiss energy regulatory environment touch upon their century-long monopolistically organized industry. Translated into an altered set of strategic priorities, they may comprise a “*rethinking of once stone-chiseled strategies”* to *“painful cost reduction programs”* (EBL, cooperative). What the preferential strategic response to the transient energy industry looks like to energy utilities is thus investigated below.

3.3 Swiss energy utilities: strategic response to energy transition

Changes in the environment are often associated with changes in corporate strategy. Theorists have long argued that organizations respond to changes in their environments by initiating strategic change (Child, 1972; Pfeffer and Salancik, 1978; Singh et al., 1986; Tushman and Romanelli, 1985). Empirical research has provided theory supporting evidence that changes in a firm's environment motivate important strategic changes in organizations (Hillman et al., 2000, p. 242). Such changes range from shifts in regulatory (Meyer, 1982; Smith and Grimm, 1987) to technological environments (Pugh, 1981). The upcoming section proposes thus theoretically discussed effects from regulatory (political) and civil society's institutional demands on Swiss energy utilities' strategic priorities. Under strategic priorities, this study understands – in line with the respective explanation in section 1.1 - the preferential strategic response taken by the Swiss energy industry as a whole to the energy regulatory environment.

Energy utilities' strategies are subject to a variety of demands at the federal, regional and municipal level. Parliament and its committees - responsible for energy policy in particular - became crucial arenas of negotiation. So does the federal government motivate private actors to cooperate in programs such as energy efficiency and the reduction of CO_2-emissions (*SwissEnergy*) (Kriesi and Jegen, 2001, p. 259). Further do Kriesi and Jegen deduce in their study on institutional actors in the Swiss policy domain that cantons restore *"cozy relationships"* with the electricity industry, and that they seek to *"preserve economic viability of their massive investments"* (Kriesi and Jegen, 2001, p. 259), especially in the case of hydroelectric power plants. Cities, on the contrary, are widely agreed upon to play a generally leading role in innovation policies promoting energy sustainability (Byrne and Mun, 2003; Houck and Rickerson, 2009; Peterson and Rose, 2005). Especially regarding corporate ecological responsiveness *"customers, local communities, environmental interest groups […]"* encourage firms to consider ecological impacts in their decision making (Bansal and Roth, 2000). With greening being a decisive pillar to Swiss energy transition (implemented in the *EnergyStrategy2050* action program and corresponding legal documents, e.g., CO_2 Law) company-external stakeholders are important to utilities: They may shape decisively the energy utilities' selected set of strategic response.

From the above it is safe to say that Swiss energy transition confronts Swiss energy utilities with a field of tensions as shows Figure 5. Tensions stem from liberalization and greening trends, that both underlie *neo-liberal* competition and *global* climate protection exigencies. So did a Swiss cross-regional energy utility underline the restructuring requirements that came with the energy transition "2012 was a year of reorganization for Alpiq, as restructuring programs in a number of areas began to take effect" (Alpiq AG, annual report 2012). *Sustainability* and *democratic governance* requirements are equally a topic to Swiss utilities under transition. They aim to foment, for instance, a shift *"[…]from centralized electricity generation in large-scale plants to decentralized generation using photovoltaic and combined heat and power."* (Alpiq, annual report 2013). As regards regulatory *equity* considerations the cross-regional player is rather skeptical: *"[…] [r]egulatory intervention, such as enormous subsidies for wind and solar power, have a major impact on the parameters within which we operate and consequently present obstacles to decision-making"* (Alpiq, annual report 2012). Yet biased opinions are given in the Swiss energy industry: Its second cross-regional utility subsumes achievements of energy transition to date as expensive, dirtier, and less secure. And the major power supplier

deems *"[…] targets and measures of the Swiss parliament as non-realistic"* (CKW AR 2012/13 p. 13) and *"[…] technologies as little developed […]", "[…] so that macroeconomic value-add and scalability are incomprehensible."*

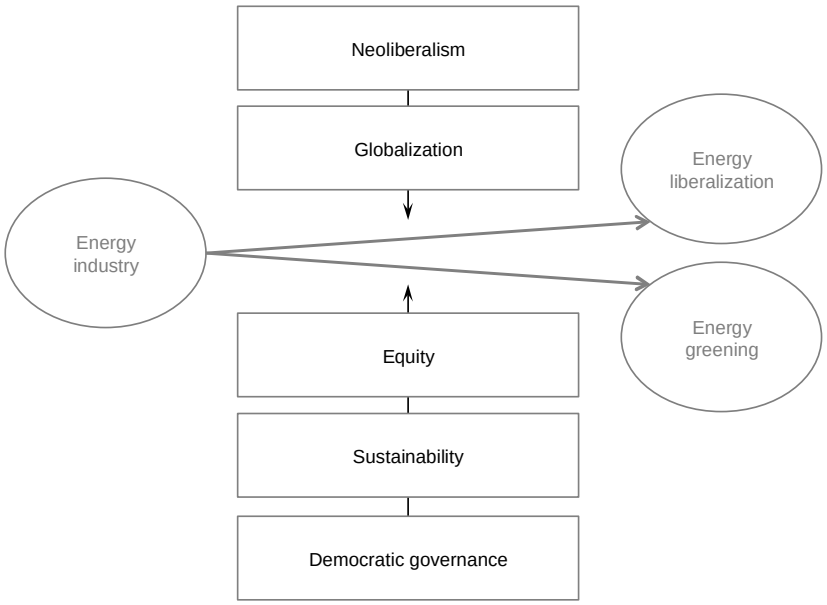

Figure 5 Field of tension for Swiss energy industry
(Own illustration based on Byrne and Mun, 2003, fig. 2 Electricity liberalisation or energy transformation)

One can thus derive that the Swiss energy industry - reflected by incumbent energy players' statements - moves between economic equity considerations, sustainability considerations, and democratic governance. Behind all of this stands a socio-political system that shapes the margins in which energy utilities operate. Utilities' posture to tensions varies, so will respective strategic response.

Albeit variations are given, utilities seem to accord that strategic response entails innovative administrative models, with a competitive delivery of sustainable energy services to energy end-users. Houck and Rickerson (2009) propose the concept of a *sustainable energy utility* (SEU)[16], characterized by *central coordination* which is a single point of contact to reduce administrative cost and synergies, such as the

[16] The concept of SEU is put into place based on sustainable service program coordination, service provision, financing, and management in several US states, such as Massachusetts, New Jersey, Vermont, or Delaware (e.g., enabling legislation in Delaware put through in 2007)

ElCom[17] in Switzerland; *comprehensive programs*, which include market-responsive programs targeting energy efficiency, conservation, renewable energy across fuels without predefined service territories, such as (elements of) the Swiss *EnergyStrategy2050*; *flexible incentives*, including quick adaptation to changing market forces and customer needs; *financial self-sufficiency* addressing long-term financial independence through encouragement of third-party financing or customer-sited energy service contributions; and *competitive procurement*, which are high levels of management autonomy for proactivity in regulatory operationalization, such as the Swiss *agencification*. Overall, the SEU replaces the doctrine of conventional electricity commodity supply with energy service provision (Houck and Rickerson, 2009). Special about this model is, that energy is sold as an experience to the end consumer, who is any incumbent firms' most decisive strategic asset. SEU-conform, the consumer would be closely integrated in the providers' independent management strategic choices. Under Swiss energy sustainability requirements and soon fully liberalized energy industry, incorporation of innovative governance of energy services and increased customer orientation is crucial to Swiss utilities' success. The existence of such SEU characteristics across Swiss utilities could indicate strategic proactivity in Swiss energy utilities' response to energy transition regulation.

However, strategic response across organizations may take on different shapes, ranging from proactivity (as indicated by the SEU model) to paralysis. Scholars agree that institutional influences such as rules and regulations, normative prescriptions, and social expectations exert pressure on organizations (Scott, 2001). However, operating in a field of tensions may lead to conflicting institutional demands that trigger certain strategic response strategies. Recent developments in institutional theory recognize that exposure to conflicting institutional demands requires organizations to exercise some level of strategic choice (Dorado, 2005). In such antagonistic situations, choice[18] is not only an option; it becomes a necessity because more than one course of action is considered appropriate (Whittington, 1992). Depending on the utility, magnitude of action may thus vary for the different strategic priorities: Magnitude could thereby depend on the institutional demand to

[17] '*Eidgenössische Elektrizitätskommission'*. *ElCom* is an independent monitoring body in the Swiss electricity industry. Its main task is to monitor the monopolistic domains (grid) and secure supply in the transition from a monopolistic to fully liberalized electricity provision (ElCom, 2012, pp. 5, 6)

[18] Choice is defined in this thesis as *" […] make decisions as to what demand to prioritize, satisfy, alter, or neglect in order to secure support and ensure survival."* (Pache and Santos, 2010, p. 462)

which the strategic choice is deliberately directed. Which set of strategies to choose, and to which extent following them subsequently, depends on the given (conflicting) institutional demands.

Table 1 Strategic response strategies to institutional demands
(Own illustration based on Oliver, 1991, p. 152; Pache and Santos, 2010, p. 463)

Strategies	Tactics	Definition
Aquiescence	Habit, imitate, comply	Adopt demands
Compromise	Balance, pacify, bargain	Achieve partial conformity in order to at least partly accommodate all institutional demands
Avoidance	Conceal, buffer, escape	Preclude the necessity to conform to institutional demands
Manipulation	Co-opt, influence, control	Alter actively the content of the institutional demands
Defiance	Dismiss, challenge, attack	Reject explicitly at least one of the institutional demand

Indeed, organizations have been shown to mobilize different strategies in the face of multiple institutional pressures for compliance (Dacin et al., 2002). Literature provides a repertoire of strategic response strategies from *acquiescence* (fully conform with regulation) to *defiance* (full or partial rejection) (Pache and Santos, 2010). *Acquiescence* is the organizations' adoption of arrangements as required through habit, imitation or voluntary compliance. Under *compromise* literature discusses the attempt by organizations to achieve partial conformity with all institutional expectation. *Avoidance* is to preclude the necessity to conform to institutional pressures or to circumvent the conditions that make this conformity necessary. Further strategies include *manipulation*, i.e., to influence the definition of norms through active lobbying, or, more radically, to control the source of pressure, and *defiance*, which is the explicit rejection of at least one of the institutional requirements, and (Oliver, 1991). The repertoire of strategic response strategies could thus be broad across Swiss energy utilities. Heterogeneous strategic priorities can thus be expected from the analysis on the Swiss energy utilities' strategic response to energy regulation-induced industry change.

We subsequently seek to put under scrutiny the set of strategies applied by Swiss energy utilities to the regulatory environment in which they operate, based on Switzerland's energy transition strategy, *SwissEnergy2050*. The second stage aims to explore, why some utilities prefer positive strategic deviance from institutional conformity in their strategic priorities while others do not. The inquiry is located at owner and the board of directors, which are seen as essential moderators between strategic response and environmental change - especially from the public and public corporate governance viewpoint. The upcoming chapter explains in detail the data screened and methodology deployed to investigate the phenomenon empirically at for the Swiss case.

4. Data and Methodology

As indicated in research framework in section 1.2, both data collection and analyses is based upon four variables. Secondary data was looked into to understand the essence of Switzerland's *energy regulation*, the independent variable to research question one. Once investigated the regulatory ecological and market liberalizing provisions, utilities' strategic response to them was deduced. The dependent variable *strategic priorities* was derived from latest available[19] letters to the shareholder content. To subsequently address research question two, the effect of the moderating variables ownership and board on the formation of strategic priorities was explored. The two corporate variables were screened according to their characteristics owner type and concentration, as well as board professional composition, political affiliation and board locks. All information was collected in a database and synthesized to deduce the findings. The following sections of this chapter outline the proceeds of both data collection and analysis alongside the variables in the research framework. Initially, the sample around which the analysis is built is presented.

4.1 Sample

Our sample consists of thirty energy utilities and includes German-, French- and Italian-speaking Switzerland. It covers sixteen out of twenty-six cantons. Through the comprehensive but dispersed geographical representation, the study incorporates cultural diversity as well as heterogeneity due to different political environments. To integrate a comparable and quantitative parameter in the sample selection, the selected utilities show 2012 revenues of at least 100 million Swiss Francs (CHF). each. This threshold is considered to allow for sufficient flexibility in strategic response. Total sample revenue based on electricity sales amounts to 12.5 billion CHF (2013 estimates) whereas estimates of the 2013 market range between 8 and 10 billion (SES, 2014a; VSE, 2013)[20]. The sample is thus assumed to cover a significant fraction of the Swiss total market based on net electricity sales. Moreover, the sample includes traditional power supply utilities, cross-regional utilities, as well as multi-utilities *('Querverbund')*. Both market coverage and the position in the

[19] *"Latest"* means available by the time of investigation, from mid-April until mid-May 2014
[20] Not including revenues from other forms of energy, e.g., heat, trading

energy value chain ensure findings on the *kind* of strategic priorities to be representative for the industry in transition.

4.2 Qualitative content analysis: regulatory environment and strategic priorities

Answering research question one required qualitative content analysis of secondary data. For its independent variable, the current federal energy strategy *SwissEnergy2050* was screened, based on officially available, federal data. After understanding the regulatory environment in which the Swiss energy utilities operate, currently deployed strategies of the latter were obtained from screening and interpreting the thirty letters to the shareholders published at the time of analysis. Appendix J gives an overview of the annual reports from which the thirty LSh were screened, respectively. From this, the *strategic priorities* were deduced. How the kind of strategies chosen under the Swiss energy regulatory environment was obtained in detail is explained as follows.

4.2.1 Independent variable: energy regulatory environment

Secondary data was looked into to understand the essence of Switzerland's energy *regulatory environment.* Information obtained was collected in a database (Excel file). Subsequently, it was synthesized in the form of a timeline for a clear overview from the first action program launched as *Energy2000* in 1990 until the year 2010, from which the current EnergyStrategy2050 departs. All of the collected information on this first research variable of research question one stem from the Swiss official, federal homepage, *admin.ch*. Folders on all relevant action programs eventually incorporated in the provisions of the *EnergyStrategy2050* (*Energy2000, SwissEnergy, SwissEnergy 2011-2020*) were analyzed for exhaustive understanding and analyses. In addition, latest amended versions of the corresponding legal texts, that enact the federal strategy, were screened. When screening the content, focus was put on the provisions with the most decisive effect on energy utilities' strategies, being market liberalization and ecological demands (*Energy Market Law*, *Law on Energy*, and *The Electricity Supply Act* for market liberalization; and the CO_2 *Law* for the ecological provisions).

4.2.2 Dependent variable: strategic priorities

After having obtained the insight in utilities' policy environment, the analysis required a rough understanding of the kind of strategically preferred action taken, namely, the *strategic priorities*. For this, all discussed strategic topics were explored iteratively by qualitative content analysis of the thirty letters to the shareholders (LSh) and through coding in MaxQDA, subsequently narrowed down to the strategic priorities. Whereas strategic topics cover what utilities think is important to survive under energy regulation, strategic priorities are the prevailing strategic topics discussed in the energy industry - according to the LSh in the sample - under energy regulation. The analysis approach of strategic priorities from strategic topics is subsequently laid down.

In total, three coding rounds in MaxQDA served the strategic priority analysis. The first coding was based on an initial understanding of strategic topics. This initial coding framework was induced from an introductory LSh screening from which we obtained a rough oversight of each utilities' strategy. During the first coding round the framework was being enlarged. Seven more strategic topics were assigned. The newly assigned coding categories were closely aligned to Houcks' sustainable energy utility model. The theory on regulatory deviance from institutional norms based on Walls and Hoffmann and the Swiss energy regulatory exigencies, all outlined in section three, were equally taken into consideration. Based on the enlarged framework after the first round, a detailed second coding round was undertaken, in which, again, a refined understanding of strategic topics was obtained. The third and final coding in MaxQDA revealed the strategic priorities.

Three selection motives were applied that led to exclusion of strategic topics and subsequent downsizing to strategic priorities (see Appendix C for a detailed overview). (1) Less than thirty per cent of the utilities in the sample address the strategic topics derived from MaxQDA codings of the LSh content. This was the case for the codings "*shape*", "*neutral*", "*threat*", "*service security*", "*distributed generation*", "*consolidation*", "*cost focus*". (2) The coding is firm idiosyncratic, which renders comparison amongst utilities biased. This was the case for the coding "*leadership role*". (3) Path dependency and historical conditions motivate the strategic topic. This last selection motive led to the exclusion of the strategic topics, i.e., codings, of "*geographical reach*" which depends on the traditionally assigned supply region to the utility, and "*diversification*", which is interpreted as a function of the degree of vertical or horizontal integration of utility operations.

To make sure findings were reliable, results were compared to two recently published market indicators and plotted them (see Appendix F for the indicator comparison). One indicator was based on an existing study of the Swiss Federal Institute on Technology (ETH) on Swiss utilities' diversification of product offerings under energy transition (Vormittag, 2014). The second study, undertaken on behalf of the *Swiss Federal Office of Energy* (SFOE) focused on energy efficiency and renewables-based generation indicators for Swiss energy utilities' changing strategies under federal energy action programs (Vettori et al., 2014).

Strategic priorities were emphasized differently by each utility, which was derived from the wording applied in the LSh respectively. The wording revealed a dichotomy under each strategic priority, which was an indicator for different levels of proactivity under energy transition. To account for the dichotomy, values according to the level of proactivity under each strategic priority were assigned, which were also the basis for crosschecking the findings numerically with the two above-mentioned indicators (see Appendix G for the value assignment). Two further indicators build upon the value allocation, namely, the (1) *level of importance* of the strategic priority *across* the sample utilities, and the (2) *level of strategic proactivity per* energy utility. Indicator one is interpreted as follows: (1) The higher the sum of the values assigned per strategic priority across the thirty sample utilities, the higher is the level of *importance of the strategic priority* under the energy regulatory environment to the industry overall. For indicator (2) it is important to know that an assigned value higher than three stands for positive deviance of regulatory standards. Three is thus the threshold value that, when exceeded, enables strategic proactivity, whereas *strategic proactivity* is the sum of positive deviance of regulatory standards across all strategic priorities addressed per utility.

4.3 Exploratory quantitative analysis: moderators ownership and board

As indicated in the research framework outlined in section 1.2 and moderator section 2.2.3 this study aims to explore *how* exactly the corporate governance variables ownership and board shape the formation of strategic priorities of Swiss energy utilities under the energy transition regulatory environment. Whereas the qualitative content analysis gave detailed findings on the regulatory environment and strategic priorities thereunder, a numerical approach of obtained data helped validate and explore owner and board effects on each strategic priority. The exact data collection

and methodological approach to abstract the moderation of strategic deviance by owner and board characteristics are explained in detail under this heading.

4.3.1 Independent variable ownership

Information on the organizational variable ownership was obtained from publicly available data on each sample utility. All obtained information was synthesized and evaluated in an Excel database. Details on the three selected characteristics *legal entity*, *owner type*, and *owner concentration* were obtained, respectively, from utility homepages. In case the data was not available, respective annual reports were used as the information base. By this approach, only the most recent information was collected. From this data collection, prevailing forms of legal entity amongst the sample energy utilities were deduced, the dominant owner types in the public sector were revealed, together with the corresponding majority or minority stakes (see Appendices H and I). Characteristics of the independent corporate governance variable ownership were revealed by this approach. Subsequently, the respective effect from legal entity, owner type, and owner concentration on strategic priorities was estimated to deduce moderation for strategic deviance interpretations. Appendix E gives an overview on assigned strategic priority values per utility owner type.

4.3.2 Independent variable board of directors

Board composition was analyzed based on professional and functional information of the single board members. Synthesis and data evaluation took place via an Excel database. The three-tier categorization of board member professional background proposed by Hillman et al. (2000, p. 240) was thereby followed. Functional and professional background was interpreted as board mandates (including trustee and supervisory board mandates) on companies or foundations, managerial positions (CEO, head of division,), or self-employment (e.g., founder of a company, self-employed notaries, lawyers). Focus of the background screening was on current and running engagements. Data was evaluated with respect to strategy implications from board capital and member resource provision. Once board member identity was clarified, board member names were obtained from latest homepage information. Where company-published data was scarce (the case for outside- engagements of the selected utility's board mandate) reference to social network pages *Moneyhouse*, *Xing*, and *LinkedIn* took place.

For the categorization of political affiliation, information from the initial professional background analysis in the board member database was extended. Political party affiliation for each politically active person was integrated. Thereby, political party categorization as represented in the Swiss federal assembly was followed, region-specific party affiliation was excluded (Swiss Parliament, 2014). Functional *political affiliation* was taken account of by federal, cantonal, and city-level council positions, and subsequently assigned to the respective political party. The data obtained allowed to integrate maximum variance in board composition based on professional and political affiliation. For the *board locks*, or board member industry tie analysis, again the board member database served as the research base. The identified board mandates per board member were summed up. The thereby obtained number equals the total locks per board member. Adjustment for potential duplications in board locks was undertaken (e.g., arising from mandates in two firms belonging to the same company group; regional and federal political party engagement was counted as one lock). The sum of those board members' locks belonging to the same board, i.e., utility, added up to the total board locks. These were simultaneously split into intra- and extralocks, i.e., intra-industry ties or within sample-utility, and extra-industry ties or to outside sample-utility (see Appendices K and L for detailed data on board locks).

Based on the obtained data on each board characteristic, board of director influence was explored. The board's characteristics - board composition, board political affiliation, as well as board extra- and intralocks - were each related to the nine strategic priorities. The correlation coefficient R^2 together with the p-values helped interpret the effect, combined with the knowledge obtained throughout the qualitative research approach of the study. Strategic deviance per strategic priority could thus be explored, which served responding to research question 2.2. In the board analysis, additional correlations were undertaken, that adjusted for owner types city-, canton-, and non-majority ownership. Through these exploratory analyses, understanding of owner and board moderation of utilities' positive deviance from regulatory standards per strategic priority was obtained. The subsequent results section presents the findings based on the just described data collections and methodological approaches.

5. Results

This section subsumes the findings to the research questions and derives corresponding propositions. Initially, the findings on the energy regulatory environment and strategic priorities therein are presented, in line with research question one. Subsequently, addressing research questions two, the results on strategic influence from ownership structure and board of directors on the formation of the strategic priorities, i.e. moderation, are revealed. As this study's aim is exploratory, propositions are presented directly at the respective section that depicts the findings.

5.1 Propositions for strategic priorities under energy regulation

The subsequent section introduces to the identified strategic priorities and subsequently derives propositions in response to research question two. None of the priorities is better or worse than the other. – Instead, emphasis is different, based on what is discussed in the utilities' LSh. The sequence of the priorities is logically grouped into business fields that are typical for utility operations. The priorities' exact significance is explained based on LSh quotes. The latter also indicate the deviance from regulatory norms per strategic priority, i.e., strategic proactivity per utility. Appendix J contains the list of annual reports, from which LSh quotes were extracted.

Strategic priorities and proactivity per strategic priority

Nine strategic topics dominate the utility industry: Due to their prevalence in the industry, the nine are interpreted as *strategic priorities* to Swiss energy utilities under energy regulation. Figure 6 displays them in a grid, which groups the strategic priorities logically into five business themes. These themes are identified as important and typical to an energy utility based on the thesis research and follow the subsequent logic: First, policy or regulation is perceived ('*Policy posture'*). Depending on the utility's perception, policy is more or less incorporated in its *'Mission and values'*. Further, the utility operationalizes regulatory influence perceived and culturally appropriated into its main business fields, *'Electricity generation'*, and *'Product portfolio'*, e.g., adding power plant or wind turbine capacity, or increase share of renewables (RES) in the electricity mix. Finally, *'Process efficiency'* measures are equally undertaken, according to energy utilities' LSh. Each of the five themes holds a varying number of strategic priorities, depending on what is put to

discussion in the sample utilities' LSh. The nine strategic priorities unfold as (1) *business opportunist,* (2) *regulation partner*, (3) *owner perception*, (4) *public responsibility*, (5) *customer orientation*, (6) *renewables generation*, (7) *new investments*, (8) *innovative offerings*, (9) *process efficiency*. As the most important can be named the priorities number (6), (2), (7), and (1), based on interpretation of indicator one, *level of importance* of the strategic priority. Values allocated across the sample utilities and summed up, show a level of total importance of 88 for *renewables generation*, 87 for *regulation partner*, 85 for *new investments* into energy generation capacity, and 83 for *business opportunist*. The values are illustrated in Figure 7, right below the heat map.

I. Policy posture	**II. Mission & values**	**III. Electricity generation**	**IV. Product portfolio**	**V. Firm efficiency**
1. Business opportunist *[Opportunity vs. survival]*	3. Owner perception *[Companion vs. superior]*	6. Renewable generation *[Sustainable vs. nature-adapt]*	7. New investments *[R&D vs. capacity enlargement]*	9. Process efficiency *[Resource optimization vs. process streamline]*
2. Policy partner *[Unconditional support vs. incentive-based]*	4. Public responsibility *[Design vs. serve]*		8. Innovative offerings *[Integral solutions vs. product mix]*	
	5. Customer orientation *[Integrate vs. supply]*			

Figure 6 The strategic priorities grid: what Swiss utilities think is important to survive under energy transition

Proactivity per strategic priority

The findings revealed that utilities are differently proactive per strategic priority. This means that utilities deviate from the regulatory norms in their strategic priorities - the higher positive deviance, the higher proactivity. Results based on qualitative content analysis give insights for the Swiss energy utilities' deviance in the strategic priorities. Magnitude is differing especially for *business opportunist*, *policy partner*, *new investments*, and *renewables generation*. The other five identified strategic priorities equally show variation. Consider EBL, stating to be "convinced and willing to its fullest extent to co-design energy transition"; or EWB, stating its "willingness participate as a specialist in energy transition, competition and supply security". Less transition-engaging attitudes are stated, e.g., by Axpo: "[O]ur priorities stay the same

also for the upcoming fiscal years: we need a liberalized market and an EU-wide electricity agreement"; or EBM: "we support transition as far as our competencies allow" or "additional grants decided by the federation lighten the burden remarkably". Overall, the industry is friendly to energy transition. Introducing the term ‚q*uasi*-negative' deviance from regulatory norm, the thesis accounts for those utilities that perceive organizational change from regulatory environment *„unpleasent"* (e.g., EBM). A concrete example, before explaining the stratigic priorities and respective deviance, concerns ‚*Distributed generation'*: only two utilities operated actively in the area, where WWZ *"provides solutions"* and Repower aims at *"further intensifying efforts"* in the area. Further four (Alpiq, BKW, EKS, REG) state to more strongly position themselves in the future *"as a provider of integral solutions for decentralized energy management and energy efficiency"* (Alpiq), to *"enable also others to generate heat and electricity"* (BKW).

Magnitude for each of the nine strategic priorities are now presented as follows. Priority per priority, illustrative LSh quotes are indicated, following the business theme logic from Figure 6. These quotes also introduce to the meaning of the strategic priorities. The quotes are indicated from highest to lowest proactivity. Three quotes are selected to represent most to least positive deviance from the regulatory minimum requirements for the nine strategic priorities. Figure 6 equally indicates this dichotomy by the meanings given to each priority (words in brackets and *italics*).

Policy posture

Under the strategic priority (1) *business opportunist* a utility is proactive if it sees energy transition as a business case rather than a struggle to survive. Sample quotes that led to the establishment of this strategic priority and illustrate their dichotomy include: *"With investments in windparks […] as well as sizeable photovoltaic installations in the supply area, IBAarau has undertaken further important contributions for the turnaround in energy production*" (IBAarau). *"Change is the only constant […] market-oriented thinking and acting is thereby natural."* (EWL). *„The only sure thing is that something will have to change; from the modes of thinking and acting of either one of us just to begin with, whether we are citizens or economic actors."* (AIL). (Total quotes: 45[21])

[21] Number is based on the amount of codings in MaxQDA under the corresponding coding category

Under the strategic priority (2) *regulation partner* a utility is proactive if it unconditionally supports the regulator rather than follows it based on incentives in certain fields. Quotes illustrating the dichotomy include: *"This legislative period is dedicated to the enforcement of our relations with the authorities. […] Contacts to our magistrate […] are excellent. […] To make progress we equally need decision autonomy, yet this autonomy we can only be conceded in a climate of confidentiality."* (SIG). *"Now that Switzerland bases its energy future upon a new paradigm […] Romande Energie positions itself as a responsive, open, and innovative partner."* (REG). *"EBM supports the energy transition as far as its capabilities allow. […] The additional PV subsidies […] are a relief to EBM."* (EBM). (Total quotes: 30)

Mission and values

Under the strategic priority (3) *owner perception* a utility is proactive if it sees the owner as a companion rather than a superior. Corresponding illustrative quotes are: *"Being a role model is essential. We are a service public and our mission imposes obligations to the citizens […]. This is what constitutes the particularity and beauty of our business."* (SIG*). "Also in the domain of energy efficiency, Groupe E has not remained effortless: It [Groupe E] supports municipalities […]"*(Groupe E). *"As regards the stakes in coal-based power plants, Repower adheres to the general strategic guidelines that were formulated by the canton as majority shareholder […]" and as such "[…] have caused the board to decide about their exit [the stakes] by 2015 at the latest."* (REP). (Total quotes: 58)

Under the strategic priority (4) *public responsibility* a utility is proactive if it shapes actively public awareness for energy transition rather than serves the publics' conventionalities. Illustrative quotes are: *"In this "exhibition to grasp and experience" we tell our visitors about our work, explain them the interactions in the domain of energy provision and give them future perspectives. Thereby they become aware of their personal responsibility for an energy transition that is successful."* (EWB). *"It is necessity for a firm that bases its action on renewable development to enable as much as possible development in this direction of its collaborators, by the promotion of the most ecological solutions. This type of action reinforces our image. Exemplary for this logic is our headquarter's energy neutral building […]"* (SIG). *"The guarantee of primary supply is a responsibility of energy utilities."* (SAK). (Total quotes: 35)

Under the strategic priority (5) *customer orientation* a utility is proactive if it integrates the customer in measures to allow energy transition rather than continues to supply a commodity. Illustrative quotes are: *"That CKW is competitive albeit harsher competition and pressure on markups shows the partnership agreement with Perlen Papier Ltd. […]" with whom "exclusive electricity supply was established based on structured provision and services in strategy and portfolio consulting."* (CKW 2012/13). *"As regards the Hydro Division, existing accords have been renewed with municipal water suppliers of Chiasso, Balerna, Morbio Inferiore and Vacallo, upon the demonstration of trust and competence […]"* (AGE). *"AEW Energy, Ltd., will build its business also in future upon secure, cheap and nature adapt supply of electrical energy of its clients"* (AEW) (Total quotes: 49)

Electricity generation

Under the strategic priority (6) *renewable generation* a utility is proactive if it integrates economic, social, and ecological aspects into generation, rather than limits production to nature-adapt energy generation. Illustrative quotas are: "*The energy transition can only be sustainable if energy carriers are used where economic and ecological advantages are deployable."* (WWZ). *"[…] It makes little sense to install wind turbines in protected landscapes […]. WWZ is also critical about wood-based heating conglomerates in densely populated municipalities in valleys […] On the contrary, regional wood for heating solutions is ideal for mountain-based municipalities, where no climate-friendly natural or biogas is available."* (WWZ) *"For decades, EBL has fomented renewable energy on a target-oriented basis."* (EBL). This is why *"[…] EBL invests systematically in innovative and sustainable projects, for the benefit of all: population, industry, public institutions, the environment – and EBL."* (EBL) *"Numerous projects are planned or already put in place on our path towards a "renewable future". ewl remains a pioneer*" and *"[…] counts upon resourceful and environmentally adapt energy supply."* (EWL). (Total quotes: 64)

Product portfolio

Under the strategic priority (7) *new investments* a utility is proactive if it invests in R&D rather than the expansion of production capacities. The illustrative quotes from the qualitative content analysis of LSh are: *"Integral part of the strengthening of our innovation culture is to intensify the collaboration with external partners such as*

universities and companies. Exemplary is the pilot project with the firm Electrochaea in the area of storage technology." (EWZ). *"Subsequently [after the piloting of the Power to Gas project with Electrochaea], ewz has the option to participate in a 2-Megawatt demonstration plant to proof economic viability of the procedure." "[…] First success moments have been achieved with energy services, systems integration and product portfolio development, such as the cooperation in photovoltaic between the cantons Bern, UBS, and BKW […]*" (BKW). *"The construction of the second central power station in […] has also been launched."* (IBAarau); *"With investments in windparks of Swisspower Renewables, Ltd., […] as well as bigger photovoltaic installations in the supply area, IBAarau has made further important contributions for the turnaround of the energy production." "[…] With the capacity-addition of the CleusonDixense installations in 2010, it [Grande Dixence, Ltd.,] reinforces its strategic position [as leading power supplier in Switzerland and Europe]"* (GD). (Total quotes: 56)

Under the strategic priority (8) *innovative offerings* a utility is proactive if it pursues efficiency, education, and decentralization rather than product/ service mix extension. Illustrative quotes for the priority are: *"[…] to support market maturity of new renewable energy sources, WWZ adds, for example, since 2013 biogas out of garden waste."* (WWZ); "*Equally we provide solutions in the domains energy efficiency and decentralized electricity generation." "How electricity consumption is easily reducible shows the new energy savings platform "Munx"* (SGSW) or: *"Equally has the energy agency […] launched its business […] providing first easily accessible, professional energy consulting."* (SAK). *"[…] CKW puts into action the production strategy as launched in spring 2012. The latter foresees investments of 3 billion CHF into a new product mix by 2050."* (CKW). (Total quotes: 42)

Firm efficiency

Under the strategic priority (9) *process efficiency* a utility is proactive if it manages the resources at its disposal sustainably, rather than streamlines in-house processes. Underlying illustrative quotes to the priorities' signification are: "*Jointly with our partner utilities, practices and processes of our market strategy have been readjusted on an ongoing basis to the changing customer demands."* (SAK); *"As SAK we support our partner utilities in the establishment of the required distribution and sourcing processes*". *"[…] The reconstruction of the holding's and organization's structure has paved the way for leveraging synergy- and innovation potential."*

(BKW); *"BKW has […] invested heavily in the creation and enlargement of employee qualifications […] also through the employment of specialized staff, who bring newly required qualification and experience […]"*. *"A sizeable part of the net investment of 40.0 million CHF was channeled into the renewal of installations in order to guarantee supply security."* (AEW); *"Good water management, efficiency increases as well as earnings from services had a positive effect on operating earnings."* (Total quotes: 39)

Propositions: the kind of strategic priorities

Synthesis of the nine strategic priorities gave three crucial insights for the subsequent deduction of propositions. Arguments underlying the propositions were deduced in two ways: (1) Either by non-mention: i.e., in case a utility did not discuss a potential strategic priority in the LSh, cells of the heat map remained white. (2) Or, according to deviance from regulatory norms, where higher level of darkness stands for higher deviance. For this, see the heat maps contained in Appendices A and B, and the heat map in Figure 7, on the nine identified strategic priorities (Appendix D lists the utilities underlying the heat map in Figure 7). Table 2 illustrates the propositions and corresponding arguments with sources. Note that the heat maps from Appendices A and B are not integrated in the results section to emphasis the research core focus, namely the strategic priorities. From the synthesis of Appendices A and B to heat map in Figure 7, proposition one regarding research question one, *What are the strategic priorities under energy regulation for Swiss energy utilities?',* can be derived. It looks into the *kind* of strategic priorities that dominate the Swiss energy industry. It was found that:

[Proposition]

1. **Swiss regulation triggers dominant corporate strategic priorities under energy transition, such that …**

1.1 Corporate strategic action means for the most part to work to regulatory expectations

1.2 Customer retention is aimed at via energy consulting services [customer orientation]

1.3 Cost focus is of minor relevance in official communication [process efficiency]

Table 2 Derivation of proposition 1 - underlying findings and interpretation base

Proposition(s)	Strategic priority	Argument	Heat map in - shading
1	None [excluded "*Threat*" during priority synthesis]	Less than 30% mention policy perception 'Threat'	Appendix A Blank
1 1.1	None [merged with *Business opportunist* or *Policy partner*]	All utilities are positive or at least neutral towards changed regulatory environment	Appendix A Non-blanks in "Shape", "Neutral", "Support"
1 1.1	*Business opportunist*	Approximately 50% of the utilities mention opportunity in changed regulatory environment	Figure 7 Dark shading
1 1.1	*Policy partner*	60% of utilities express support to changed regulatory environment 80% describe the Swiss federal assembly as partner to their business.	Figure 7 At least mid-grey Figure 7 Non-blanks
1 1.1	*Public responsibility*	60% (18 out of 30) of the utilities describe the energy transition as a responsibility	Figure 7 Non-blanks
1.2	*Customer orientation*	85% of the utilities in the sample talk about customer relations, the majority of these aim at satisfying customers 10% indicate participation or integration as proposed by the SEU model	Figure 7 Mid-grey/ blanks
1 1.1	*Renewables-(based) generation*	90% of the sampled utilities address RES generation	Figure 7 Non-blanks
1.1	None [excluded "*Distributed generation*" during priority synthesis]	2 out of 30 mention provision of solutions in the field; 15% discuss future development	Appendix B Blanks/ at least mid-grey
1 1.1	*New investments*	85% of utilities declare that they aim at a greener product portfolio and generation	Figure 7 Non-blanks
1.2	*Innovative offerings*	*65%* express *Innovative offerings* to take on the shape of product- or service renewal in the area consulting services	Figure 7 Mid-grey (assigned values 3 and 4)
1.3	None [excluded *"Consolidation" during priority synthesis]*	Only 10% of the utilities discuss *Firm operations* in letters to the shareholders Only one fourth of the utilities mentions focus on *"Firm costs"*	Appendix B Blanks

Based on the findings presented above the following it can be said, that the breadth of strategic response deployed narrows under policy-induced market change: Compatibility with the two regulatory-essential pillars *ecological* and *liberalized* energy provision is given. *Renewables generation* and *new investments* are clearly motivated by both ecological standards and increased competition post-partial

liberalization and ante-full liberalization. Also, the strategic priority *regulation partner*, addressed by 80%, indicates that a clear majority perceives the Swiss federal assembly - being regulator, i.e., energy policy-maker - as partner to their business.
Of further crucial importance are the results on the clients' perspective, due to the future free utility choice by not just small but also big customers under full market opening: Customer base is, as expected, a hot issue to utilities under the *EnergyStrategy2050*. Utilities apparently seek to bind them via increased energy consulting services.

From these above-presented, a last safe conclusion can be made: Under one regulatory framework, strategic deviance is given in the Swiss energy industry, as indicated by the varying level of brightness per strategic priority per energy utility. To answer why such deviance is possible the subsequent section presents the findings on research question two, answering how ownership and board influence the formation of strategic priorities under Swiss energy regulation.

5.2 Propositions for the influence of ownership structure on strategic priorities

The corporate governance sphere is deemed to influence the formation of strategic priorities in Swiss energy utilities, especially due to its nature as a *service public* industry. Based on the theoretically as strategically relevant identified role of ownership and board, this paper lays down how their influence manifests itself in the Swiss case. Correlation analyses between strategic priorities and three characteristics each per owner and board, helped answer the underlying research questions posed. Results from data collection, analyses and interpretation are laid down as follows, starting with the Swiss utilities' ownership characteristics owner type, owner concentration, and legal entity; and subsequently introducing to the Swiss utilities' board characteristics for board professional composition, political affiliation, and board industry ties, i.e., board locks. Propositions addressing the influence from owner and board on the formation of Swiss energy utilities' strategic priorities are deduced. – Underlying findings are presented in figures and tables.

Ownership

Based on our study ownership structure very likely influences the formation of strategic priorities also in the Swiss energy industry. How this is the case show the findings from owner characteristics *owner type*, *interest concentration*, and – indirect-

Policy partner	Business opportunist	Owner perception	Public responsibility	Customer orientation	Renewables generation	New investments	Innovative offerings	Process efficiency
5		4	4	4	3	4	3	1
	5	3	4	3	3	4	3	3
5	5	4	4	4	5	5	3	3
5	5	4	5	5	5	5	3	2
5	5	5	4	5	5	4	4	1
5	5	3	4	3	3	3	4	
4	1			3	3			3
4	5	3	4		3	5	4	2
2	1	2		3			2	
3		1		3	3	3		
	4	1	4					1
3	3	2	4	3	4	3	2	2
3	5	5	5	4	5	5	5	4
5		2	1	2	3	4	4	
		4		5	2	3	2	
			2	4	3	3	3	2
	3	3		2	3	1		2
4	4	2			3	2		1
1	5	4	2	4	3		3	
2	4			3	3	4	5	4
3				4	2	3	2	
3	4	2		3	2	1		1
5		4	5	4	4	4	5	3
3		4		2	3	3	2	2
2		3		2				2
4	4	5	5		3	4	2	3
5	5		5		3	4	4	3
	3			2	2	3	4	3
1	2	1	5		2	2		1
5	5		5		5	3	5	5
87	83	71	72	77	88	85	74	54

Figure 7 The nine identified strategic priorities: heat map and corresponding assigned values depicting strategic deviance per utility (range: 1 to 5)

ly - *legal entity*, and subsequently relating them to strategic priorities. Following the order of this approach, the results reveal the following:

The clearly preferential form of legal entity for Swiss energy utilities is the 'Ltd.' 19 out of 30 sample utilities, i.e., nearly 2/3 in the industry, follow the 'AG'. See Figure 8 gives an overview of legal entities in the sample. From Figure 9 one can further deduce that energy utilities are majority-owned by either a canton or a city. Thus cantons or cities dominate as single holding parties. Figure 10 illustrates the findings on interest concentration. (See Appendices H and I for detailed list on the 16 majority-owned, and 4 non-majoirtiy owned utilities.) As anticipated, the executive branch of the Swiss federation remains majority owner of the utility industry: Public authorities de facto *control* the Swiss energy industry significantly. Such persistent public sector dominance is possible albeit - or especially through - the *agencification* tendencies. This confirms the theoretical propositions discussed in chapter two. Based on these findings, the market- vs. politics logic could affect Swiss energy utilities in the formation of strategic priorities.

Figure 8 Breakdown of ownership: share of legal entities

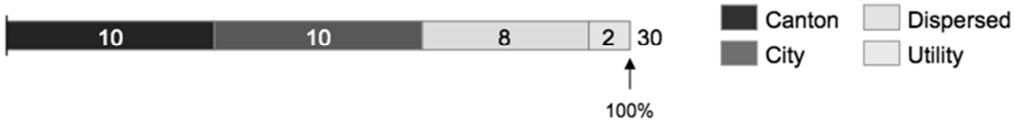

Figure 9 Breakdown of ownership: share of owner types

Figure 10 Breakdown of ownership: share of concentration of interest

Based on the findings outlined above the following propositions as a response to research question 2.1, '*How does ownership structure of Swiss energy utilities influence the formation of strategic priorities under Swiss energy regulation?'* are derived. The corresponding interpretation base is indicated in Table 3.

[Proposition]

2.1 Ownership structure might have a moderating effect on strategic priorities, such that …

2.1.1 City-ownership as majority-ownership might drive positive strategic deviance in the strategic priorities business opportunist, regulation partner, and public responsibility

2.1.2 Free float amongst minority-ownership might drive positive strategic deviance in the strategic priorities business opportunist, regulation partner, and public responsibility

2.1.3 Diffused ownership as minority-ownership might drive positive strategic deviance in the strategic priorities business opportunist, regulation partner, and public responsibility

Table 3 Derivation of proposition 2 - underlying findings and interpretation base

Proposition(s)	Proactivity for utilities	Argument	Findings in/ strategic priority and deviance
2.1.1	City-owned as majority-owned	Positive deviance in 6 out of 9 strategic priorities - Business opportunist - Regulation partner - Owner perception - Public responsibility - New investments - Innovative offerings Highest positive deviance for the 3 priorities: - Business opportunist - Regulation partner - Public responsibility Approx. 50% of sample utilities do not see energy transition as a business case - amongst them only 1/5 is city-owned	Figure 7, Rows 1-10 from the top - High values assigned at respective columns Rows 11-20 - column 'Business opportunist'
2.1.2 2.1.3	Diffusedly owned and free float as minority-owned	Positive deviance in 60% of the analyses Especially positive deviance from energy regulatory requirements in the priorities	*Analyses*: ownership structure on strategic priorities

	- Business opportunist - Regulation partner - Public responsibility Tend to align with regulatory environment	

From the above proposed results and derived propositions the study proceeds at this stage to the results on the second utility corporate governance variable, namely, the board of directors, to derive propositions for answering the second part of research question two.

Board of directors

Based on the results of the underlying study, board capital influences the formation of strategic priorities also in the Swiss energy industry. How this is the case show the findings from the theory-derived board characteristics *professional background*, *political affiliation*, and *board locks*, and their subsequent exploratory correlation analyses with the strategic priorities, respectively. Following the order of this approach, the results reveal the following:

Sample boards' *professional* majority are community influentials, accounting for 46% of total board representatives across the 30 utilities. 35% are business experts, and 19% are support staff. It must be denoted that individual utility board composition varies strongly. Table 4 Breakdown board composition – share of key influencing groups illustrate the repartition of board capital based on board member professional background per utility and gives the average values presented.

Table 4 Breakdown board composition – share of key influencing groups

Utility name	Sum board members	*Business experts*	Relative to total	*Community influentials*	Relative to total	*Support staff*	Relative to total
AEW Energie AG	5	4	80.0%	1	20.0%	0	0.0%
IBAarau AG	7	4	57.1%	1	14.3%	2	28.6%
EBL Genossenschaft Elektra Baselland	9	5	55.6%	3	33.3%	1	11.1%
Alpiq Holding AG	13	7	53.8%	4	30.8%	2	15.4%
Azienda Elettrica Ticinese	6	3	50.0%	2	33.3%	1	16.7%
Repower Ilanz AG	12	6	50.0%	4	33.3%	2	16.7%
BKW Energie AG	12	6	50.0%	2	16.7%	4	33.3%
Grande Dixence SA	19	9	47.4%	8	42.1%	2	10.5%
EBM Genossenschaft Elektra Birseck	24	11	45.8%	8	33.3%	5	20.8%
St. Gallisch-Appenzellische Kraftwerke AG	9	4	44.4%	5	55.6%	0	0.0%
Elektrizitätswerk des Kantons Schaffhausen AG	7	3	42.9%	2	28.6%	2	28.6%
Energie Wasser Bern	7	3	42.9%	3	42.9%	1	14.3%
Romande Energie Groupe SA	12	5	41.7%	3	25.0%	4	33.3%
Axpo Holding AG	13	5	38.5%	6	46.2%	2	15.4%
Service Industriels de Genève	22	8	36.4%	9	40.9%	5	22.7%
Elektrizitätswerke des Kantons Zürich	15	5	33.3%	9	60.0%	1	6.7%
Wasserwerke Zug AG	9	3	33.3%	4	44.4%	2	22.2%
Groupe E SA	13	4	30.8%	8	61.5%	1	7.7%
Energie Ouest Suisse Holding AG	10	3	30.0%	5	50.0%	2	20.0%
Aziende Industriali di Lugano SA	7	2	28.6%	3	42.9%	2	28.6%
Centralschweizerische Kraftwerke AG	7	2	28.6%	2	28.6%	3	42.9%
Industrielle Werke Basel	7	1	14.3%	3	42.9%	3	42.9%
Energie Wasser Luzern Holding AG	7	1	14.3%	2	28.6%	4	57.1%
L'Energie de Sion-Région SA	9	1	11.1%	7	77.8%	1	11.1%
Forces Motrices Valaisannes SA	11	1	9.1%	6	54.5%	4	36.4%
Acqua Gas Elettricità SA	5	0	0.0%	3	60.0%	2	40.0%
Elektrizitätswerk der Stadt Zürich	9	0	0.0%	9	100.0%	0	0.0%
Les Services industriels de Lausanne	7	0	0.0%	7	100.0%	0	0.0%
Stadtwerk Winterthur	7	0	0.0%	7	100.0%	0	0.0%
Sankt Galler Stadtwerke	5	0	0.0%	5	100.0%	0	0.0%
Total	**305**	**106**		**141**		**58**	
Average per board	**10**	**4**	**34.8%**	**5**	**46.2%**	**2**	**19.0%**

Board *political affiliation* is, on average, substantial. 37% of the board members across all utilities are politically affiliated. Again, individual utility board's political affiliation varies strongly. Repartition of board capital based on board member political affiliation per utility is equally contained in Table 5. In detail the three professional background groups and the party political affiliation, revealed the following influence on the formation of strategic priorities in the corresponding order:

Table 5 Board political affiliation – absolute and relative[22]

Board	Sum board	Political party repartition (federal assembly, left-right)									
Utility	members	SP	GPS	GLP	CVP	FDP	BDP	SVP	Lega	Total	%
Elektrizitätswerk der Stadt Zürich	9	4	1	0	0	2	0	1	0	8	0.89
Les Services industriels de Lausanne	7	3	2	0	0	1	0	0	0	6	0.86
Stadtwerk Winterthur	7	2	1	0	1	2	0	0	0	6	0.86
St. Gallisch-Appenzellische Kraftwerke AG	9	1	0	0	2	2	0	1	0	6	0.67
Acqua Gas Elettricità SA	5	1	0	0	0	1	0	0	1	3	0.60
Sankt Galler Stadtwerke	5	0	0	0	2	1	0	0	0	3	0.60
Wasserwerke Zug AG	9	1	0	0	2	2	0	0	0	5	0.56
L'Energie de Sion-Région SA	9	1	0	0	1	3	0	0	0	5	0.56
Axpo Holding AG	13	0	1	0	0	3	0	3	0	7	0.54
Elektrizitätswerke des Kantons Zürich	15	2	0	1	1	1	0	2	0	7	0.47
Aziende Industriali di Lugano SA	7	0	0	0	0	1	0	0	2	3	0.43
Energie Ouest Suisse Holding AG	10	0	2	0	1	1	0	0	0	4	0.40
Repower SA	12	0	0	0	1	1	1	1	0	4	0.33
Groupe E SA	13	0	0	0	3	0	0	1	0	4	0.31
Energie Wasser Bern	7	1	0	0	1	0	0	0	0	2	0.29
Energie Wasser Luzern Holding AG	7	0	0	1	0	1	0	0	0	2	0.29
IBAarau AG	7	1	0	0	0	1	0	0	0	2	0.29
Forces Motrices Valaisannes SA	11	1	0	0	0	2	0	0	0	3	0.27
BKW Energie AG	12	1	0	1	0	0	1	0	0	3	0.25
Grande Dixence SA	19	1	1	0	2	0	0	0	0	4	0.21
Romande Energie Groupe SA	12	1	1	0	0	0	0	0	0	2	0.17
Centralschweizerische Kraftwerke AG	7	0	0	0	1	0	0	0	0	1	0.14
Elektrizitätswerk des Kantons Schaffhausen AG	7	0	0	0	0	0	0	1	0	1	0.14
Genossenschaft Elektra Birseck Münchenstein	24	1	0	0	1	1	0	0	0	3	0.13
Genossenschaft Elektra Baselland	9	0	0	0	0	0	0	1	0	1	0.11
Alpiq Holding Ltd.	13	0	1	0	0	0	0	0	0	1	0.08
Service Industriels de Genève	22	0	0	0	1	0	0	0	0	1	0.05
Azienda Elettrica Ticinese	6	0	0	0	0	0	0	0	0	0	0.00
Industrielle Werke Basel	7	0	0	0	0	0	0	0	0	0	0.00
AEW Energie AG	5	0	0	0	0	0	0	0	0	0	0.00
Total	305	22	10	3	20	26	2	11	3	97	0.32

As regards *board ties*, the following results contribute significantly to board capital, which could influence the formation of strategic priorities are to be outlined: Each board member holds, on average, 5 board mandates, yet certain board members hold up to three times as many. This indicates Table 6. This could indicate that certain cultural backgrounds, such as language or geographic proximity, limit board members in their choice of mandates. So does board member *Jean Yves Pidoux* (Appendix J) for instance, hold 5 board mandates within our sample, all being in French-speaking Switzerland. He is, first of all, significantly intralocked. Secondly, his intralocks are concentrated, with a likely dependence on cultural artifacts. One particular personality might contribute significantly to board capital. The table in

[22] According to parties represented in the Swiss federal assembly. Does not account for: *Parti d'Entente de Savièse*, *Parti Ensemble à Gauche*, *Parti Mouvement citoyens genevois, Parti Union Démocratique du Centre*, *Verdi del Ticino*, *Parti populaire et gauche en mouvement*

Appendix J gives a detailed list on board locks per utility board member. Furthermore, board locks show varying relations between intra- and extralocks. The average ratio (across the 30 boards) of board intra- to board extralocks is 1:10, whereby all boards have extralocks. Only one city-owned utility amongst the ten sample city-owned utilities has intralocks. This implies that extra-industry ties are substantially present in the Swiss energy utility industry.

Table 6 Total and average board ties in intralocks, extralocks and board locks

Board/ utility	Sum board members	*Intralocks* Total	Average	*Extralocks* Total	Average	*Board locks* Total	Average
Les Services industriels de Lausanne	7	6	0.9	60	8.6	66	9.4
AEW Energie AG	5	2	0.4	45	9.0	47	9.4
Repower SA	12	4	0.3	95	7.9	99	8.3
Acqua Gas Elettricità SA	5	0	0.0	39	7.8	39	7.8
Elektrizitätswerk der Stadt Zürich	9	0	0.0	57	6.3	57	6.3
Romande Energie Groupe SA	12	12	1.0	63	5.3	75	6.3
Energie Ouest Suisse Holding SA	10	17	1.7	44	4.4	61	6.1
Wasserwerke Zug AG	9	0	0.0	54	6.0	54	6.0
BKW Energie AG	12	14	1.2	57	4.8	71	5.9
Energie Wasser Bern	7	0	0.0	37	5.3	37	5.3
Alpiq Holding AG	13	28	2.2	40	3.1	68	5.2
Azienda Elettrica Ticinese	6	0	0.0	31	5.2	31	5.2
Axpo Holding AG	13	7	0.5	60	4.6	67	5.2
Groupe E SA	13	6	0.5	56	4.3	62	4.8
L'Energie de Sion-Région SA	9	1	0.1	41	4.6	42	4.7
Elektrizitätswerk des Kantons Schaffhausen AG	7	3	0.4	29	4.1	32	4.6
IBAarau AG	7	2	0.3	29	4.1	31	4.4
Grande Dixence SA	19	20	1.1	60	3.2	80	4.2
St. Gallisch-Appenzellische Kraftwerke AG	9	3	0.3	34	3.8	37	4.1
Aziende Industriali di Lugano SA	7	0	0.0	28	4.0	28	4.0
Energie Wasser Luzern Holding AG	7	0	0.0	28	4.0	28	4.0
Sankt Galler Stadtwerke	5	0	0.0	20	4.0	20	4.0
Genossenschaft Elektra Baselland	9	0	0.0	36	4.0	36	4.0
Elektrizitätswerke des Kantons Zürich	15	3	0.2	51	3.4	54	3.6
Industrielle Werke Basel	7	0	0.0	23	3.3	23	3.3
Centralschweizerische Kraftwerke AG	7	2	0.3	20	2.9	22	3.1
Forces Motrices Valaisannes SA	11	2	0.2	27	2.5	29	2.6
Stadtwerk Winterthur	7	0	0.0	17	2.4	17	2.4
Service Industriels de Genève	22	3	0.1	33	1.5	36	1.6
Genossenschaft Elektra Birseck Münchenstein	24	1	0.0	32	1.3	33	1.4
Total	273	136	0.5	1,246	4.6	1,382	5.1
Average locks per board	30	5		42		46	
Average locks per board member		0.50		4.56		5.06	

Findings from the correlation analyses of board professional composition, political affiliation, and board ties on the strategic priorities are displayed in Table 7. Below each strategic priority on the horizontal line, correlation coefficients in the left and corresponding p-values in the right column are indicated. Separation is given for city- and canton- as majority-owned utilities, and non-majority owned ones.

Table 7 Results board correlation analyses (R^2 and p-values in left and right columns)

CITY-OWNED UTILITIES	Renewables generation		Policy partner		New investments		Business opportunist		Customer orientation		Innovative offerings		Public responsibility		Owner perception		Process efficiency	
Professional composition (%)																		
Community influentials	0.11*	0.38	0.01	0.79	0.53	0.07	0.21*	0.31	0.08	0.46	-0.55	0.06	0.12	0.45	0.02*	0.70	0.02	0.76
Business experts	0.00	0.89	0.00	0.99	0.05	0.64	0.00	0.97	0.04	0.46	0.43	0.08	-0.10	0.50	0.05	0.56	0.08	0.58
Support staff	-0.25	0.17	-0.03	0.68	-0.44	0.07	-0.01	0.86	-0.25	0.17	0.37	0.11	0.56	0.53	-0.23	0.20	0.00	0.91
Political affiliation (%)																		
Left-wing politicians	0.33*	0.11	0.2*	0.24	0.3*	0.16	0.28*	0.18	0.31*	0.12	-0.06	0.57	0.38*	0.03	0.20	0.24	0.00	0.93
Board ties (average/board)																		
Intralocks	0.17	0.27	0.02	0.71	0.31	0.15	0.04	0.59	0.30	0.13	-0.01	0.83	0.89	0.00	0.03	0.66	-0.01	0.84
Extralocks	0.15	0.30	-	-	-0.02	0.72	-	0.88	0.04	0.62	0.00	0.97	-	-	-	-	-	0.77

CANTON-OWNED UTILITIES	Renewables generation		Policy partner		New investments		Business opportunist		Customer orientation		Innovative offerings		Public responsibility		Owner perception		Process efficiency	
Professional composition (%)																		
Community influentials	0.56	0.68	0.01	0.57	0.04*	0.68	0.24*	0.27	0.01	0.82	0.56	0.57	-0.78	0.02	0.00	0.88	-0.17	0.35
Business experts	-0.05	0.55	-0.11	0.51	-0.07	0.61	-0.05	0.62	-0.08	0.49	0.21	0.30	0.56	0.51	0.02	0.76	0.01	0.70
Support staff	0.03	0.64	0.00	0.99	0.03	0.66	-0.03	0.70	0.05	0.59	0.01	0.81	0.50	0.12	-0.01	0.78	0.01	0.80
Political affiliation (%)																		
Left-wing politicians	-0.04	0.63	0.00	0.99	0.08	0.50	0.38	0.13	0.00	0.91	0.06	0.61	-0.56	0.02	0.00	0.92	0.03	0.73
Board ties (average/board)																		
Intralocks	-0.16	0.29	-0.25	0.17	0.01	0.82	0.01	0.83	0.00	0.99	0.17	0.35	-0.56	0.12	0.33	0.11	0.35	0.16
Extralocks	-0.09	0.43	-	-	-0.59	0.03	-0.20	0.31	-0.08	0.49	-0.56	0.03	-0.56	0.48	0.33	-	-0.30	0.21

NON-MAJORITY UTILITIES	Renewables generation		Policy partner		New investments		Business opportunist		Customer orientation		Innovative offerings		Public responsibility		Owner perception		Process efficiency	
Professional composition (%)																		
Community influentials	0.34	0.27	0.01	0.87	0.18*	0.88	0.21*	0.24	-0.13	0.47	-0.34	0.97	-	-	0.19	0.50	0.12	0.52
Business experts	-0.92	0.66	-0.03	0.77	-0.07	0.58	-0.48	0.16	0.36	0.73	0.11	0.50	-	-	-0.20	0.36	-0.16	0.27
Support staff	0.01	0.79	0.13	0.66	0.06	0.38	0.58	0.24	-0.58	0.45	-0.02	0.39	-	-	0.05	0.38	0.06	0.28
													-	-				
Political affiliation (%)													-	-				
Left-wing politicians	0.20	0.36	0.14	0.34	0.25	0.90	0.45	0.21	-1.00	0.98	-0.02	0.84	-	-	0.20*	0.64	0.41	0.22
													-	-				
Board ties (average/board)													-	-				
Intralocks	-0.32	0.21	0.00	0.91	0.05	0.92	-0.03	0.75	-0.20	0.38	-0.08	0.75	-	-	0.17	0.66	0.00	0.92
Extralocks	0.00	0.58	-	-	-0.13	0.92	-	0.61	0.12	0.70	0.34	0.18	-	-	-	-	-	0.81

* Outliers given under the respective correlations: An outlying utility shows a more positive (negative) strategic deviance from regulatory requirements relative to utilities in the same group. - Indicated by higher (lower) correlation coefficient R-squared upon its exclusion (see section 6.3).

An interesting finding from the correlation analyses between board and strategic priorities is that outliers were found to exist. They are market with an asterisk in Table 7. These outliers show more or less pronounced a tendency for or against a strategic priority than the average. In the words of the study this means the outlying utility shows, likely moderated by the board, a more positive or more negative strategic deviance from regulatory requirements than the average utility in the group (city-, canton-, or non-majority owned utilities). The outliers confine themselves to the following, based on owner type and concentration: *ewb*, *EWL*, and *IBAarau* amongst city- and majority-owned utilities; *SIG* and *BKW* amongst canton- and majority-owned utilities; *Alpiq* for dispersedly- and minority-owned utilities. If values indicated in the

subsequent explanatory section differentiate from the values indicated in the table, outliers have been accounted for.

Community influentials show a tendency to drive positively strategic deviance from regulatory norms pro energy transition in three identified strategic priorities. There is a slight tendency to correlate with the strategic priorities (1) business opportunist, (3) owner perception, and (7) new investments. The correlation coefficients for community influentials with *business opportunist* are 0.76, 0.25, 0.56 for city-, canton-, and minority-owned, respectively (respective p-values: 0.31, 0.27, 0.24). Correlation coefficients for community influentials with *new investments* are 0.53, 0.39, 0.56 for city-, canton-, and minority-owned utilities, respectively (p-values: 0.07, 0.68, 0.88. The correlation coefficients for community influentials with *renewables generation* are: 0.30, 0.56, 0.41 for city-, canton-, and minority-owned utilities, respectively (p-values: 0.38, 0.68, 0.27). *Business experts* show no tendency to drive positively strategic deviance from regulatory norms pro energy transition in the correlations across all identified strategic priorities (coefficients are 0.0-0.1, negative coefficients in 5 out of 9 strategic priorities). *Support specialists* show a tendency to drive positively strategic deviance from regulatory norms pro energy transition in three correlations with the identified strategic priorities under minority ownership. The tendency to correlate is present in the strategic priorities *business opportunist* (0.58), *policy partner* (0.58), and *new investments* (0.58), yet only under minority ownership.

Based on results, the high p-values and identified outliers for the board section only tendencies were obtained. Thus the first proposition regarding question 2.2, '*How does the board of directors of Swiss energy utilities influence the formation of strategic priorities under Swiss energy regulation?'* is formulated as follows:

[Proposition]

2.2 Board capital *might have* a moderating effect on the formation of strategic priorities, such that …

2.2.1 Community influentials *might drive* positive strategic deviance in the strategic priorities business opportunist, new investments, and renewables generation

For political affiliation in majority-owned utilities, *left-wing political board affiliation* show a tendency to drive positively strategic deviance from regulatory norms pro

energy transition in nine correlations with the identified strategic priorities in city-owned utilities. Highest positive correlation is given for the strategic priority *business opportunist*" (0.88), lowest is present for "*policy partner"* (0.39) and no correlation is given for "*process efficiency*" (0.05). In *canton-owned* utilities, left-wing board affiliation shows a tendency to drive positively strategic deviance from regulatory norms pro energy transition in one correlation out of the identified strategic priorities. The tendency to correlate is given for *business opportunist* (0.38). In *minority-owned* utilities, *left-wing political board affiliation* shows a tendency to drive positively strategic deviance from regulatory norms pro energy transition in five correlations with the identified strategic priorities. The highest correlation tendencies are given for *renewables generation* (0.75) and *owner perception* (0.73). The lowest is present for *new investments* (0.25). Nearly no correlation tendency is given for *innovative offerings* (-0.02).

Thus the second proposition, 2.2.2, that can be derived regarding research question 2.2, is:

[Proposition continued]

2.2 Board capital *might have* a moderating effect on the formation of strategic priorities, such that …

2.2.2 In city-owned utilities, left-wing board members *might drive* positive strategic deviance in all but one strategic priority [process efficiency]

Correlation analyses based on the boardlock findings reveal the following per utility type and concentration: In city-owned utilities*, board intralocks* show a tendency to drive positively strategic deviance from regulatory norms pro energy transition in three correlations with the identified strategic priorities. The three priorities are *public responsibility*, *new investments*, and *customer orientation*. No such influence is given from extralocks apart from a negligeable one for the correlation with the strategic priority *renewables generation. Canton-owned utilities* show a tendency to be curbed by extralocks in driving positively strategic deviance from regulatory norms pro energy transition. This holds true for the correlations with the identified strategic priorities *business opportunist, innovative offering, public responsibility, new investments,* and *process efficiency*. Intralocks show positive correlations leading to a tendency of positive strategic deviance in the strategic priority *process efficiency* and *owner perception. Minority-owned* utilities show a tendency to deviate positively

in *innovative offerings* due to extralocks, yet are curbed by extralocks in *new investments*. Intralocks show a tendency to curb minority-owned utilities equally. From such punctual results no causal relationship and subsequent proposition can be established.

Based on the above analysis, one clear implication can be made: Utility ownership conditions utility board influence on strategic priorities based on the board characteristics *professional background* and *political affiliation*. All in all, however, the results from the board relation with strategic priorities are little robust: High variance persists due to the small sample size with maximum ten, and minimum seven utilities per correlation analysis (this is due to the analyses undertaken per owner type and concentration). Considering these aspects, data must be interpreted carefully as no significant relation could be established. Nonetheless, the analyses serve the original purpose of our study, namely, to *explore* how public corporate governance influences strategic prioritization. The study's focus on qualitative insights based on a small sample enabled in-depth findings for the Swiss energy industry as a whole and as such is indicative for the directions of future research. As such, at least tendencies for the proposed relation between board and strategic priorities could be revealed. In the subsequent chapter, the core insights from these tendencies merit to be critically discussed in detail. The derived propositions will be shed light upon the most. For this purpose, the subsequent paragraph was included. It provides additional insights for the discussion section from the outliers that were encountered during analyses.

5.3 Outliers

It was already mentioned that data obtained from board exploratory analyses data was not robust. Nonetheless there is a need to emphasize that outliers[23] revealed to be the same throughout the correlation analyses between board and strategic priorities. This leads at this stage to propose why, with regards to propositions taken and discussion points raised in the previous sections.

Amongst city-owned as majority-owned utilities, EWB, EWL, and IBA turned out to be outliers for the correlations of *community influentials* with *renewables generation (*R^2: 0.30, instead of 0.11*), business opportunity* (0.76) and *owner perception* (0.90)*.* EWB

[23] Outlier means, that the utility in the analysis under concern shows less or more positive strategic deviance than its counterparts in the same analysis group

is the only 'independent institution under public law'. All of the other city-owned utilities in the sample are either 'service providers' or 'Ltd.' fully in the hand of the city as owner. EWB might thus have more agency-based freedom and perceives the owner less as a partner to which to acquiesce**.** This insight confirms, again, that ownership structure creates a difference. EWL shows overall very low correlation values for this dimension but seems, based on the analysis, especially proactive. This indicates, that early strategic measures pro energy transition might have been taken so that the statements made on strategic topics from the 2012 AR are less pronounced. The third outlier, IBA, is a traditionally horizontally integrated utility. They are historically active in a wide array of business fields. Based on literature, their capabilities are to be interpreted as *"path dependent"* (Barney, 1991; Ray et al., 2004). Both historical and path dependent categories were deliberately excluded from the analysis (as described in the methodology section). Such categories may also stand for the fact that means to strategic adaptation had already been taken early – preemptive to concrete market changes. Under such a condition, firms can handle *"as many routine cases as possible"* (Pache and Santos, 2010, p. 460) – realization of a large volume of strategic priorities is possible as no longer the requirement of specific resources dominates the realization of established strategic goals. Also, IBA's board is composed by 57% business experts, which is the 2nd highest in the sample, and subsequently might lower influences from community influentials. Theory confirms that certain board member groups may dominate others on the board (Pache and Santos, 2010). Finally, the same three city- and majority-owned utilities are outliers for the relation of left-wing affiliated board members on *renewables generation* (0.51), *policy partner* (0.35), *new investments* (0.80), *business opportunist* (0.88), *customer orientation* (0.56), *public responsibility* (0.64), and *owner perception* (0.65) (ex *process efficiency* and *innovative offerings*). Hypothesizing about the reasoning remains the same.

Canton-owned utilities depict equally correlation differences without a clear trend. BKW is outlier for the correlation of *community influentials* with *business opportunist* (0.40), and SIG for *community influentials* on *new investments (0.39).* BKW is unusually proactive compared to counterparts, probably because it has undergone a considerable phase of restructuring. For SIG, five representatives of the *local* left-wing parties have not been accounted for as 'left-wing board members' due to the underlying selection criteria. This explains why SIG, in line with our findings, is more strategically proactive than others of its counterparts. A specificity of Geneva is,

additionally, that voters adopted *"early drastic sustainability measures"* in the region, including the city (Kriesi and Jegen, 2001).

As regards non-majority utilities' correlations, REG is an outlier for *community influentials on business opportunist* (0.56), and GD and EBL for *community influentials* on *new investments* (0.49). GD is a conventional electricity supplier, focusing on hydro-based power generation. As regards REG, a comparison of *REG* with *Repower*, its counterpart, reveals: Repower is near-majority owned by the canton of Grisons (46%) and less in the forefront pro energy transition relative to other diffusedly owned utilities. Its free float portion is only 8 per cent (compared to minimum 20 and maximum 70 per cent of other utilities in the group). At REG, on the contrary, one fifth of the shares are in possession of private individuals (20% free float). Such a spread over different interests balances well the 38% stake of the canton of Vaud. A second remarkable fact supports such an implication and concerns EBL: EBL as a cooperative is highly proactive in 8 out of 9 key strategic priorities. EBL is owned by more than 12,000 private cooperative members. It reveals thus free floating and diffused ownership characteristics[24]. On the contrary, the second cooperative in the sample (EBM) shows less proactivity. This can be ascribed to the fact that EBM is nearly entirely in public hands (89.7 per cent are in the hands of Swiss municipalities, the rest is held by French municipalities in the Alsace region). Thirdly, WWZ is the only utility in the sample that is *not* controlled by public institutions. 70% of the shareholdings are distributed amongst 3,600 private investors, i.e., are free-floating shares; the rest is distributed amongst 4,000 public investors. WWZ stands out in its group and is clearly above average in strategic prioritization. Finally, above 50 per cent of the sample does not see energy transition as responsibility to raise awareness in society. Amongst them there is only one minority-owned utility. As such, not just owner type but also owner concentration might have a moderating effect on the formation of corporate strategic priorities pro energy transition under Swiss energy regulation.

[24] Page 9 of the EBL annual report 2012 states that cooperative members are also juristic persons governed by private law. Exact wording: *"Die EBL ist als privatrechtliche Genossenschaft organisiert. Die Genossenschafter sind juristische und private Personen, die Liegenschaftseigentum besitzen, welches an das Stromnetz der EBL angeschlossen ist."*

6. Discussion

One sees from the analyses and results, that the public policy environment in Switzerland and federal executive utility ownership condition utility strategic priorities. Implications on the prevailing strategic priorities based on PCG in Switzerland are thus discussed first. Subsequently, the moderation of strategic priorities by ownership and board of directors is emphasized on. The board is thereby discussed as having a *tendency* to moderate. Equally, the propositions derived in the results section are reflected on.

6.1 Strategic priorities shaped by public governance

Public governance seems to confine the breadth of utilities' strategic priorities. This might be due to the fact that essential pillars to energy policy are, indeed, adhered to by the utilities under scrutiny. What was remarkable throughout the entire analysis to this study is the similarity in the discussed strategic topics based on the thirty LSh. Grouping of the nine strategic priorities was perceived as a relatively straightforward task. Overall, utilities show an at least neutral or positive attitude towards their changed regulatory environment. Indeed, 60 per cent of the sample utilities share a supportive attitude pro energy transition and roughly half perceive in energy transition a business case for their firm. A strong sense for their *service public* across the sample may be the cause for the two tendencies: "*obligation towards the common good*" (Schedler and Finger, 2008, p. 3) provides the framework in which utility management operates. Swiss energy utilities seem thus to dispose of a friendly and open attitude towards energy transition, which would imply friendly and open attitude for strategic proactivity.

However, it remains to be said that this general perception does not necessarily correspond to the overall action: Utilities show proactivity in energy transition - *provided* the regulator gives them a leg up. Theory also says, that external contextual factors tend to lead to conformity of organizational action (Bansal and Clelland, 2004). Several arguments support this conclusion: 'Working to regulatory expectations' dominates the industry's strategic action based on the findings and interpretation of the analyzed utility sample. First of all, 85 per cent of the energy utilities see in the regulator a partner for their business. Aligning as closely as possible with regulation policies is therefore indispensable and usually little space for individual maneuver and workarounds remains. What is more, utilities usually have a

performance mandate to fulfill with performance targets being set by the public hand. Entities setting these targets are the regional governments and/ or the parliament (Schedler et al., 2007, p. 39). This is the case equally under Swiss energy policy. It is such a regulation set at the federal level, where guarantee for the provision of service public goes hand in hand with the ownership function that, again, lies in the federation's executive sphere - namely cantons or cities. Margin and incentive for entrepreneurship are deemed to be narrow also based on this second argument. Thirdly, highest strategic priority across the sample is ascribed to *renewables generation*. Regenerative energy sourcing is key to energy utility business in Switzerland. Based on our findings, it can be interpreted as a quasi-industry-wide standard. In fact, it is addressed by 90 per cent of the utilities in their LSh. Not to forget, renewables integration into the energy mix corresponds to the 'greening pillar' of the Swiss *EnergyStrategy2050* (see section 3). Another factor supporting *'work to rule'* rather than proactive entrepreneurship, is found with the strategic priority *new investments*. As is the case for *renewables generation,* actions behind this priority are strongly incentivized by regulatory grants, such as the remuneration for the introduction of renewables. Lastly, another argument speaking for the carrot-and-stick logic in the Swiss energy industry concerns *distributed generation*. This decentralized and democratized form of energy generation remains a niche operation to Swiss energy utilities. Only two out of the thirty sample utilities affirm the provision of solutions in the field. Roughly the double talk about a likely future development of the competence.

Yet the identified condensed breadth of strategic priorities need not only stem from the regulation-maker, but also from the regulation-taker: The Swiss energy industry remains an incumbent one. Overall, *Goliaths* attitudes may persist and prevail for energy utilities. As literature indicated, Switzerland had lagged behind in the 90s to liberalize the electricity industry relative to its OECD counterparts. Also, in their study on industry sustainability transformation, the scholars Hockerts and Wüstenhagen (2010, p. 483) found that incumbents' *"environmental and social goals"* are often relatively little ambitious. This theoretical argument supports the study's deduced proposition 1.2 on work to regulatory expectations or little entrepreneurial proactivity. One could possibly add this issue to the list of *"dysfunctionalities and unintended consequences"* (Leixnering and Polzer, 2012, p. 83) from agencification: rather than a 'let the managers manage' it is a 'let's have the managers manage' – under Swiss energy transition.

Next to mention is an issue to be interpreted as particularly decisive in the light of future full market liberalization, namely *customer orientation* (proposition 1.2) To the overwhelming majority of utilities (85 per cent) customer orientation means customer *satisfaction*. Actively integrating customers in solutions pro energy transition is not a dominant strategy to these utilities. This might also explain the minor industry-wide emphasis on distributed generation. Rather, when it comes to customer relations, energy consulting is seen as the primary tool to *retain* them: If product or service renewal is made (strategic priority: *innovative offerings*), 65 per cent of utilities focus on consulting services. The fight taking place about customers in the soon to be fully open Swiss energy marketplace little aggressively addressed but based on loyalty, high-value for money, and security aspects. As sample energy utilities put it, they build strongly upon "[…] the demonstration of trust and competence […]" and "[…] secure, cheap and nature adapt supply of electrical energy of its clients". However, the underlying analysis has no deeper insight into the customer relations management mechanisms deployed for the strategically important big consumers: They dispose of free energy provider choice already under partial market liberalization. Another explanatory factor could be that, again, the generally strong commitment to the public trumps customer importance perception. Customers, by definition, are at least a sub-group of three important stakeholders to a modern energy utility: the public, the citizenry, and the voters (Houck and Rickerson, 2009). Concerning the latter, the OECD Guidelines urge the owner of an SOE to fully take into consideration its responsibility towards stakeholders (OECD, 2011). The owner (canton, city) exercises its functions via the board, which is thus shaped by its representatives. Representatives of public institutions (e.g., politicians) and/ or those with a naturally high commitment to the public (e.g., university professors, book or journal authors) could be considered as safeguarding the interests of a broad public, rather than focusing on its narrowest subset to which beneficence shall be maximized. Regulation-induced entrepreneurial thinking is thus logically lower in customer orientation strategies. Al-Sunaidy and Green (2006) provide another issue with causal effect for customer orientation strategies deployed: The two scholars have compared consequences of electricity market deregulation in OECD countries. In Great Britain, the first country to expose retailers to market competition, in the year 2003 and thus five years after the entire market had been fully liberalized, customers had switched back again to their incumbent electricity company (p. 783). The study concludes that switching rates from increased market competition *may* put performance pressure on incumbents - such as measures aiming at strengthened customer bonds. Yet they also point out that barriers to switching may persist (p.

785), irrespective of ameliorated performance, as also lower electricity price levels would be a demonstrator of.

Apart from customer bonds also efficiency considerations are vital under heightened competition from liberalization. So is the *cost management* issue of importance to any corporation operating in a free market and addressed separately as a proposition for research question one. What the underlying study reveals for this dimension is that *consolidation* of firm operations is mentioned as a strategic topic in their LSh by only one tenth of the energy utilities examined. It is thus not priority to the industry based on implications from our sample. Also, focus on *intra-firm cost management* is explicitly addressed by only 25 per cent. Overall, and summing up the values allocated to the qualitative statements given in the LSh, the strategic priority *process efficiency* is relatively little valued compared to the other strategic priorities deduced. These are the reasons for ascribing cost focus a minor strategic relevance relative to the other priorities under energy regulation. Of course, it must be recognized, that consolidation or cost management issues are not necessarily popular topics to discuss in LSh. Yet purely derived from sample insights, such topics are little addressed. If they are, they reveal process efficiency considerations, rather than cost savings in a strict sense. This obtained insight confirms findings from a survey on Swiss SOEs (respondents: general managers). 50 per cent of them confirm that the public hand serves as a guarantor. In the form of deficit guarantees and financial securities, or cost-covering price remunerations (e.g., KEG in Switzerland) State guarantees are legally enforced, confirm 60 per cent of the participants (Schedler et al., 2007, p. 41). The same utility survey explored that output and outcome targets laid down in their performance mandate are not correlated with financial targets (p. 43). This high degree of *security public* against financial shortcomings could explain why cost focus is not of primary priority to energy utilities. Of course, the underlying study is limited to a specific point in time – post-partial and pre-full market liberalization. Utilities might have taken pertinent cost management measures at an earlier stage of industry transition, e.g., during *Phase I.* Also, utilities have known at the point of partial market opening that full liberalization will eventually become an issue for their business. Yet this implication can only be partially confirmed from the LSh screened: A Berne-based city utility states that liberalization “occupies them more than ever” (EWB). Also, what one utility' terms nearly skeptically as the phase “of hesitant transition from a monopoly to a half-open market” (Axpo) seems to oppose the liberalization-accepting logic “One has to be aware that [we] are prone to market forces” (EKZ). Equally, the apprehension expressed by “It is not yet clear how

devastating introduction of market opening for consumers also below 100,000 kWh will be." (AIL) faces the straightforward, nearly confident, words "Complete liberalization […] lies ahead" (EWZ). A posture as biased indicates that strategic priorities of energy utilities will eventually depend on the differing attitudes towards regulation and its induced and anticipated market change. Difference in embracement of the latter decides about whether and how the latter finds its place amongst utilities' strategic priorities. A longitudinal or in-depth study could shed further light on the issues concerning full electricity market opening, specifically if directed at selected opposing utilities operating in the Swiss energy industry. IBAarau, for instance, realizes most of their revenues already in liberalized markets. – The spillover to other utilities could thus be a matter of time only. To subsume for both strategic priorities and derived propositions on customer orientation and process efficiency: Swiss energy utilities putting high emphasis on their customer relationship management, e.g., through partnership agreements as promoted by CKW, or marketing efforts in the greening pillar such as the energy portal mentioned SGSW, could profit considerably from energy transition and related full market liberalization – especially in combination with the *too publicly backed to fail* financial guarantees.

Nonetheless, there is always an exception to the rule: There are utilities that are relatively more likely to pursue efficiency and ecologizing expectations - despite one regulatory framework and without federal incentive. Under the assumption of status-quo-*preserving* '*Goliaths'*, coexistence with entrepreneurially *proactive 'Davids'* (Hockerts and Wüstenhagen, 2010) is possible. Meaning, selected established Swiss energy utilities may take active and early action in a strategic priority. varies especially in four out of the nine strategic priorities, which are *business opportunist*, *policy partner*, *new investments*, and *renewables generation*. These areas, one could say, *resemble* the core provisions of the *EnergyStrategy2050:* while the former two touch upon newly arising business opportunities from increased market competition under the liberalization pillar, the latter two address the greening tendencies under the ecologizing pillar. Especially under these four, directly energy-transition-linked priorities, strongly differing action is taken by energy utilities within the sample. Yet variations in these categories reveal the most explicit and exciting insight: Why would the utility eventually deviate from regulatory work to rule, in categories that are clearly incentivized by policy? Variation is either driving energy transition, i.e., resulting in positive deviance from work to regulatory expectations, or, energy transition is seen as painful and a necessity to go through to survive, i.e., causing quasi-negative deviance (e.g., Walls and Hoffman, 2013). – Existing studies support

this study's implications for the Swiss energy industry: some utilities proactively adopt practices that go beyond regulative and normative expectations (Hart, 1995; Hoffman and Woody, 2004). Especially at the environmental side, where strengthened efforts aim at offering broad social benefits, as the authors put it, variation can be denoted in our study. Distributed generation, where the sample utilities were considerably biased upon, can be interpreted as a strategic topic aiming at broad social benefits: The utilities' core business is interrupted, incumbents' business is gradually democratized and eventually, also private individuals engage actively in energy transition. However, only two utilities operated actively in the area, where WWZ *"provides solutions"* and Repower aims at *"further intensifying efforts"* in the area. One can conclude, that strategic priorities depend, first of all, on how entrepreneurially proactive incumbents are; and secondly, how status-quo preserving incumbents react to the entrepreneurially proactive amongst them. Based on the utility study, a '*Proactive David'* such as WWZ may trigger its '*Preserving Goliath'* counterpart(s) to engage in and prefer similar strategic action. Such waves of industry transformation towards entrepreneurial activity with greater social benefit are possible, according to Hockerts and Wüstenhagen (2010).

Under the homogeneous strategic priorities that were found to dominate the Swiss energy industry, one needs to ascribe variation to the idiosyncracy in companies' actions. This opinion seems to be shared by the city-owned utility WWZ, which stated "energy transition cannot be caused unilaterally by regulation". Also, utilities are, of course, aware that "[p]olitics, economics and society are under permanent change" (ewl). Scholars found that something "internal to the firm" (Walls and Hoffman, 2013, p. 253), rather than institutional context, must determine differences in organizational response. - How change is responded to in the first place, and how energy transition evolves depends thus upon specific corporate attributes. From the insights of this study this hypothesis can be confirmed. There is more to the transition than regulation. This is equally true for service public institutions, which have a strong foothold in the domain from which regulation originates.

The second part of the discussion section sheds further light on especially the ownership's moderating influence on the formation of strategic proactivity in strategic priorities. The second proposition to research question two based on board capital merits to be discussed as well, yet keeping in mind that only *tendencies* for its influence could be revealed based our analysis.

6.2 Strategic proactivity influenced by public corporate governance

Based on this study's results, ownership – i.e., canton, city, private investors as majority or minority shareholders – could moderate positive deviance pro energy transition in the utility industry. Schedler et al., (2007, p. 44) find the following consensus amongst Swiss SOEs: *"Owner strategy should be the foundation upon which to formulate strategic objectives"* (p. 44). Even though two thirds of the sample utilities are limited corporations, i.e., organized as "AG", de facto control of them is still executed by cities and cantons as single party majority shareholders. This finding goes hand in hand with a recently published information by the Swiss Electricity Foundation stating that 87 per cent of the Swiss electricity industry is owned by public institutions (SES, 2014a). Ownership has thus an important role to play in entrepreneurial strategic action to SOEs being equally the case to Swiss canton- and city-owned as majority-owned utilities under energy transition. The first part of the discussion is structured accordingly.

Firstly, what about canton-owned utilities? Canton-owned utilities compromise rather than fully adopt energy transition strategies and subsequently show less strategic proactivity. Several arguments speak for this implication from the underlying analysis: According to a study organized by SES (2014b) and recently published on its homepage, cantons result as the *"winners from energy transition".* Their opportunities originate from *"intensified building efficiency standards"* and enhancement of *"regional value creation"*. The study's interpretation goes on stating that *"energy taxes and incentivizing levies would guide local production and consumption"* which, in turn, cantonal energy utilities could profit from. These opportunities thus result from strong regulatory interference. Meaning, as long as the canton as owner actively positions itself also as regulator, cantonal utilities will profit from energy transition. This is, exactly, what our study aims at demarcating, namely, the entrepreneurial side apart from regulatory incentives. Equally interesting is, that 80 per cent of canton-owned utilities abstains from commenting on the strategic priority *regulation partner*.

This study's results on this dimension reveal further: Cantonal utilities do generally deviate less from what the regulator wishes for. Positive deviance of strategic priorities towards energy transition is, for example, clearly given for SIG. However, SIG is a hybrid as a both city- and canton-based utility. Based on our results and the SES study, proactivity or entrepreneurship is rather underdeveloped or obsolete to cantonal utilities. Furthermore, even though SES believes cantons to have an

advantage due to a more *"clearly defined control and definition*" of performance mandate of their utilities, this view is not shared by Schedler et al. (2007, p. 28). Lienhard and Schedler (2006) also mention that owner strategies need to satisfy two dimensions simultaneously: guidance of the corporate steering committee (board) and obedience to the political environment. As such, instructions might be both: straightforwardly entrepreneurial or politically biased.

Theory, indeed, argues, that response strategies to institutional demands may aim at balancing for partial conformity, or buffering to preclude necessity to conform to all demands (Oliver, 1991). Cantonal utilities might fall under these categories of either 'compromise' or 'avoidance'. For instance, could a compromising attitude include the following: *"Regarding environmental protection and harmonious integration into the surroundings no compromises will be made. Yet one has to consider that additional provisions only render the project more expensive and hold the danger of putting the project at risk in the long run"* (Groupe E). Buffering could be expressed as convincing for a certain priority which fits best to the utility's: *"Energy efficiency has thus an important role to play. Especially cantons – in the building sector in particular – dispose of the biggest margins of action in this field"* (EKS). Another statement that would probably fit both response strategies is "*We have pointed to the deficiencies [in measures stated under the EnergyStrategy2050 and at federal parliamentary discussion], amongst others, together with the Swiss electricity association, cantons and business associations […]"* (AEW). Looking closer into compromise and avoidance strategies could explain why cantonal ownership contributes to relatively less strategic proactivity in this study.

Lastly, scholars agree that history and their energy industry structure put cantonal utilities in a special position (Kriesi and Jegen, 2001, pp. 258, 259). For example, cantons are the dominant shareholders in the cross-regional utilities ('*Überlandwerke').* Apart from these cross-regional industry structures, cantonal utilities form so-called "energy forums" (Kriesi and Jegen, 2001, pp. 258, 259) within the industry. By such means cantonal utilities form alternative institutional contexts. From such, alternative resources can be obtained on the one hand. On the other, they serve as a platform to co-opt: Being spread across cantons and forums, cantons have necessarily a lower resource-dependence on only one institutional context. This seems to be a decisive contrast to city-owned utilities. To their operations, margin of disconformity is relatively limited as the distance to their owning municipality is small. Apart from that, proximity to the voting population is high; and on the latter as voting

citizenry the board member reelection into the municipal council (Stadtrat) depends strongly. The *argument of special position* is additionally supported by the finding that 80% of canton-owned utilities do not address the priorities *regulation partner* and *owner perception* based on the LSh analysis. Having multiple institutional contexts to respond to and ultimately obtain resources from (e.g., board members, financial guarantees, etc.), less partnering is required with the federation. Equally, less alignment but rather the establishment of compromise and buffer with the direct owner seems indispensable.

Instead, positive strategic deviance might be given for city-ownership if majority-owned. Looking deeper into these analysis results, city-owned utilities are energy transition leaders. Already titles assigned to the LSh in the annual reports already indicate the dichotomy by which energy transition is approached: *"We put into effect"* (SWW), *"Innovation is focus"* (ewz), or *"Enable quality of life"* (SGSW) express city-owned utilities' spirit, alongside the cantonal statements *"Requirement of provisions puts a weight on good operational result"* (AEW), or *"AET and the new challenges of the market"*. Indeed, existing theory confirms proactivity for city-ownership (Houck and Rickerson, 2009). Equally, cities are at the forefront of introducing innovative polities for the promotion of energy sustainability (Byrne et al., 2007; Rabe, 2004). Very likely, city-owned utilities perceive institutional demands as less conflicting (Pache and Santos, 2010): E.g., amongst the 50 per cent in the sample that do not see energy transition as a responsibility to raise awareness in society range merely one fifth of the city-owned utilities (strategic priority *public responsibility*). The city-of-Lausanne-based sample utility paraphrases the range of institutional demands very well: *"Social responsibility, safety, and environmental caution guide the action of SiL in their relationship with important parties: collaborators, clients, public authorities, partners, officials, and suppliers*". *What is more, theory proposes* 'acquiescence' as response strategy. Swiss city-ownership could induce utility adjustment either out of '*habit'*, or out of the rational to simply '*imitate'* or '*comply'* (Oliver, 1991) to adopt external regulatory demands. Utilities' statements are, indeed, pragmatic: ewl, e.g., takes *"permanent change"* as a given; ewz does the same with liberalization ("Complete liberalization lies ahead"). This would explain that the three priorities *business opportunist*, *regulation partner*, and *public responsibility* are the once positive deviance is pronounced most in. City-owned utilities as majority-owned seem to actively cooperate with the regulator and support him unconditionally what confirms proactivity in energy transition.

Similar compliance behavior to energy transition out of acquiescence seems to be given for free float and diffusedly owned utilities under minority-ownership. Both Oliver's (1991) proposition and Pache & Santos' (2009) conflict perception of institutional demands apply equally: Minority shareholdings, free float and diffused shareholdings cause myriad and likely conflicting demands to utilities. A firm operating under such mechanisms is a real 'nexus of contracts'. It is used to the incorporation of numerous stakes in the corporate steering processes such as strategizing. The analyses results' reveal: Especially if free float is part of the shareholder portfolio, or minority shareholdings are given, positive deviance in strategic priorities pro energy transition is moderated. Meaning, diffusedly owned and utilities with free float are, together with city-owned as majority-owned utilities, clear energy transition leaders. Diffused and free float minority utilities range above average in 60 per cent of the analyses (except for *process efficiency*). Free float ranges, as city-owned utilities, clearly above average in the correlations owner type with *business opportunist*, *regulation partner*, and *public responsibility*. Apart from seeing energy transition as a business case, they tend to align with their regulatory environment (correlation *owner type* and *regulation partner*). The same three tendencies are shown when relating the characteristic *owner concentration* instead of *owner type* to the strategic priorities, thus controlling for non-majority ownership. Experience with the incorporation of multiple institutional demands can be ascribed to minority-owned diffusedly and free float utilities. Whether it is out of a '*habit'*, '*imitation'* or '*compliance rational'*. The 'high distance to their owners' could foment the juggling of multiple interests - especially those of a broader civil society stakeholder base. This perception in the utility industry seems to go in line with research proposed by Cornforth (2004). His conception of the '*Stakeholder model'*: confirms: stakeholders' different interests require their active balancing.

Especially in SOEs, the owner executes control indirectly via board membership. Indeed, SOEs in Switzerland confirm that to over 55 per cent public instructions are turned into practice at the board level (Schedler et al., 2007, p. 40). Our investigation on the Swiss energy industry seems to mirror this generalization: Board capital seemingly triggers different effects upon strategy according to owner type and concentration. As this study's results revealed, *community influentials* (C.I.) on board a utility show a tendency of driving corporations (1) to perceive a business opportunity in energy transition, (2) invest heavily in energy-transition-supportive R&D, to generate energy sustainably from (new) renewables. Yet the results based on this analysis indicate no clear relation but rather tendencies. Meaning, further

research is required whether ownership more decisively than the board of directors impacts the formation of strategies under regulation in the Swiss energy industry specifically, or SOEs in general. Equally, further insights are necessary to investigate the sophisticated role that board of directors are likely to hold as an intermediate between different owner types and corporate strategizing. Interestingly this study's results revealed that *dispersed ownership* depicts specifically high orientation for board C.I. to unconditionally support the regulator in its energy transition provisions (*regulation partner*; $R^2 = 0.78$). Apart from that, it is also upon C.I. to create public awareness for energy transition aboard dispersed ownership utilities (*public responsibility*, $R^2 = 0.92$). Clearly, based on such tentative results a moderation effect from board on the formation of corporate strategic priorities pro energy transition cannot be safely deduced. Yet such sophisticated relations merit to be further explored and tested as energy transition evolves and for the sake of a smoother interface between the regulation-giving and –taking authorities.

One important speculation that links ownership and board insights from this study is that 'exceptional boards' (Walls and Hoffman, 2013) **–** those that moderate positively strategic priorities pro energy transition - may form on city-owned utilities with community-influentials or political left-wing representation on board. As previously indicated, city-owned utilities are energy transition leaders. Their positive strategic deviance from institutional norms fulfills more than the regulatory requirements, *for the sake of fulfilling a greater social benefit.* However, and as the results obtained from relating community influentials and political left-wing affiliation to strategic priorities, "exceptional deviant responses must rest on particular aspects of the organization's board" (Walls and Hoffman, 2013, p. 256). City-owned utilities might thus show a '*particular'* composition of their board capital. Indeed, Kriesi and Jegen (2001) point to an ever more dominating 'pro-ecology' coalition in the Swiss energy industry, whereby the Swiss energy policy domain is dominated by left-wing politicians. Resource-dependence theory confirms that '*acquiescence'* happens particularly in those fields where board members depend on institutional referents for *legitimacy* or *resources* (DiMaggio and Powell, 1983; Pache and Santos, 2010). Especially community influentials and politicians depend - at least more strongly than business experts or support staff - on legitimacy for reelection, both in front of the regulator and owner, and the citizens. If the utilities' industry structure tends to foment sustainability, legitimacy will eventually base upon the latter too. Resources that board members add to the utilities' board capital will thus equally become sustainability-prone. A scholar sums such interaction effects between the public

governance sphere and public corporate governance response well into words: Not only representative composition but evaluation and responsibility of the board - *subject to democratic oversight* - ensure legitimation of the board (Greer et al., 2003) – the corporate organ *"[…] at the interface between firms and their external environment […]"* (Tainio et al., 2001, p. 429) that are central to organizational strategic response under market change.

The final discussion point touches - rather than upon relation - upon isolation at the corporate-environmental interface. The absence of intra-industry ties from board intralocks may drive strategic proactivity. Indeed, insights from the sample analysis revealed that city-owned utilities are isolated from their industry counterpart. 11 utilities in our sample do not show industry ties from board membership within the sample. Out of them, 9 are city-owned utilities. The only city-owned utility showing intra-industry ties is IBAarau, being intralocked twice. As city-owned utilities deviate positively in strategic priorities pro energy transition, isolation from the industry may induce high proactivity. It is long recognized that organizations operating at the center of a network deviate less easily from normative practices (Clemens and Cook, 1999; Freeman, 1978) whereas peripheral network positions may contest dominant institutional norms or apply alternative measures. Based on this insight, a network analysis could help explore such periphery findings. Already based on cross-holdings, the Swiss energy industry seems to be a highly entrenched one. If the absence of intralocks is addressed, the abundance of extralocks need be too: Such juxtaposition may unfold clearer moderation of positive strategic deviance from board ties. Based on the board analyses, board members of Swiss utilities dispose of numerous relations to industries other than the Swiss energy sector. Some board members are real hubs for extra-industry ties. However, based on our analyses no moderating effect could be derived and further research in this area would be required. These findings indicate, that position in a network may count more than a mere number of board ties from which resources are channeled to the organization. Apart from this, in the Swiss energy industry, informal coalitions might be more dominant than formal board ties, in the moderation of strategic priorities. A pointed out by Kriesi and Jegen (2001) the energy sector in Switzerland is dominated by a 'pro-growth' and 'pro-ecology coalition'. Their in-depth research on Swiss political actors' constellations in the transient Swiss energy policy domain revealed that especially cantonal governments engage heavily with 'forums', i.e., industry platforms in general and electricity forums in particular (Kriesi and Jegen, 2001, p. 257). This forum-shopping-alike logic allows for industry ties other than the board members'

ones. Such casual ways of bonding may moderate the formation of strategic priorities in particular directions and have been left unaddressed in the underlying study's research. To conclude this section - with Kriesi and Jegens' (2001) Swiss energy policy focus and Walls and Hoffmans' (2013) deviance from institutional norms in mind: Based on the high political motivation behind energy transition, coalition formations would not be surprising. - After all, the Swiss energy industry has been – and remains for the time being – a public service industry.

6.3 Limitations

Limitations arise especially from the cross-sectional nature of the study, the lack of LSh representativeness for strategic maneuver, and the subjective interpretations of LSh quotes. Additionally, the small sample size cannot reveal fully reliable results. This manifests itself especially in the exploratory correlations undertaken for board influence on the formation of strategic priorities. Further limitations – albeit minor ones - are seen in the insufficient data transparency and difficult comparability of company publications. Limitations are discussed in more detail as follows.

First of all, limitations concern the author's interpretations of the qualitative research content: Especially the results obtained are subject to personally influenced interpretations of annual report statements. Taking this limitation a step further, another subjectivity interdependence is given: LSh are a company publication and determine a base for interpretation that, in itself, is subjective. They might exclude information on substantial strategic decisions and underlying decision-making factors. For instance, LSh may not discuss critical issues, such as cost management. Furthermore, strategic deviance values are assigned based on the interpretation of such limited LSh content, focusing on a specific point in time. Thus not only subjective evaluation took place, yet also the underlying interpretation base remained narrow. From these two shortcomings it is clear that the exploratory correlations, based on board influence on strategic priorities, propose only tentative results. – A broader sample base is suggested to drive future insights in the area towards more reliable findings and implications. Also, results obtained are a snapshot in time due to the confined period of investigation. A longitudinal research, maybe focused on one to three single utility(ies), would be required to understand better how energy regulation provisions condition corporate strategic response shaped by utility public corporate governance. Such analyses would be especially interesting, as energy

policies are in place in Switzerland since the 90s - aiming at sustainability and coinciding with the launch of liberalization tendencies.

As regards data gathering, insufficiency arose from company publications: Design of LSh and profit and loss (P&L) statements often comes in deliberate form. This holds true especially for utilities under public law, where no standardized reporting format is given. In line with this, data published turned out to be incomparable. Seemingly the same figures published hold different components, e.g., no breakdown of ‘net electricity sales’ is given. Such problem arose when estimating the market coverage by the utilities in the sample (in electricity sales, 2013). Thirdly, in the course of data collection data availability became an issue: Information on board members depended on their Internet footprint on social network pages. Subsequently, their reliability is, equally, questionable.

7. Conclusion

The underlying study creates an insight into public-private sector interface in general, derived from the specific focus on energy regulation-induced change of Swiss energy utilities' strategies. It aims at adding insights into public governance reality and its operationalization through management reality (Hilb, 2005; Schedler et al., 2007). The latter deserves special attention, especially under public sector regulation aiming at higher efficiency and customer orientation in the light of electricity market liberalization. Understanding what drives the relation between the two is landmark to viability and progress of future-essential policies in the areas of climate policy in general, and energy policy more specifically (OECD, 2011). Furthermore, understanding corporate strategic behavior helps understand implications from energy transition for the corporate world. This study tried to uncover corporate strategic behavior based on deriving ownership and board of directors' influence on its formation, as owner and board operate *"at the interface between firms and their external environment"* (Tainio et al., 2001; Vo and Nguyen, 2011). For this purpose, the preferentially deployed strategies under the current Swiss energy transition regulatory action program in place, the Swiss *EnergyStrategy2050,* were investigated, revealing Swiss energy industry corporate *'strategic priorities'*.

We overall conclude that corporate strategic priorities are, in fact, more democracy- and legitimacy-based than purely market-based. Even though complete market liberalization and renewables-based energy efficiency measures overwhelm the industry, work to regulatory requirements can be denoted. As such, corporate strategies are alike and follow regulation, leading to an industry-wide agreed quasi-standard of dominant strategic action. Under such a confined set of preferentially deployed strategies, margin for entrepreneurship seems to be - and seems to remain – a narrow one. Indeed, energy utilities' operations are based in the public governance sphere. Albeit the desire for increased efficiency led to privatization of energy-delivering utilities already in the 90s, de facto, the *'agencies'* are majority-controlled by executive branch of the Swiss federation, by cantons or cities. This is a further indicator that energy utilities' naturally incumbent function as agents of *service public* will not break up, simply because we might see traditional industry structures break. These arguments explain, again, the strong *orientation towards the regulator* and *owner perception* as two out of the nine identified utilities' strategic priorities. An interesting comparison at this stage would be the one with a non-traditional public

service industry, to derive a corporate strategic snapshot of a *truly private* corporate industry under regulatory change.

However, even though margin for entrepreneurship is narrow, magnitude of action under strategic priorities was different for the analyzed utilities. Either, utilities intensively align with the federal energy policies' demands, or, they deviate positively from the regulatory requirements in their action under the strategic priorities. No *'real'* negative deviance from regulatory norms was traced in this study. - Yet *'quasi-negative deviance'* seems to apply to those utilities that show relatively less strategic deviance, and are thus less strategically active pro energy transition. Interestingly, this proactivity seems to be moderated by ownership. On the one hand, especially city-owned utilities 'acquiesce' the energy regulatory requirements, leading to strong overall strategic proactivity in the energy transitions' greening and liberalization requirements. This could again indicate persistence rather than disentanglement of the public sector based energy utilities: Cities as majority owners (i.e., holding the majority of the shares of an energy utility 'Ltd.', or controlling fully an energy utility as a 'public law institution') are close to the citizens' demands for energy transition. Also, their legitimacy stems from the citizens as voters. City utility board composition tends to a stronger presence of politically affiliated members and community influentials. Such factors may foment especially early integration of institutional demands from the public sphere – be it the citizenship or government – into corporate strategic behavior. On the contrary, canton-owned utilities are found to cherry-pick and forum-shop: canton-owned utilities align deviate less positively from energy regulatory requirements in their strategic priorities. Their engagement is high in some strategic priorities, provided the regulator gives them a leg-up. This could be due to the fact that cantons are strongly based in alliances, such as the Swiss 'cross-regional utilities' that formed under the increasing pressure from partial market liberalization. Similar informal alliances allow for relatively less concentrated resource dependence from a single stakeholder, such as the voters in the city-utilities' case.

Finally, how 'work to regulatory requirements', 'positive strategic deviance', and 'cherry-picking' evolve remains to be seen. What public corporate governance of Swiss energy utilities could evolve to be optimally discussed once the Swiss energy industry is fully liberalized – at least, as fully competitive it can get in a sector where nearly 90% are controlled by the public hand. Examples such as WWZ - the only truly corporate utility screened with a 70% private investor pool – are promising as regards strategic proactivity pro energy transition. To date, this snapshot analysis

reveals that the selection of strategic priorities is a sign of increased ‘sustainable energy utility’ understanding and a sign of market readiness for energy transition in Switzerland.

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Appendices

Appendix A [Heat map-19] – Strategic topics with assigned values, per utility and owner type (1/2)

Owner, con-centration		Name	Policy posture					Mission & vision					
			Shape	**Support**	**Neutral**	**Opportunity**	**Threat**	**Owner perception**	**Leadership role**	**Public responsibility**	**Geographical reach**	**Customer orientation**	**Service security**
Majority-owned	City-controlled	SGSW			5			4	2	1	1	4	
		SWW				3		2	4	4		3	
		EWZ		5		5		4	3	4		4	
		SiL		5	5	4		4	4	5	1	5	
		EWB		5		3		5	5	4	4	5	
		EWL AG		5	5			3		1	1	3	
		AIL AG				3					1	3	
		IBA AG		4	5					3	4		
		ESR AG			3			2	1		1	3	
		AGE AG	3		2		3	1			1	3	5
	Canton-controlled	AET			3		3	1		4	2		
		IWB		4		5		2	2	2	2	2	4
		SIG			1	4		5	5	5	1	4	
		EKZ	5	5	1			2	1		4	2	
		EKS AG	4					4	5		2	5	
		SAK AG							2	1	1	4	
		AEW AG	5		5			4		4		2	1
		FMV SA	4	3		4		2			1		
		Groupe E SA	4	4	1	5		4	2	2	1	4	
		BKW AG			3							2	
	Utility-controlled	CKW AG		2			3					4	
		GD SA		3		2	1	2			4	3	
Non-majority owned	Cooperative	EBL		4			1	4	2	5		4	
		EBM		3			4	2			3	2	1
	Dispersed	Axpo AG		2			4	3			2	2	
		EOS SA		5		4		5	4	5	2		
	Dispersed + free float	REG SA		5		5				5	2		5
		Alpiq AG		4			4		1		4	2	
		REP AG	3		3	1	5	1	2	5	2		
		WWZ AG	5	5	5	4			5	5			
Total importance			33	73	47	52	28	66	50	65	47	75	16

Appendix B [Heat map-19] – Strategic topics with assigned values, per utility and owner type (2/2)

Owner, con-centration		Name	Electricity generation		Product portfolio				Firm operations	
			Distributed	**Renewable**	**New investments**	**Diversification**	**Innovative offerings**	**Consolidate**	**Cost focus**	**Efficiency**
Majority-owned	City-controlled	SGSW		3	3	5	3			1
		SWW		3	4	4	3			2
		EWZ		5	4		3			3
		SiL		4	5	4	3			1
		EWB	2	4	5	5	4			1
		EWL AG		2	4	4	3			
		AIL AG		3		3				2
		IBA AG		3	5	4	5			1
		ESR AG					2			
		AGE AG		3	3	3				
	Canton-controlled	AET								2
		IWB		4	2	4	2			2
		SIG		4	5	4	5			4
		EKZ		3	4		4		2	
		EKS AG	4	2	3	3	2			
		SAK AG		2	4	4	3			3
		AEW AG		3	1					2
		FMV SA		3	2	2				1
		Groupe E SA		3		2	3			
		BKW AG	4	3	2	5	5	5	2	2
	Utility-controlled	CKW AG		3	2	1	2			
		GD SA		2	1					1
Non-majority owned	Cooperative	EBL		3	4	4	5		1	2
		EBM		3	2	3	2		1	1
	Dispersed	Axpo AG							1	1
		EOS SA		3	4	3	2	3	2	
	Dispersed + free float	REG SA	5	3	4	5	3			2
		Alpiq AG	4	2	3	2	4			3
		REP AG	1	2	2	2		1		4
		WWZ AG	5	5	3	5	5			5
Total importance			25	83	81	81	73	9	9	46

Appendix C Selection criteria for strategic priorities

Topic eliminated	Selection motives	Interpretation	Replaced by or merged	Remainder: *strategic priorities*
Policy posture				
"Shape" "Neutral" "Threat"	Less than 2/3 coverage	Similar categories	- "Business opportunity" - "Regulation partner"	(1) "Business opportunist" (2) "Regulation partner"
Mission and values				
"Leadership role"	Firm-idiosyncracy		- Little degree of comparability - Interpretations little reliable	(3) "Owner relations" (4) "Public responsibility" (5) "Customer orientation"
"Geographical reach"	History/ path-dependency	Depends on company traditional integration (vertical, horizontal); Supply regions are (still) fixed legally		
"Service security"	Less than 2/3 coverage	Inherent part of energy utility business model		
Electricity generation				
"Distributed generation"	Less than 2/3 coverage	Still a niche – 1/10 of utilities operate in it	Distributed generation accounted for under "renewables generation" and "public responsibility"	(6) "Renewables generation"
Product portfolio				
"Diversification"	History/ path-dependency	- Depends on company traditional integration (vertical, horizontal), is thus path-dependent		(7) "New investments" (8) "Innovative offerings"
"Consolidation"	Less than 2/3 coverage	Public sector financial guarantees		
Firm operations				
"Cost focus"	Less than 2/3 coverage	Public sector financial guarantees		(9) "Process efficiency"

Appendix D [Heat map-9] – Strategic priorities with assigned values, per utility and owner type

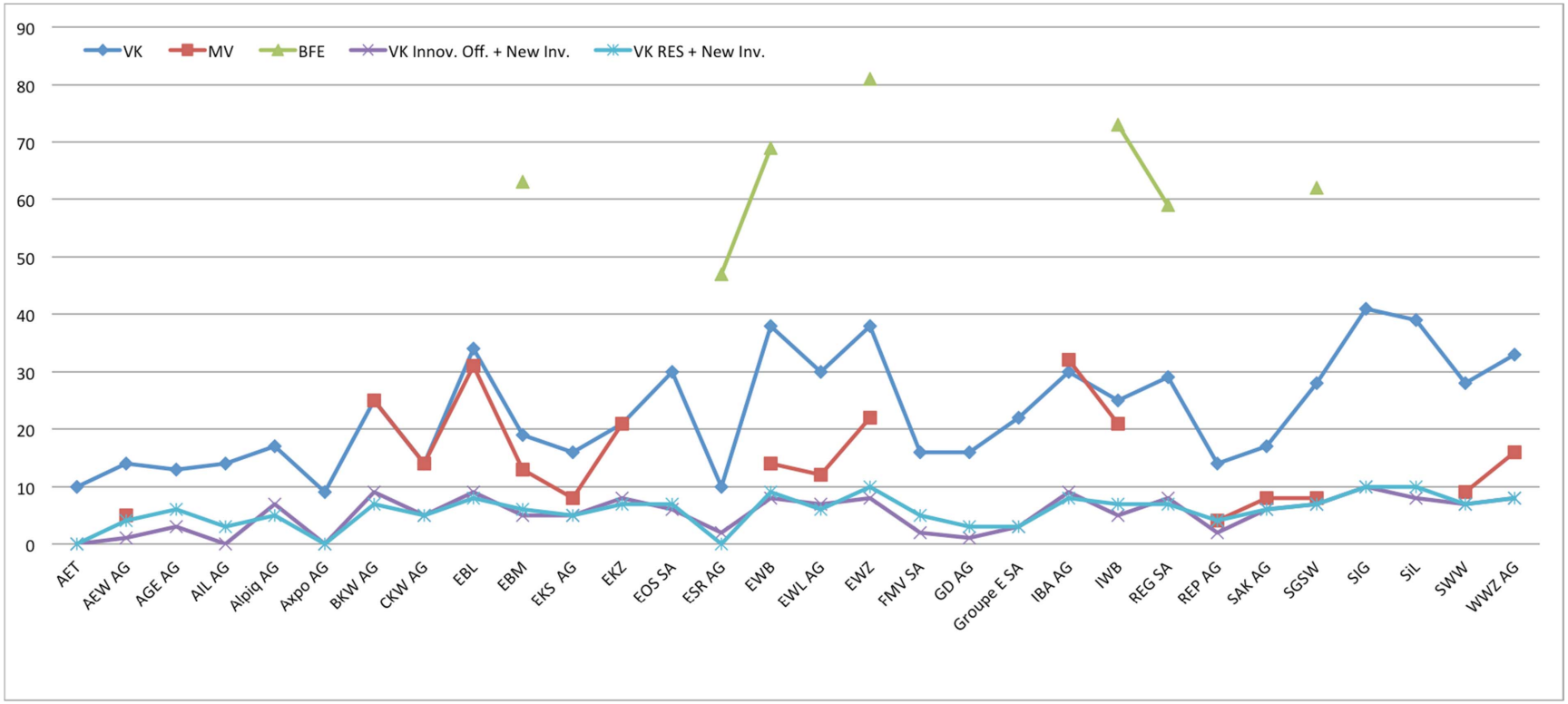
Owner, con-centration		Name	Policy posture		Mission & vision			Electricity generation	Product portfolio		Firm operations
			Policy partner	**Business opportunist**	**Owner perception**	**Public responsibility**	**Customer orientation**	**Renewables generation**	**New investments**	**Innovative offerings**	**Process efficiency**
Majority-owned	City-controlled	SGSW	5		4	4	4	3	4	3	1
		SWW		5	3	4	3	3	4	3	3
		EWZ	5	5	4	4	4	5	5	3	3
		SiL	5	5	4	5	5	5	5	3	2
		EWB	5	5	5	4	5	5	4	4	1
		EWL AG	5	5	3	4	3	3	3	4	
		AIL AG	4	1			3	3			3
		IBA AG	4	5	3	4		3	5	4	2
		ESR AG	2	1	2		3			2	
		AGE AG	3		1		3	3	3		
	Canton-controlled	AET		4	1	4					1
		IWB	3	3	2	4	3	4	3	2	2
		SIG	3	5	5	5	4	5	5	5	4
		EKZ	5		2	1	2	3	4	4	
		EKS AG			4		5	2	3	2	
		SAK AG				2	4	3	3	3	2
		AEW AG		3	3		2	3	1		2
		FMV SA	4	4	2			3	2		1
		Groupe E SA	1	5	4	2	4	3		3	
		BKW AG	2	4			3	3	4	5	4
	Utility-contr	CKW AG	3				4	2	3	2	
		GD SA	3	4	2		3	2	1		1
Non-majority owned	Cooperative	EBL	5		4	5	4	4	4	5	3
		EBM	3		4		2	3	3	2	2
	Dispersed	Axpo AG	2		3		2				2
		EOS SA	4	4	5	5		3	4	2	3
	Dispersed + free float	REG SA	5	5		5		3	4	4	3
		Alpiq AG		3			2	2	3	4	3
		REP AG	1	2	1	5		2	2		1
		WWZ AG	5	5		5		5	3	5	5
Total importance			87	83	71	72	77	88	85	74	54

Appendix E Strategic priorities average values per owner type

		Policy posture		Mission & vision			Electricity generation	Product portfolio		Firm operations
		Policy partner	**Business opportunist**	**Owner perception**	**Public responsibility**	**Customer orientation**	**Renewables generation**	**New investments**	**Innovative offerings**	**Process efficiency**
	Total value	87.00	83.00	71.00	72.00	77.00	88.00	85.00	74.00	54.00
Average/prio/owner	City-controlled	4.22*	4.00	3.22	4.14	3.67	3.67	4.13	3.25	2.14
	Canton-controlled	3.00	4.00	2.88	3.00	3.38	3.22	3.13	3.43	2.29
	Utility-controlled	3.00	4.00	2.00	0.00	3.50	2.00	2.00	2.00	1.00
	Cooperative	4.00	0.00	4.00	5.00	3.00	3.50	3.50	3.50	2.50
	Dispersed ownership	3.00	4.00	4.00	5.00	2.00	3.00	4.00	2.00	2.50
	Dispersed + free float	3.67	3.75	1.00	5.00	2.00	3.00	3.00	4.33	3.00
	Average across types	3.48	3.29	2.85	3.69	2.92	3.06	3.29	3.09	2.24

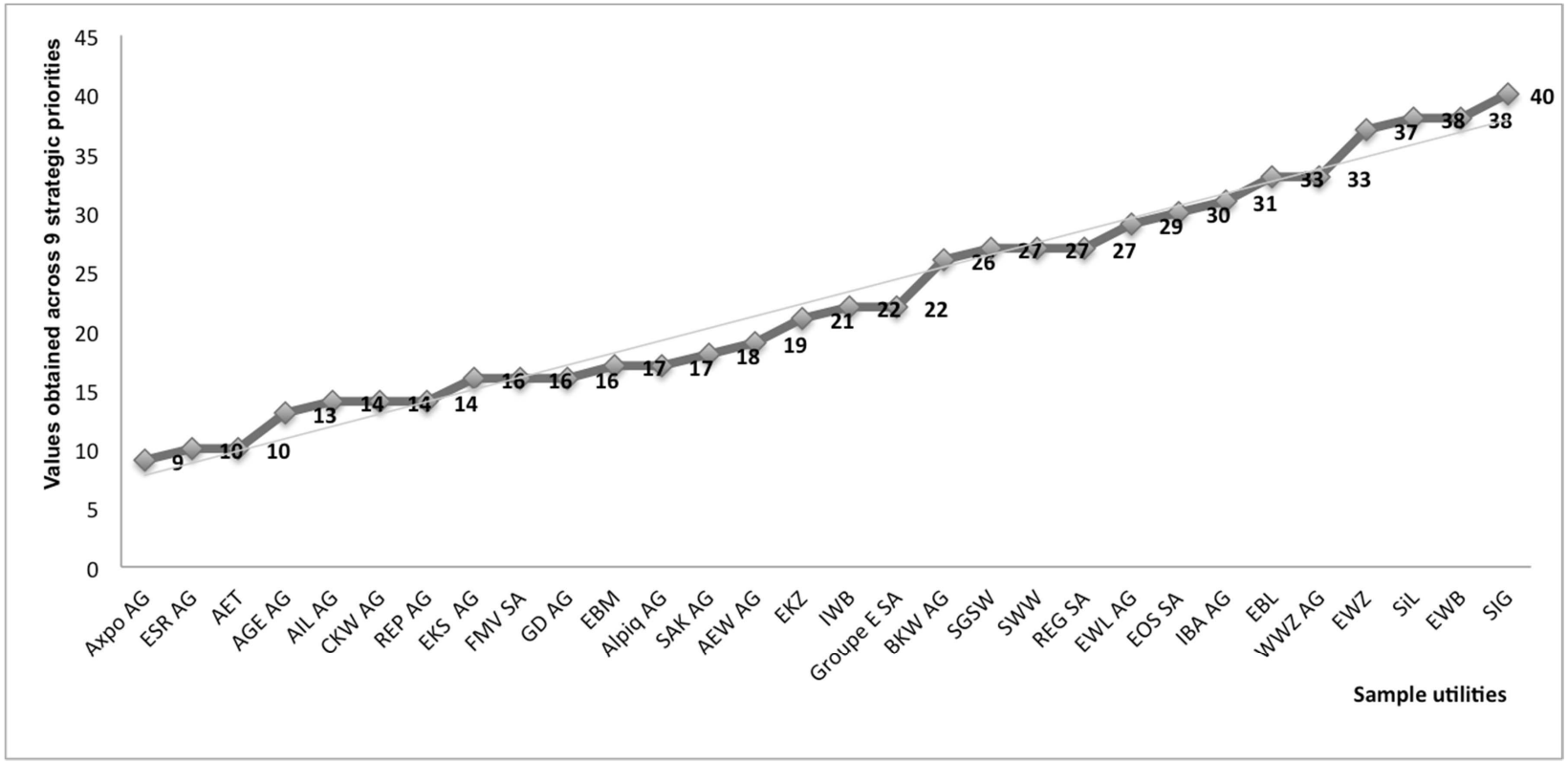
* In grey: value higher than average across types

Appendix F Strategic indicator comparison



Sources: Vormittag (2014), BFE (2014), Strategic topics values assignment by the author (VK)

Appendix G Strategic proactivity per utility, in values assigned per strategic priority



Appendix H Utility majority-ownership and respective stakes, by sales revenue (1/2)

Name	Legal entity	Headquarter city, canton*	Majority-owner and concentration of direct shareholding, in %		Sales** 2013, in mn CHF
Alpiq AG	AG	Bern, BE	n/a		2,836.0
Axpo AG	AG	Poschiavo, GR	n/a		2,752.1
SIG	Autonomer öffentlicher Serviceanbieter	Aarau, AG	Canton of Geneva	55.00	1,078.0
CKW AG	AG	Luzern, LU	Axpo AG	81.00	938.9
EKZ	Rechtlich-selbständige Anstalt öffentlichen Rechts	Payerne, FR	Canton of Zurich	100.00	758.7
REP AG	AG	St. Gallen, SG	n/a		667.7
IWB	Selbständig, im Besitz des Kantons	Luzern, LU	Canton of Basel-City	100.00	662.8
BKW AG	AG	Zürich, ZH	Canton of Bern	52.54	647.8
Groupe E SA	AG	St. Gallen, SG	Canton of Freiburg	78.55	591.8
REG SA	AG	Sion, VS	n/a		507.2
SiL	Öffentlicher Serviceanbieter	Winterthur, ZH	City of Lausanne	100.00	500.0
AEW AG	AG	Baden, AG	Canton of Aargau	100.00	455.8
EWZ	Städtische Dienstabteilung	Basel, BS	City of Zurich	100.00	331.4
SAK AG	AG	Sion, VS	Canton of St. Gallen	83.30	325.0
AIL AG	AG	Le Lignon, GE	City of Lugano	100.00	304.7
AET	Selbständig, im Besitz des Kantons	Bellinzona, TI	Canton of Ticino	100.00	298.4
EWB	Öffentlich-rechtliches Unternehmen	Chiasso, TI	City of Bern	100.00	213.7
SGSW	Öffentlich-rechtlich unselbständig	Sion, VS	City of St. Gallen	100.00	197.8
EBM	Genossenschaft	Bern, BE	n/a		195.5
GD AG	AG	Münchenstein, BL	Alpiq AG	60.00	176.7
FMV SA	AG	Lausanne, VD	Canton of Wallis	51.00	168.9
EBL	Genossenschaft	Aarau, AG	n/a		112.5
WWZ AG	AG	Schaffhausen, SH	n/a		111.1
SWW	Öffentlich-rechtlich unselbständig	Liestal, BL	City of Winterthur	100.00	93.0
ESR AG	AG	Zug, ZG	City of Sion	60.00	89.9
EWL AG	AG	Lausanne, VD	City of Lucerne	100.00	89.3
IBA AG	AG	Muzzano, TI	City of Aarau	51.00	73.4
EKS AG	AG	Zürich, ZH	Canton of Schaffhausen	75.00	69.2
EOS SA	AG	Morges, VD	n/a		46.0
AGE AG	AG	St. Blaise, NE	City of Chiasso	100.00	23.6
				Sales total* **	15,317.11

*CH counts 26 cantons, 16 are covered in the sample. **Net electricity sales. *Note*: As reporting standards and legal requirements vary across organizational form, sales figures listed are at best indicative yet not comparable. ***Estimated total sales volume in our sample. Swiss associations for the electricity business report a market volume from electricity sales at 8-12 bn CHF, in 2012 (SES 2014; VSE, 2013). *Source*: utility annual reports, 2013

Appendix I Utility non-majority-ownership and respective stakes (2/2)

Utility	SH1	%	SH2	%	SH3	%	SH4	%
Alpiq AG	EOS SA	31.4	EDF Alpes Investissements Sàrl	25.0	EBM	13.6		12.2
Axpo AG	EKZ	18.4	Canton Zurich	18.3	Canton Aargau	14.0	AEW AG	14.0
EOS SA	REG SA	29.7	Groupe E SA	23.1	City of Lausanne	20.7	SIG	20.4
EBL Gen.	12,421 members of cooperative							
EBM Gen.	Swiss municipalities	89.7	French municipalities (Alsace)	10.3				
Repower AG	Canton GR	46.0	Alpiq AG	24.6	Axpo AG	21.4	Free float	8.0
REG SA	Canton Vaud	38.6	Free float	20.7	VD municipalities	14.1	Treasury shares	10.0
WWZ AG	3,600 private investors	70.0	4,000 public investors	30.0				

Utility	SH5	%	SH 6	%	SH7	%	SH8	%	SH9	%
Alpiq AG	EBL	7.1	Canton Solothurn	5.6	AIL	2.1	IBAarau	2.0	WWZ	0.9
Axpo AG	SAK	12.5	EKT AG	12.3	Canton Schaffhausen	7.9	Canton Glarus	1.7	Canton Zug	0.9
EOS SA	FMV SA	6.1								
EBL Gen.										
EBM Gen.										
Repower AG										
REG SA	Groupe E SA	5.8	BKW AG	5.0	Banque Cantonale Vaudoise	3.4	Holdigaz	2.5		
WWZ AG										

Appendix J Latest annual reports underlying investigated LSh per utility

Year	Utilities
2013	Alpiq, BKW, EBM, EOS, EWB, EWZ, Grande Dixence, IBAarau, REG, Repower, SWW, WWZ
2012/13	AEW, Axpo, CKW, SAK
2012	AGE, AET, AIL, EBL, EKZ, ESR, EWL, SIL, FMV, Groupe E, IWB, SGSW, SIG

Appendix K Board locks per 273 board members

Board member	Total	Intralocks	Extralocks	Within-sample affiliation. analysis #, "name"				
H.E. Schweickardt	8	1	7	276 "Alpiq"	291 "GD"			
C. Wanner	2	0	2	276 "Alpiq"				
R. Longet	5	2	3	276 "Alpiq"	285 "EOS"	300 "SIG"		
M. Baumgärtner	1	0	1	276 "Alpiq"				
C. Lässer	3	2	1	276 "Alpiq"	285 "EOS"	292 "GpeE"		
D. Bompoint	0	0	0	276 "Alpiq"				
O. Fauqueux	3	0	3	276 "Alpiq"				
G. Mustaki	6	3	3	276	285 "EOS"	291 "GD"	298 "REG"	
J.Y. Pidoux	13	4	9	276 "Alpiq"	285 "EOS"	291 "GD"	298 "REG"	296 "SIL"
A. Kummer	4	1	3	276 "Alpiq"	290 "EBM"			
U. Steiner	7	1	6	276 "Alpiq"				
C. Ammann	2	1	1	276 "Alpiq"				
D. Gros	1	0	1	276 "Alpiq"				
R. Lombardini	5	0	5	277 "Axpo"				
J. Brunnschweiler	7	1	6	277 "Axpo"	301 "SAK"			
U. Betschart	1	1	0	277 "Axpo"	284 "EKZ"			
S. Attiger	2	0	2	277 "Axpo"				
R. Dubach	4	0	4	277 "Axpo"				
R. Eberle	8	0	8	277 "Axpo"				
A. Frank	4	1	3	277 "Axpo"	301 "SAK"			
M. Graf	6	0	6	277 "Axpo"				
R. Hug	11	1	10	277 "Axpo"	275 "AEW"			
M. Kägi	4	1	3	277 "Axpo"	284 "EKZ"			
P. Reinhard	6	1	5	277 "Axpo"	284 "EKZ"			
H. Tännler	3	0	3	277 "Axpo"				
E. Werthmüller	6	1	5	277 "Axpo"				
U. Gasche	7	0	7	280 "BKW"				
K. Rohrbach	7	1	6	280 "BKW"	292 "Gpe E"			
A. Hunziker-Ebneter	2	0	2	280 "BKW"				
M.A. Affolter	1	0	1	280 "BKW"				
R. Baillod	6	0	6	280 "BKW"				
G. Bindschedler	8	0	8	280 "BKW"				
B. Egger-Jenzer	3	0	3	280 "BKW"				
H. Geldmacher	3	0	3	280 "BKW"				
E. Marbach	0	0	0	280 "BKW"				
K. Schär	11	0	11	280 "BKW"				
B. Simon-Jungi	2	0	2	280 "BKW"				
P. Virdis	9	1	8	280 "BKW"	292 "Gpe E"			
E. Rikli	9	0	9	297 "REP"				
H. Schulz	2	1	1	297 "REP"				
R. Huber	12	0	12	297 "REP"				
Mi. Schmid	1	1	0	281 "CKW"	277 "Axpo"			
P. Berther	3	0	3	297 "REP"				
C. Brändli	7	0	7	297 "REP"				
G. Jochum	6	0	6	297 "REP"				
C. Lardi	3	0	3	297 "REP"				
R.W. Mathis	14	2	12	297 "REP"	291 "GD"			
M. Meyer Stutz	8	0	8	297 "REP"				
M. Thumann	10	1	9	297 "REP"				
R. Vetsch	5	0	5	297 "REP"				
G. Leonardi	7	0	7	278 "AET"				
M. Netzer	8	0	8	278 "AET"				
S. Lombardi	4	0	4	278 "AET"				
R. Ogna	3	0	3	278 "AET"				
R. Bianchi	7	0	7	278 "AET"				
F. Leidi	2	0	2	278 "AET"				
A. Peyrot	3	1	2	285 "EOS"	300 "SIG"			
A. Alipandri	2	0	2	300 "SIG"				
F. Dalang	3	0	3	300 "SIG"				
L. De la Serna	3	0	3	300 "SIG"				
Y. Gallay	0	0	0	300 "SIG"				
P. Gautier	1	0	1	300 "SIG"				
F. Gillet	1	0	1	300 "SIG"				
J.P. Haas	3	0	3	300 "SIG"				
F. Hiller	0	0	0	300 "SIG"				
E. Leyvraz	1	0	1	300 "SIG"				

P.Y. Malagoli	0	0	0	300 "SIG"	
P. Malek-Asghar	2	0	2	300 "SIG"	
P. Maudet	1	0	1	300 "SIG"	
M. Cosandier	0	0	0	300 "SIG"	
R. Pagani	1	0	1	300 "SIG"	
E. Peytremann	2	0	2	300 "SIG"	
G. Pictet	1	0	1	300 "SIG"	
B. Roch	2	0	2	300 "SIG"	
A. Rys	3	0	3	300 "SIG"	
C. Saraiva Medeiros	2	0	2	300 "SIG"	
J. Strobel	0	0	0	300 "SIG"	
C. Balmer	1	0	1	284 "EKZ"	
M. Bäumle	7	0	7	284 "EKZ"	
B. Heinzelmann	4	0	4	284 "EKZ"	
U. Kübler	2	0	2	284 "EKZ"	
M. Mossdorf	6	0	6	284 "EKZ"	
J. Nipkow	2	0	2	284 "EKZ"	
U. Ramer	1	0	1	284 "EKZ"	
E. Schibli	2	0	2	284 "EKZ"	
E. Stocker	6	0	6	284 "EKZ"	
P. Wettler	5	0	5	284 "EKZ"	
G. Winkler	5	0	5	284 "EKZ"	
S. Ziegler	2	0	2	284 "EKZ"	
A. Walo	5	0	5	281 "CKW"	
M. Schwab	2	0	2	281 "CKW"	
H. Sallenbach	1	1	0	281 "CKW"	
J. Schnyder	8	0	8	281 "CKW"	
M. Schwerzmann	3	0	3	281 "CKW"	
H. Z'graggen	2	0	2	281 "CKW"	
J. Alder	5	0	5	294 "IWB"	
Ma. Schmid	20	0	20	297 "REP"	
M. Blume	1	0	1	294 "IWB"	
B. Jans	6	0	6	294 "IWB"	
R. Hinderling	1	0	1	294 "IWB"	
B. Madörin	1	0	1	294 "IWB"	
A. Wanner	3	0	3	294 "IWB"	
R. Rechsteiner	6	0	6	294 "IWB"	
A. Türler	8	0	8	282 "EWZ"	
C. Nielsen	4	0	4	282 "EWZ"	
A. Odermatt	2	0	2	282 "EWZ"	
G. Laube	2	0	2	282 "EWZ"	
R. Golta	3	0	3	282 "EWZ"	
F. Leutenegger	7	0	7	282 "EWZ"	
R. Wolff	5	0	5	282 "EWZ"	
D. Leupi	11	0	11	282 "EWZ"	
C. Mauch	15	0	15	282 "EWZ"	
B. Vonlanthen	11	1	10	292 "Gpe E"	
P.A. Egger	1	0	1	292 "Gpe E"	
J.N. Gendre	2	0	2	292 "Gpe E"	
G. Godel	5	0	5	292 "Gpe E"	
M. Losey	5	0	5	292 "Gpe E"	
C. Nicati	0	0	0	292 "Gpe E"	
P.A. Nobs	6	1	5	292 "Gpe E"	285 "EOS"
P. Sandoz	4	0	4	292 "Gpe E"	
E. Schnyder	4	0	4	292 "Gpe E"	
U. Schwaller	5	0	5	292 "Gpe E"	
W. Martz	7	1	6	298 "REG"	285 "EOS"
L. Ballif	3	0	3	298 "REG"	
L. Balsiger	5	0	5	298 "REG"	
C. Budry	3	1	2	298 "REG"	285 "EOS"
P. Ghiliani	6	0	6	298 "REG"	
B. Grobety	7	0	7	298 "REG"	
J.J. Miauton	7	0	7	298 "REG"	
A.M. Veuthey	3	0	3	298 "REG"	
M. Wider	13	3	10	298 "REG"	290 "EBM"
P. Oberson	2	0	2	298 "REG"	
R. Pantani	15	0	15	274 "AGE"	
S. Camponovo	10	0	10	274 "AGE"	
B. Arrigoni	3	0	3	274 "AGE"	
M. Colombo	9	0	9	274 "AGE"	

P. Pintus	2	0	2	274 "AGE"	
D. Brélaz	12	1	11	296 "SIL"	285 "EOS"
O. Tosato	11	0	11	296 "SIL"	
G. Junod	4	0	4	296 "SIL"	
F. Germond	3	0	3	296 "SIL"	
M. Vuilleumier	9	0	9	296 "SIL"	
O. Français	14	1	13	296 "SIL"	
P. Gross	3	1	2	285 "EOS"	288 "FMV"
P. Bryner	6	0	6	275 "AEW"	
E. Frey-Burkard	10	0	10	275 "AEW"	
K. Schmid	14	0	14	275 "AEW"	
F. Stampfli	7	0	7	286 "EWB"	
R. Zimmermann	3	0	3	286 "EWB"	
S. Blank	4	0	4	286 "EWB"	
B. Rigassi	3	0	3	286 "EWB"	
R. Nause	17	0	17	286 "EWB"	
A. Wehrli-Koch	0	0	0	286 "EWB"	
D. Többen	3	0	3	286 "EWB"	
H. Gianola-Lindlar	0	0	0	290 "EBM"	
P. Brandenberg	0	0	0	290 "EBM"	
D. Schenk	4	0	4	290 "EBM"	
U. Grütter	2	0	2	290 "EBM"	
E. Alabor	1	0	1	290 "EBM"	
A. Büttiker	2	0	2	290 "EBM"	
X. Caitucoli	1	0	1	290 "EBM"	
A. Dürr	1	0	1	290 "EBM"	
M. Ehrenzeller	0	0	0	290 "EBM"	
G. Fuchs	1	0	1	290 "EBM"	
P. Gassmann	0	0	0	290 "EBM"	
M. Helfenstein	1	0	1	290 "EBM"	
K. Henzi	1	0	1	290 "EBM"	
U. Jäggi-Baumann	5	0	5	290 "EBM"	
R. Jauslin	1	0	1	290 "EBM"	
T. Kübler	1	0	1	290 "EBM"	
P. Meschberger	0	0	0	290 "EBM"	
R. Mohler	1	0	1	290 "EBM"	
P. Müller	1	0	1	290 "EBM"	
N. Nüssli-Kaiser	2	0	2	290 "EBM"	
B. Schmitter	0	0	0	290 "EBM"	
E. Schneider-	3	0	3	290 "EBM"	
M. Weber	1	0	1	290 "EBM"	
B. Würth	2	0	2	301 "SAK"	
K. Frei	11	0	11	301 "SAK"	
D. Gut	3	1	2	301 "SAK"	
W. Haag	3	0	3	301 "SAK"	
B. Jud	4	0	4	301 "SAK"	
R. Rebsamen	2	0	2	301 "SAK"	
S. Sutter	1	0	1	301 "SAK"	
C. Guglielmini	2	0	2	279 "AIL"	
M. Foletti	9	0	9	279 "AIL"	
A. Bernasconi	3	0	3	279 "AIL"	
G.M. Bianchetti	2	0	2	279 "AIL"	
A. Di Stefano	4	0	4	279 "AIL"	
E. Pelli	5	0	5	279 "AIL"	
N. Schönenberger	3	0	3	279 "AIL"	
S. Degonda	3	0	3	287 "ewl"	
H.J. Graf	5	0	5	287 "ewl"	
J. Simeon-Dubach	2	0	2	287 "ewl"	
J. Langenegger	7	0	7	287 "ewl"	
R. Freimann	3	0	3	287 "ewl"	
A. von Segesser	5	0	5	287 "ewl"	
M. Jost	3	0	3	287 "ewl"	
B. Bussmann	3	0	3	303 "WWZ"	
H. M. Buhofer	2	0	2	303 "WWZ"	
B. Hofstetter	3	0	3	303 "WWZ"	
A. Hotz	15	0	15	303 "WWZ"	
A. Umbach	3	0	3	303 "WWZ"	
H. Leutenegger	14	0	14	303 "WWZ"	
D. Müller	5	0	5	303 "WWZ"	
R. Bisig	5	0	5	303 "WWZ"	

K. Kobelt	4	0	4	303 "WWZ"	
M. Gfeller	4	0	4	302 "SWW"	
N. Galladé	3	0	3	302 "SWW"	
S. Fritschi	3	0	3	302 "SWW"	
B. Günthard	2	0	2	302 "SWW"	
J. Lisibach	1	0	1	302 "SWW"	
Y. Beutler	2	0	2	302 "SWW"	
M. Künzle	2	0	2	302 "SWW"	
F. Brunner	4	0	4	299 "SGSW"	
T. Scheitlin	4	0	4	299 "SGSW"	
N. Cozzio	4	0	4	299 "SGSW"	
M. Buschor	3	0	3	299 "SGSW"	
P. Adam	5	0	5	299 "SGSW"	
J. Aeberhard	1	1	0	291 "GD"	
C. Brutschin	2	0	2	291 "GD"	
D. Grall	2	1	1	291 "GD"	
F. Kilchenmann	1	0	1	291 "GD"	
P. Mariller	5	1	4	291 "GD"	
D. Mouchet	3	2	1	291 "GD"	
J. Pralong	1	0	1	291 "GD"	
B. Revaz	1	0	1	291 "GD"	
A. Stettler	1	1	0	291 "GD"	
D. Thiel	1	1	0	291 "GD"	
J.R. Fournier	2	0	2	291 "GD"	
H. Dirren	0	0	0	291 "GD"	
D. Metrailler	6	0	6	291 "GD"	
D. Lauber	0	0	0	291 "GD"	
C. Perruchoud	0	0	0	288 "FMV"	
F. Zurbriggen	0	0	0	288 "FMV"	
J.M. Cina	1	0	1	288 "FMV"	
E. Epiney Savioz	1	0	1	288 "FMV"	
M.H. Favre	2	0	2	288 "FMV"	
R. Kronig	5	0	5	288 "FMV"	
M. Maurer	6	1	5	288 "FMV"	295 "ESR"
D. Métrailler	3	0	3	288 "FMV"	
G. Oggier	2	0	2	288 "FMV"	
M. Rausis	6	0	6	288 "FMV"	
M. Guignard	4	0	4	293 "IBA"	
F. Hunziker	1	0	1	293 "IBA"	
C. Eichenberger	10	0	10	293 "IBA"	
B. Blattner	4	0	4	293 "IBA"	
A. Widmer	2	1	1	293 "IBA"	303 "WWZ"
C. Appert	6	1	5	293 "IBA"	276 "Alpiq"
M. Goldenberger	4	0	4	293 "IBA"	
D. Défago	2	0	2	295 "ESR"	
F. Chappot	5	0	5	295 "ESR"	
G. Dayer	3	0	3	295 "ESR"	
M. Dubuis	3	0	3	295 "ESR"	
C. Germanier	1	0	1	295 "ESR"	
E. Kamerzin	3	0	3	295 "ESR"	
V. Pellissier	13	0	13	295 "ESR"	
P. Varone	6	0	6	295 "ESR"	
R. Tschopp	2	1	1	289 "EBL"	283 "EKS"
E. Geiser	1	0	1	289 "EBL"	
B. Sturzenegger	8	0	8	289 "EBL"	
T. de Courten	11	0	11	289 "EBL"	
H. Oberer	2	0	2	289 "EBL"	
C. Buser	9	0	9	289 "EBL"	
R. Schaffner	3	0	3	289 "EBL"	
F. Veit	1	0	1	289 "EBL"	
B. Zeller	2	0	2	289 "EBL"	
H. Germann	8	0	8	283 "EKS"	
D. Brunner	2	1	1	283 "EKS"	
D. Reichelt	7	2	5	283 "EKS"	
T. Fischer	3	0	3	283 "EKS"	
A. Gisler	3	0	3	283 "EKS"	
E.A. Müller	5	0	5	283 "EKS"	
Maximum no. of IL	20	4	20		
Minimum no. of IL	0	0	0		