Lappeenranta University of Technology

School of Business and Management

Ida Korpivaara

Legitimacy Building in Public Disclosures on Strategic Energy Investments

Master's Thesis

Supervisors: Professor Anne Jalkala and Doctoral Student Samuli Patala

ABSTRACT

Author: Ida Korpivaara

Subject: Legitimacy Building in Public Disclosures on Strategic Energy Investments

Year: 2015 **Place:** Lappeenranta

Master's Thesis. Lappeenranta University of Technology, School of Business and Management, Industrial Marketing and International Business
108 pages, 13 figures, 19 tables ja 4 appendices
Supervisor(s): Professor Anne Jalkala

Keywords: strategic energy investments, social acceptance, legitimacy theory, press releases, content analysis, mixed method study

Renewable energy investments play a key role in energy transition. While studies have suggested that social acceptance may form a barrier for renewable energy investments, the ways in which companies perceive and attempt to gain the acceptance have received little attention. This study aims to fill the gap by exploring how large electric utilities justify their strategic investments in their press releases and how do the justifications differ between renewable and non-renewable energy investments. The study bases on legitimacy theory and aims at contributing to the research on legitimation in institutional change.

As its research method, the study employs an inductive mixed method content analysis. The study has two parts: a qualitative content analysis that explores and identifies the themes and legitimation strategies of the press releases and a quantitative computer-aided analysis that compares renewable and non-renewable energy investments. The sample of the study consists of 396 press releases representing the strategic energy investments of 34 electric utilities from the list of the world's 250 largest and financially most successful energy companies. The data is collected from the period of 2010–2014.

The study reveals that most important justifications for strategic energy investments are fit with the strategy and environmental and social benefits. Justifications address especially the expectations of market. Investments into non-renewable energy are justified more and they use more arguments addressing the proprieties and performance of power plants whereas renewable energy investments are legitimized by references to past actions and commonly accepted morals and norms. The findings support the notion that validity-addressing and propriety-addressing legitimation strategies are used differently in stable and unstable institutional settings.

TIIVISTELMÄ

Tekijä: Ida Korpivaara

Työn nimi: Strategisten energiainvestointien legitimointi julkisissa tiedotteissa

Vuosi: 2015 **Paikka:** Lappeenranta

Diplomityö. Lappeenrannan teknillinen yliopisto, Tuotantotalouden tiedekunta, Teollinen markkinointi ja kansainvälinen liiketoiminta
108 sivua, 13 kuvaa, 19 taulukkoa ja 4 liitettä
Tarkastaja(t): professori Anne Jalkala

Hakusanat: strategiset energiainvestoinnit, sosiaalinen hyväksyntä, legitimiteettiteoria, lehdistötiedotteet, sisältöanalyysi, monimenetelmällinen tutkimus

Uusiutuvalla energialla on keskeinen rooli energiatransitiossa. Vaikka tutkimuksissa on esitetty, että sosiaalinen hyväksyntä voi olla esteenä uusiutuvan energian investoinneille, on yritysten näkemyksiä sosiaalisen hyväksynnän merkityksestä ja sen ansaitsemiskeinoista tutkittu vähän. Tämän tutkimuksen tavoitteena on vastata ongelmaan tutkimalla, miten suuret sähköyhtiöt perustelevat strategiset investointinsa lehdistötiedotteissaan ja miten käytetyt perustelut eroavat uusiutuvan ja uusiutumattoman energian investointien välillä. Tutkimus pohjautuu legitimiteettiteoriaan ja pyrkii edistämään tutkimusta legitimoinnista yhteiskunnallisessa muutoksessa.

Päämenetelmänään tutkimus hyödyntää induktiivista monimenetelmällistä sisältöanalyysiä. Työ koostuu kahdesta vaiheesta: laadullisesta sisältöanalyysista, jossa tunnistetaan lehdistötiedotteiden teemat ja niissä käytetyt legitimointistrategiat, sekä määrällisestä tietokoneavusteisesta sisältöanalyysista, jossa uusiutuvaa ja uusiutumatonta energiaa koskevia lehdistötiedotteita verrataan toisiinsa. Tutkimuksen otos koostuu 396 strategisia investointeja käsittelevästä lehdistötiedotteesta, jotka on kerätty 34 maailman 250 suurimman energiayhtiön listalla olevan sähköyhtiön arkistoista. Lehdistötiedotteet on kerätty ajanjaksolta 2010–2014.

Tutkimus osoittaa, että tärkeimmät lehdistötiedotteissa käytetyt perustelut ovat yhteensopivuus yrityksen strategiaan sekä ympäristölle ja yhteiskunnalle koituvat hyödyt. Hyväksyntää haetaan erityisesti markkinatoimijoilta. Uusiutumattoman energian investointeja perustellaan enemmän ja niiden perusteluissa vedotaan erityisesti tuotantolaitosten ominaisuuksiin ja tehokkuuteen, kun taas uusiutuvien kohdalla investointeja oikeutetaan viittaamalla aiempiin vastaavanlaisiin laitoksiin ja yleisesti hyväksyttyihin normeihin. Tulokset tukevat teoriaa siitä, että ominaisuuksiin ja yhteiskunnallisiin arvoihin viittaavia legitimointistrategioita käytetään eri tavoin yhteiskunnallisten normien pysyessä vakaina ja kokiessa muutoksia.

ACKNOWLEDGEMENTS

This Master's Thesis was conducted for LUT School of Business and Management as part of a project that focuses on the investment decision-making processes on energy sector. Therefore, in addition to being a learning process that none before, this thesis has provided me a possibility to familiarize myself with the world of academic research. It has been inspiring to see how a job can literally be just learning new things every day.

Regarding my thesis, I wish to thank especially Professor Anne Jalkala and Doctoral Student Samuli Patala for invaluable advice and support during the research process. The discussions and meetings we have had have each taken me a step closer to completing the process by motivating me to explore ever more theories and, on the other hand, by helping me to recognize the points of importance. I also wish to express my gratitude to Project Researcher Aino Kuitunen for the irreplaceable help in the research and the inspiring discussions that have enabled me to see theories and problems from new perspectives.

Last but not the least, I wish to thank Peter Bebek for great patience and support during the writing process. As the completion of this thesis also means my graduation, I wish to thank all my friends for the great time we have had together during my studies.

Lappeenranta, 16th of May 2015

Ida Korpivaara

Table of Contents

Appendices

Figures

Tables

1 INTRODUCTION

Energy transition from non-renewable to renewable energy sources has become an ever more discussed concept in sustainable development. While fossil fuels cause environmental damage and are increasingly scarce, renewable energy sources have the potential of preventing climate change, reducing pollution, promoting development and decreasing energy dependency. In addition, new energy sources are needed to respond to the rising demand for energy that is caused by the rapid economic growth of emerging economies. The International Energy Agency (IEA, 2014a) predicts that over the next 25 years the primary energy demand will rise by 37 %.

Governments have recognized the potential of renewable energy and set ambitious targets for increasing its share in their countries. Despite of this, fossil fuels still count for more than two thirds of the annual energy supply investments (IEA, 2014a). Since 2010, coal-fired generation has grown more than all non-fossil sources combined (IEA, 2014a). The transition into renewable energy sources thus still needs substantial changes in investment patters.

Power companies play a key role in energy investments. In 2011, the energy sector accounted for nearly 70% of GHG emissions (IEA, 2014a). In order to achieve the transition needed, the decision making processes of large energy companies are needed to be understood. However, existing knowledge about how power companies make strategic investments decisions is rather limited (Wüstenhagen & Menichetti, 2012).

It has been recognized that social acceptance may be a constraining factor for increasing the share of renewable energy investments. Public resistance and lack of support from stakeholders may complicate for example the siting decisions or the financing the power plants. (Painuly,2001; Wüstenhagen, Wolsink & Bürer, 2007). While social acceptance of renewable energy by the general public has been studied and the surveys show high levels of support for it, the perceptions and pressure created by other stakeholders such as the shareholders and other market actors are poorly understood. Even more importantly, understanding is insufficient regarding the ways in which companies perceive the social acceptance and attempt to gain it for their energy investments.

Legitimacy theory studies the ways in which organizations gain, maintain and defend social acceptance from their stakeholders. The theory bases on the assumption that in order to survive and be able to operate, an organization needs to be accepted by its social environment. Legitimacy of an

organization or practice may therefore be secured by conforming to the expectations and norms of the social environment. (Suchman, 1995; Scott, 1995) In the legitimation process, this is started by addressing the expectations of key stakeholders and gradually extending the stakeholder base until the legitimation has been diffused. (Johnson, Dowd, Ridgeway, Cook & Massey, 2006) Organizations may respond to stakeholder expectations either substantially by actions or symbolically by corporate communication (Suchman, 1995).

While corporate reports provide a naturally occurring source to observe the company behavior and attempts to gain social acceptance from the stakeholders, they are used and understood poorly within the context of energy investments. Exploring the justifications and strategies that organizations use to address their stakeholder expectations in corporate narratives could provide valuable insights for understanding the role of social acceptance in renewable energy investment decision-making processes. Corporate narratives have already been used successfully to increase understanding of legitimation for example in case of mergers (Demers, Giroux & Chreim, 2001) and privatizations (Ogden & Clarke, 2005).

In addition to increasing understanding of the role of social acceptance in energy investments, the justifications of energy investments have the potential of shedding light on the use of legitimation strategies in a case that the institutional setting of a practice is experiencing changes. Previous studies have suggested that legitimation strategies are used differently in case of institutional stability and changes (Green, 2004; Bitektine & Haack, 2015). However, empirical evidence regarding the topic lacks. The ongoing energy transition has increased the public support for renewable energy whereas caused social challenges for non-renewable energy and therefore changed the institutional norms regarding both renewable and non-renewable energy investments. The justifications of energy investments thus provide an excellent opportunity to examine the use of legitimation between two practices experiencing different institutional norms and pressures.

This study aims to contribute to the existing research on social acceptance of renewable energy by exploring the justifications that large electric utilities use to legitimate their strategic energy investments in public disclosures. By identifying which themes and legitimation strategies are used as justifying accounts and to what extent they address the expectations of various stakeholders, the perceptions of large electric utilities regarding the social acceptance of energy investments can better be understood. In addition, the study attempts to contribute to legitimacy theory by

comparing the themes and strategies between renewable and non-renewable energy investments and thus examining legitimation between two domains experiencing different institutional pressures.

1.1 Objectives and scope

The aim of the research is to explore how the world's largest and financially most successful electric utilities justify their strategic energy investments decisions in their public disclosures. In addition, the study intends to identify the differences in justifications between investments into renewable energy and non-renewable energy. Adopting a legitimacy point of view, the findings are used to understand the use of legitimation strategies between two practices that are experiencing different institutional pressures and legitimation challenges. The study attempts to contribute to both the research on social acceptance of renewable energy and on legitimation in corporate narratives.

In order to reach the set targets, three research questions were formed and are presented in **Table 1** with their respective objectives. The *first* research question aims at inductively identifying the themes of the press releases. The apparent content is categorized in the manifest themes which are grouped into latent themes that represent larger thematic concepts. The *second* research question aims at identifying the legitimation strategies used. The strategies are identified based on existing literature. The *third* research question aims at detecting the differences between the press releases concerning renewable and non-renewable energy investments. By evaluating the identified differences, the use of legitimation strategies between different institutional settings and legitimation challenges may better be understood.

Table 1. Research questions and objectives

	Research question	Objective
1.	What are the recurring manifest and latent themes of press releases concerning strategic energy investments?	Identify the themes used in corporate narratives
2.	What kind of legitimation strategies can be identified in press releases?	Identify legitimation strategies that the themes represent
3.	How do the justifications of investments into renewable and non-renewable energy differ in terms of themes and legitimation strategies?	Examine differences between the renewable and non-renewable energy and evaluate legitimation strategies in different institutional settings

The study is limited to concern only the large and financially successful electric utilities since, due to their size, they play a key role in energy investments. On the other hand, the limitation also reduces heterogeneity within the companies although cultural and geographical differences are not omitted. Electric utilities are chosen in order to observe companies investing both in renewable and non-renewable energy. The sample of electric utilities is extracted from the list of Top 250 energy companies in 2014 by Platt's McGraw Hill finance.

Regarding the investments under observation, the study has the limit of considering only large, commercial-scale energy investments into new power generation capacity. This means that for example investments into infrastructure or into the development of generation and conversion technologies are not considered. Acquisitions are considered only if they concern a specific production site and not if they concern a whole company.

From the many disciplines explaining company behavior in corporate narratives, the study adopts legitimacy theory as the explanatory framework. With regard to the analysis, the study has the limitations of focusing only on theme-level legitimation strategies. In addition, the study focuses only on justifications that refer to strategies suitable for defending or gaining organizational legitimacy especially in case that it is threatened by an action that the company is evidently responsible for. Investments are perceived as such a threatening action since they generally cause a fall in the stock value of the company (Kothari, Lewellen & Warner, 2014). The theme-level focus of the analysis limits the ability to identify for example visual strategies used in the justifications of energy investments.

The scope of the study with respect to time is five years from 2010 to 2014. This means that press releases concerning strategic energy investments are included in the sample only if they were published within the determined years. The period is chosen so that it would yield a maximum amount of data since only the companies that had press release archives from the given period in English were qualified for the sample.

The study has the limitation of focusing only on press releases as the form of public disclosures. Press releases are chosen since they represent voluntary, free form accounts of company behavior. However, press releases are not directed to any specific stakeholder group that limits the abilities to draw conclusions regarding specific stakeholders. In addition, the lack of standards predisposes the analysis to errors caused by different corporate communication cultures and customs.

Finally, it should be noted that the study focuses on comparing the justifications between renewable and non-renewable energy only. As renewable energy sources, the study counts biomass, hydro, geothermal, solar, wind, ocean thermal, wave action and tidal action and as non-renewable energy sources crude oil, natural gas, coal and nuclear energy. While renewable energy is often associated with environmental benefits, there were also emission-free carbon technologies such as carbon-capture in the data that were counted as non-renewable energy. Considering this, the findings of this study cannot be taken as indices of perceptions regarding the social acceptance emission-free and non-emission-free energy investments.

1.2 Execution of the study

This study employs a mixed method content analysis as the primary research method. The data collected for the study is longitudinal yet the analysis mainly follows cross-sectional tradition. Because of the lack of earlier studies concerning legitimation of energy investments, inductive approach is chosen for the data analysis. This means that the study does not test hypothesis derived from literature but rather explores the data and analyses that with respect to earlier knowledge on the topic. However, when analyzing the legitimation strategies, the theory is extensively made use of and thus that part of the study can be seen to follow an abductive approach (Dubois & Gadde, 2002).

The execution of the study consists of three phases presented in **Figure 1**. The first phase, literature review, aims at describing the earlier studies and findings on legitimation in corporate narratives and social acceptance of energy investments. The findings serve as a base for the analysis of the data since they define concepts, determine the rationale used for analyzing company behavior in corporate narratives and introduce legitimation strategies that have been identified in earlier studies. Rather than establishing a sound theoretical framework for the data analysis, the literature review contributes to the study by constructing a basic understanding of the topic and the underlying theoretical assumptions of the legitimacy perspective adopted for the study.

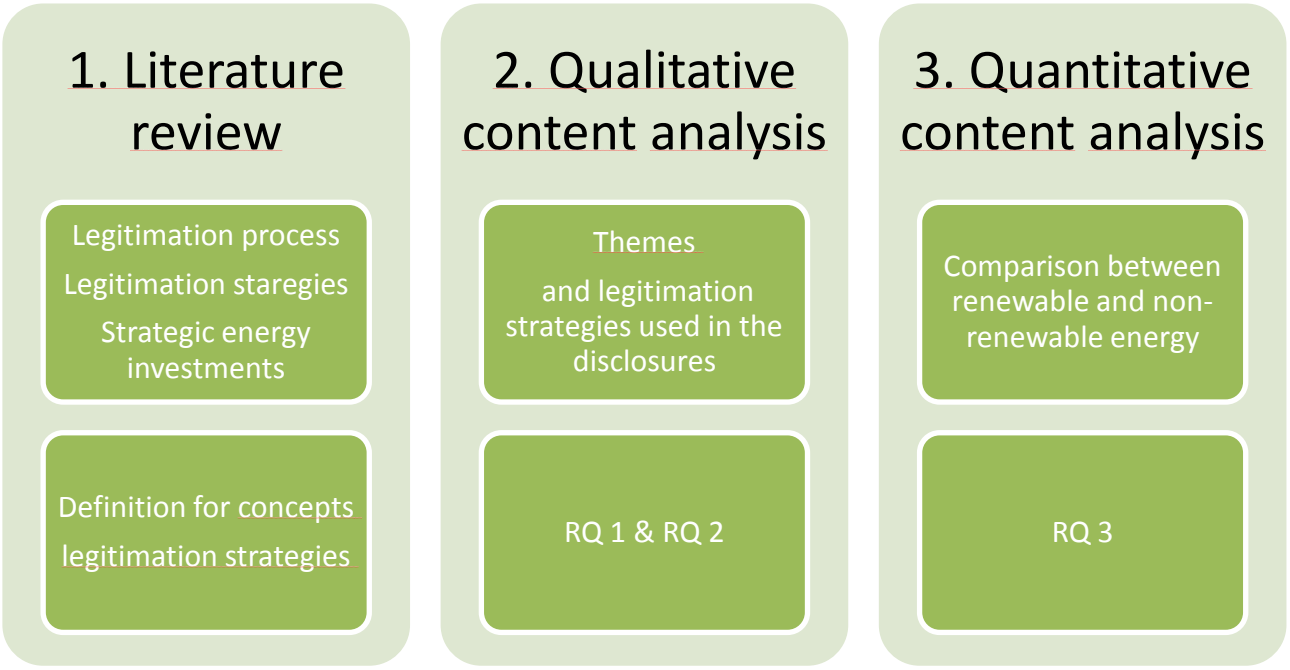


Figure 1. Execution of the study

The second and third phases construct the empirical part of the study. First, there is conducted a qualitative content analysis that consists of exploring the data by reading through a sample of press releases and coding it for themes. QDAMiner software is used to assist in the coding process. The qualitative content analysis responds the first and second research question by identifying the themes present in the press releases and analyzing the legitimation strategies that they represent. The qualitative analysis also enables the use of the quantitative content analysis since the themes to be tested in the quantitative phase are the ones identified in the qualitative phase.

The last phase of the study is quantitative content analysis. The aim of the quantitative analysis is compare the themes and legitimation strategies between investments into renewable and non-renewable energy and therefore answer the third research question. In practice, the comparison is conducted by measuring the occurrence of dictionaries that have been built based on the themes identified in the qualitative analysis. The quantitative measures of the differences in occurrences are conducted with the help of WordStat software. Chapter five describes the methodology and the execution of the study in detail.

1.3 Structure of the report

In addition to the introduction, this report consists of five main chapters. The chapters two, three and four construct the literature review of the study. Chapter five introduces the methodology and

execution of the study in detail while chapter six presents the results of both the quantitative and qualitative analysis of the study. The findings of the study and the answers to the research questions are presented in the conclusions in chapter seven.

The main aim of the chapter two is to introduce the concept of legitimacy and the dimensions that it consists of. Chapter two also presents the process of legitimation and the specific characteristics of each stage in the legitimation process. Chapter three deepens the understanding of legitimation process by introducing the different strategies that companies may use to achieve social acceptance in corporate narratives. Chapter four concludes the theory section by introducing strategic energy investments as the context of the study and presenting the dimensions of social acceptance of energy investments that companies need to address in the legitimation process.

Chapter five focuses on the methodology and execution of the study. The used research method content analysis, as well as the sampling and data collection methods, are discussed in detail. The chapter also presents how the analysis is conducted and briefly discusses the reliability of the results.

Chapter six presents all the results of the study in three parts. First, the data collected is described by general statistics. Second, the results of the qualitative content analysis are presented by examining both the themes and legitimation strategies identified in the text. Third, the results of the quantitative content analysis are analyzed by examining the occurrence of the themes, the differences in the use of themes and strategies between renewable energy investments and non-renewable energy investments and the longitudinal aspects of the data. The chapter aims at answering the research questions related to the themes and legitimation strategies of the press releases as well as the differences detected between renewable and non-renewable energy investments.

Finally, chapter seven concludes the findings and presents answers to the raised research questions. The implications of the study for existing theories are also discussed. In addition, chapter seven evaluates the execution of the research and presents suggestions for further studies.

2 LEGITIMATION PROCESS

This chapter introduces the theory of legitimacy. The first part of the chapter focuses on the definition of the concept of legitimacy, the dimensions of legitimacy and the different perspectives that may be adopted to observe it. The second part of the chapter reveals how an organization or practice may be legitimized.

2.1 Legitimacy theory

Basing on the sociological assumption that organizations are influenced by – and have influence upon – the society, legitimacy theory argues that organizations need to be accepted by the society to a certain degree in order to survive (Suchman, 1995). Legitimacy can therefore be defined as "an assumption that the actions of an entity are desirable, proper or appropriate within some socially constructed system of norms, values, beliefs, and definitions" (Suchman, 1995, p. 574). Legitimacy theory has its roots on the studies on political economy and institutional theory (e.g. Hackston & Milne, 1996). In short, legitimatization means making an organization or practice socially, culturally and politically acceptable within a particular context (Johnson, Dowd & Ridgeway 2006, Suchman 1995).

Since not all groups within a society have similar views on how organizations should operate, stakeholders have an important role in legitimacy. Indeed, there is a strong linkage between legitimacy theory and stakeholder theory that argues that an organization or a practice may secure legitimacy when "stakeholders endorse and support its goals and activities" (Elsbach & Sutton, 1992, p.700). According to stakeholder theory, the existence of an organization depends on its stakeholders and thus the expectations of each stakeholder should be addressed individually. The more powerful and important stakeholder, the more effort the management of the stakeholder relationship requires. (Deegan, 2002) Lindblom (1994) uses the concept of relevant public to acknowledge the heterogeneity between stakeholder groups and direct the focus to a specific stakeholder group.

Despite of being composed of subjective judgements of individuals such as stakeholders, an important aspect of legitimacy is that it is possessed objectively. This means that it reflects the degree of collective approval of an organization or action and is not necessarily dependent on the endorsements of individuals. Bitektine and Haack (2015) see the difference as a matter of level: while individual judgements take place on micro-level, on macro level legitimacy depends on

collective actors. Since the collective approval is dependent on the construction of social reality and its network of norms, values and beliefs, legitimacy theory aims at understanding the way the norms and beliefs are constructed and maintained for a particular practice or institution. (Johnson et al. 2006)

Two distinct approaches can be identified within legitimacy: strategic and institutional (Suchman 1995; Bitektine & Haak, 2015). The strategic approach (Dowling and Pfeffer, 1975; Pfeffer, 1981; Ashforth & Gibbs, 1990) assumes high managerial control over the legitimation process. It perceives legitimacy as a purposive strategic instrument that organizations deliberately use and shape. On the other hand, the institutional approach (DiMaggio & Powell, 1983; Meyer & Rowan, 1991, Zucker 1987) is based on the institutional theory and adopts a view that external institutions construct cultural pressures that determine how the organization is built and run. The difference between the approaches can also be seen as "a matter of perspective, with strategic theorists adopting the viewpoint of organizational manager looking 'out', whereas institutional theorists adopt the viewpoint of society looking 'in'" as Suchman (1995, p. 577) notes. In short, strategic legitimacy can be described as an asset that an organization owns while institutional legitimacy represents the judgement of the collective actors (Bitektine & Haack, 2015).

2.2 Dimensions of legitimacy

Previous research has identified numerous dimensions of legitimacy (Deephouse & Suchman 2008). One of the most utilized division is the trichotomy of Suchman (1995) consisting of pragmatic, moral and cognitive legitimacies illustrated in **Figure 2**. Equivalent framework has been proposed also by Scott (1995) who calls the dimensions regulative, normative and cultural-cognitive, respectively. Although the dimensions do not precisely correspond to each other, they both recognize that explicit factors, social values and norms as well as general understanding of an organization play a role in legitimacy and therefore can be considered broadly similar.

As Suchman (1995) defined, pragmatic legitimacy "rests on the self-interested calculations of an organizations most immediate audiences" (Suchman, 1995, p. 587). This means that pragmatic legitimacy is judged on the basis of how the stakeholders of an organization benefit from the organization or its practice. For this reason, pragmatic legitimacy is also sometimes called exchange legitimacy. However, in addition to direct expected values, pragmatic legitimacy may also rest on the beliefs that an organization has influence on larger interests of a stakeholder. Scott (1995) highlights the role of explicit regulative processes set and enforced by superordinate institutions.

Examples of these processes include rule-setting, monitoring and sanctioning of activities. (Scott 1995, p. 42) Unlike in the case of the other types of legitimacy, explicit rules, expectations and institutions such as the state usually have a dominant role in pragmatic legitimacy. (Scott 1995)

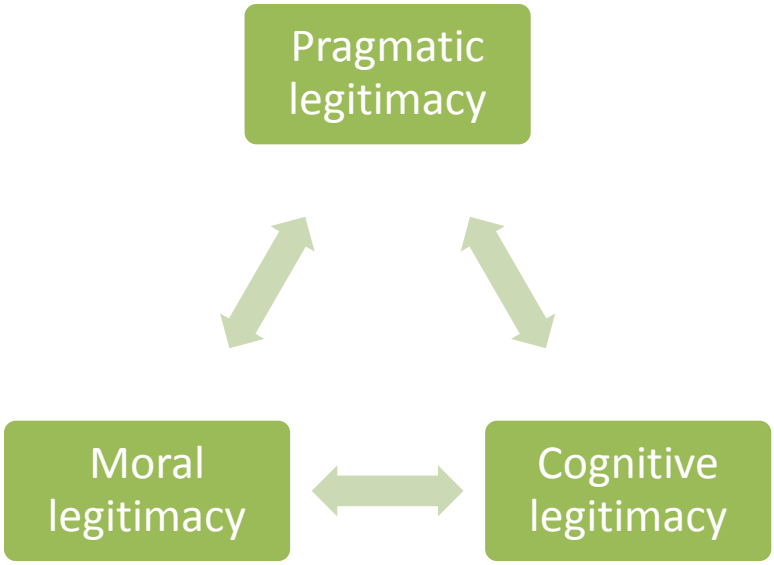


Figure 2. Trichotomy of types of legitimacy (Suchman, 1995)

Moral legitimacy, also known as normative legitimacy, is the degree to which an organization adheres to the norms and values in the social environment. Unlike pragmatic legitimacy, moral legitimacy therefore does not depend on whether an organization or practice benefits the evaluator but rather whether it is socially "the right thing to do". In order to gain moral legitimacy, a firm must demonstrate congruence with the norms of acceptable behavior of its social environment. (Suchman 1995) There has been identified three forms of moral legitimacy: evaluations of outputs and consequences, evaluations of techniques and procedures and evaluations of categories and structures. While the first one rests on instrumental rationality, the second is based on the fulfillment of the normative rules of proper behavior and the third one refers to traditional authority. Personal legitimacy, referring to the evaluations of leaders and their charisma, is sometimes counted as the fourth form of moral legitimacy. (Suchman, 1995; Scott, 1995)

The third type of legitimacy, cognitive, refers to the degree to which an organization is known and understood in the society. Unlike pragmatic and moral legitimacy, cognitive legitimacy does not require a conscious evaluation and active judgement but rather rests on acceptance of something being necessary or inevitable. Cognitive legitimacy has two variants, comprehensibility and taken-for-grantedness, of which the first one argues that individuals have to have a legitimate model to

which to relate an organization while the second one argues that an organization may transform perceptions of it so that they submerge the possibility of dissent. (Suchman, 1995) Cognitive legitimacy may be enhanced by cultural factors and it is closely related to the moral legitimacy. However, compared to moral legitimacy, cognitive legitimacy is accepted at a deeper, tacit and cognitive level. (Scott, 1995; Suchman, 1995) Rather than deriving from explicit acknowledgements, cognitive legitimacy comes from "adopting a common frame of reference or definition" (Scott 1995, p. 61).

2.3 Stages of legitimation process

Organizations face three main challenges in managing their legitimacy: gaining legitimacy, maintaining legitimacy and repairing legitimacy after an event causing a legitimacy threat (Suchman, 1995; Ashforth & Gibbs 1990). Gaining legitimacy requires winning the acceptance of the social environment for the first time and for that reason is seen as one of the greatest legitimatization challenges. Maintaining legitimacy is often seen as the easiest legitimacy task although for example heterogeneous audiences might pose challenges for it as well. Repairing legitimacy differs from the other tasks in the sense that it is normally unforeseen and thus involves reactions rather than proactive, planned actions. All the legitimization challenges may be considered as episodic, meaning that they concern an individual action or project, or continuous by concerning the organization as a whole. (Suchman, 1995) In the following, the process of gaining legitimacy and the role of different dimensions of legitimacy in it are presented.

Johnson et al. (2006) have identified four stages in the process of constructing legitimacy for an object: innovation, local validation, diffusion and general validation. In the first stage, an object or practice is created and its meaning is not yet clearly defined. For that reason, ambiguous and even contradictory meanings may exist. At this point, perceptions are mostly based on cognitive legitimacy since judgements of a practice are often made unconsciously. (Humphreys, 2010) The legitimacy should therefore be fostered through emphasizing the aspects of the practice or object that are link to already legitimate values and practices (Suchman, 1995). The understanding of the local environment and stakeholders has an important role at this point. (Humphreys, 2010)

At the second stage of the process of legitimation, local validation, the importance of cultural-cognitive dimension of legitimacy diminished and the focus moves on pragmatic legitimacy. The new objects or practices have to be linked with the existing broader cultural framework. (Johnson et al., 2006) At this point, the setting of standards and coalitions as well as creating social networks

both inside and outside the field is of crucial importance. (Humphreys, 2010) The self-interests of key stakeholders should be addressed by justifications as they build and construct pragmatic legitimacy and therefore this stage typically involves a high number of justifications. (Suchman, 1995; Ashforth & Gibbs, 1990) Green (2004) argues in his rhetorical theory of diffusion that one way to do that is to use so called pathos justifications that are connected with emotions. By appealing to audiences' self-interests through emotions, behavior may be directed away from the status quo (Green, 2004).

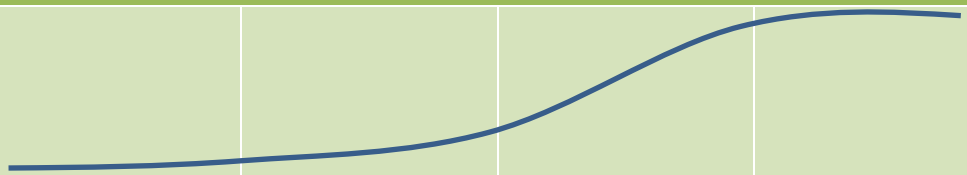
Local validation is followed by the stage of diffusion. At this stage, the object or practice to be legitimized has already gained validity within key stakeholder groups yet the majority still remains reluctant. The aim of this stage therefore is to extend the validity to multiple stakeholder groups. The focus of the diffusion stage is still on pragmatic legitimacy but the type of justifications rely more on rational arguments that "appeal to the desire for effective/efficient actions" (Green, 2004, p. 660). While Green (2004) calls these logos justifications, Bitektine and Haack (2015) call them propriety justifications based on their focus that relies more on individual's judgements of the propriety of the object than on collective validity beliefs. The need for justifications at this point is still high yet has already started to diminish (Johnson et al., 2006).

At the last stage of the process of legitimation, general validation, a consensus regarding the object or practice already exists and it has been generally validated and institutionalized in a society. (Johnson et al., 2006) The focus of this stage therefore is more on maintaining the gained status against opposition and changes than on gaining more legitimacy. Since the object already is institutionally valid in the society, the most important dimension of legitimacy at this point is moral legitimacy. (Humphreys, 2010) Arguments and justifications used for the object of practice therefore lean on institutionalized validity beliefs on how the organization should act (Bitektine & Haack, 2015). At this point it is not anymore important whether the object or practice benefits the evaluator but whether the practice is generally considered 'right'. Rhetorically, legitimacy may be defended at this stage by ethos justifications that appeal to socially accepted norms and morals. (Green, 2004)

All the stages of the legitimation process are gathered together and presented in **Table 2.** The table also shows the most important differences between the stages that occur through the key challenges, dimensions, legitimation strategies and intensity of justifications. It should be noted that, according to theoretical framework used as base and the author in question, there are differences in the

perceptions of the stages as well as the names of the dimensions and strategies. To give an example, Green (2004) only considers the three last stages of the model while Bitektine and Haack (2015) have extended the model to cover two levels of which the macro-level presents the institutional judgement and micro-level the individual judgements. The model of Johnson et al. (2006) was chosen as it emerged from sociology rather than for example rhetoric theory and its depth fitted the purpose of the study well.

Table 2. Stages of legitimation

Stage of legitimation	Innovation	Local validation	Diffusion	General validation
Legitimation curve				
Key challenge	Comprehensibility defining the object in social context	Establishing legitimacy within key stakeholders	Extending the legitimacy to other stakeholders	Maintaining the legitimacy
Key dimension of legitimacy	Cognitive	Pragmatic	Pragmatic	Moral
Key legitimation strategy	Link to legitimate frames	Appeal to self-interests through emotions	Appeal to self-interests through rational arguments	Appeal to institutionalized validity beliefs
Intensity of justifications	Low	High	High	Low

In addition to the initial diffusion of legitimacy, the characteristics of the legitimation stages presented above can be used as indicators of institutional stability (Bitektine & Haack, 2015; Green, 2004). For example, the increased number justifications in an industry that already has institutional legitimacy may indicate institutional instability (Green, 2004; Ashforth & Gibbs, 1990). Also the change of the type of focus of justifications used in a particular organization or industry may signal a change in the level of institutional stability. In case that institutional validity weakens, for example, the importance of rational justifications is likely to rise since individuals base their legitimacy judgements more on propriety than on beliefs about the validity. (Bitektine & Haack, 2015)

On the whole, this chapter has introduced legitimatization as a process of gaining an acceptance to operate in the social environment. The pragmatic, moral and cognitive dimensions of legitimacy have been presented as well as their importance for in the legitimation process. The process of legitimation has also been outlined and general challenges and strategies for each phase identified. Next, the attention will be drawn to how those general strategies may be applied to corporate narratives in order to gain legitimacy and assess the level of institutional stability.

3 LEGITIMATION STRATEGIES IN CORPORATE NARRATIVES

Corporate communication in the field of marketing and management studies relationships between companies and their stakeholders. Riel (1995, p. 26) defines corporate communication as "an instrument of management by means of which all consciously used forms of internal and external communication are harmonized as effectively and efficiently as possible, so as to create a favorable basis for relationships with groups upon which the company is dependent". Corporate narratives form one media for corporate communication through which companies may manage their relationships with respect to for example legitimacy. Typical examples of corporate narratives include for example annual reports, CEO letters to shareholders, operating and financial reviews, new equity and initial public offering prospectuses, profit forecasts, takeover documents, press releases, web sites and corporate calls.

Studies have suggested that an organization may influence its stakeholders through corporate narratives (Humphreys, 2010; Henry, 2006; 2008). This process consists of two main phases as **Figure 3** shows (Merkl-Davies & Brennan, 2011; Hooghiemstra, 2000). In the first phase, the firm communicates its own account and attempts to achieve its desired outcome. This phase is also called as the construction of the corporate identity, referring to the self-presentation of the company and the character of the organization from an organizational member's point of view (Birkigt & Stadler 1985; Albert & Whetten 1985). In the second phase, stakeholders evaluate and respond to the account by constructing a corporate image that can be defined as the "way that people describe the company, remember it and relate to it" (Riel 1995, p. 23). The outcome of the second phase is visible for example in media responses and stock reactions and it determines the success of the first communication phase. Some theories argue that there is also a third phase in the model since the first phase may be triggered by expectations of the second phase (Merkl-Davies & Brennan, 2011).

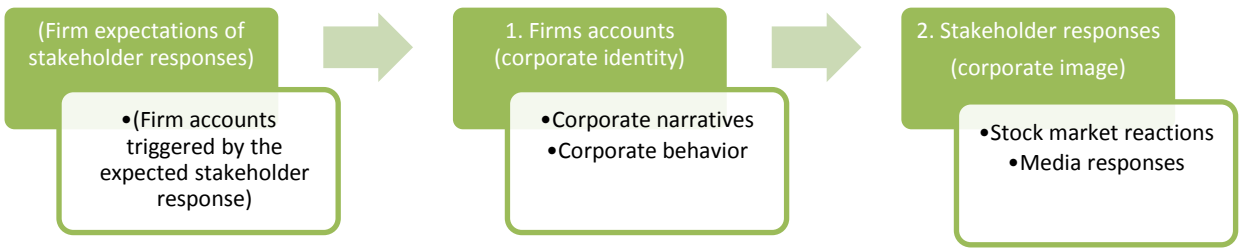


Figure 3. Corporate reporting process (based on Merkl-Davies & Brennan, 2011 & Hooghiemstra, 2000)

With regard to legitimacy, two perspectives for managing legitimacy through corporate narratives can be identified: impression management perspective and institutional perspective (Elsbach, 1994). While impression management focuses primarily on the form of the messages that an organization conveys, the institutional viewpoint emphasizes the content of the messages through for example a rhetorical analysis. Impression management adapts first and foremost the viewpoint of an individual and studies the verbal strategies through which legitimacy threats can be responded to such as justifications and denials. By contrast, institutional theories concentrate on the ways in which a whole organization may built support for legitimacy by maintaining normative characteristics. (Elsbach, 1994) Since both the perspectives may contribute to legitimacy and increase the understanding of the stage of legitimation of a given object, they are presented one after each other. Rhetorical strategies have been selected to represent the institutional viewpoint as they fit especially for the purpose of analyzing persuasion (Suddaby & Greenwood, 2005).

3.1 Impression management strategies

Impression management can be defined as "the conscious or unconscious attempt to control images that are projected in real or imagined social interactions" (Schlenker, 1980, p. 6; Tedeschi & Riess, 1981). There are many different rationales for why companies engage in impression management ranging from economics theories to social psychology, sociology and critical theories. From the perspective of sociology and legitimacy theory, impression management is triggered by a situation where there is incoherence between the firm's actual values and the values it wishes to portray in to its social environment in order to gain moral and cognitive legitimacy. Therefore it is regarded as the explanatory framework for analyzing the attempts of organizations to gain and maintain legitimacy as well as to react to legitimacy threats. (Merkl-Davies & Brennan, 2011) This chapter introduces the impression management strategies and examines those used for justifying an action.

Two main approaches have been identified within impression management: symbolic and substantive management (Pfeffer, 1981; Ashforth & Gibbs, 1990; Grunig, 2006). While substantive management (also known as behavioral management) involves real, material changes in an organization and its processes and practices, symbolic management involves just portraying these and transforming the meaning of acts. Since substantive management strategies require responding to stakeholder concerns through actions such as role performance and coercive isomorphism rather than through corporate narratives, the focus of impression management analysis in corporate narratives is on symbolic management. Managing organization's image through symbolic actions in

communication is also often preferred by managers as it leaves them with greater flexibility and freedom in terms of resource use (Ashforth & Gibbs, 1990).

Numerous techniques and strategies of impression management have been introduced in literature (Tedeschi & Riess, 1981; Ashforth & Gibbs, 1990; Elsbach, 1994; Merkl-Davies & Brennan, 2007). A distinction is commonly made between assertive (acquisitive) and defensive (protective) techniques (Tedeschi & Riess 1981, Hooghiemstra, 2000). Assertive impression management techniques aim at establishing a particular identity for an organization and building its reputation in the long run. Examples of assertive techniques include for example self-promotion and entitlements that refer to claims of responsibility over positive events. Defensive impression management techniques, in turn, aim at maintaining or retaining positive reputation in case of an event that might affect it negatively by for example excuses and apologies. (Hooghiemstra, 2000)

Tedeschi & Riess (1981) have divided the categories of assertive and defensive impression management strategies further according to whether the organization claims responsibility over an event or not. If the accountability is not evident, an organization may blame other parties or the environment for negative actions by providing excuses and attempt to take the full responsibility for positive events. If the responsibility is evident, an organization can only address the consequences by justifications in case of a negative event and enhancements in case of a positive. Merkl-Davies and Brennan (2007) have suggested similar categorization yet by calling the responsibility-addressing category concealment and consequence-addressing category attribution. **Table 3** presents the categorization of the main impression management strategies by Tedeschi and Riess (1981).

Table 3. Impression management strategies (Tedecshi & Riess, 1981)

	Positive (assertive)	Negative (defensive)
Addresses responsibility	Entitlements	Excuses
Addresses consequences	Enhancements	Justifications

If an organization clearly is accountable for an event yet the public is not expected to respond to it positively, the organization may attempt to legitimate the action by justifying it. By providing justifications, an organization accepts responsibility for the consequences of an event but attempts to reduce any negative consequences. (Tedeschi & Melburg, 1984; Ogden & Clarke 2004) There are several strategies that an organization may use for justifications ranging from syntactical

strategies such as reading ease manipulation to visual strategies such as the order to the themes (Merkl-Davies & Brennan, 2007). This analysis focuses on theme-level justifications only and therefore follows mainly the symbolic management strategies identified primarily by Ashforth & Gibbs (1990).

One common thematic strategy to justify an action in corporate communication is to embed it with a legitimate objective (Ashforth & Gibbs, 1990). Espousing socially acceptable goal may help in gaining legitimacy for an action even if the real motives for it had been different. One possible way of espousing a legitimate objective is to align the objectives with the stakeholder interests for example by extending an issue to concern larger stakeholder base (Benford & Snow, 2000). Wade, Porac and Pollock (1997) identified shareholder alignment as one of the key justifications used for justifying CEO pays in their study of compensation practices on of 266 US corporations from the Fortune 500 list. Effective use of stakeholder alignment requires good understanding of the relevant publics to which the communication is directed.

Identifying an issue with actors, values or symbols that are themselves legitimate is another thematic strategy used for justification of an action (Merkl-Davies & Brennan, 2007; Dowling & Pfeffer, 1975; Ashforth & Gibbs, 1990; Elsbach 1994). By embedding the issue with practices that have face validity, the public creates positive associations also to the controversial issue and begins to perceive it as legitimate. The difference between the strategy of espousing a legitimate objective and this strategy is that in this strategy the aim does not necessarily have to have a relationship with the symbol attached to it. (Ashforth & Gibbs, 1990) Example of this strategy include for example launching a charity campaign connected to an issue, amplifying positive values related to an action or using external parties such as consultants to back up a compensation (Wade et al., 1997).

Another strategy for justifying an action is an attempt to educate relevant publics to change their perceptions about the action by offering accounts as arguments (Lindblom, 1994; Ashforth & Gibbs 1990). This strategy also requires defining the relevant public since for example effective arguments for allocating money for a project preserving natural environment are likely to be different for an investor and a representative of an environmental activist group (Bansal & Clelland, 2004). External accounts such as policies favoring an action can also be used to change the perceptions of the relevant public yet the control and responsibility of the issue should still allocated on the managers (Ashforth & Gibbs, 1990).

Finally, justification can also be attempted by simply deflecting attention from the areas that are perceived to cause the legitimacy problems by concealing them (Lindblom 1994; Wade et al., 1997; Merkl-Davies & Brennan, 2007). By not revealing sensitive information, shareholder attention may be directed away yet this strategy also involves risks in case the issue is later uncovered (Ashforth & Gibbs, 1990). Denial may sometimes also be counted as a form of concealment (Ashforth & Gibbs, 1990). An example of a common positive issue to be highlighted in order to hide other aspects of an action is overall company performance that was used for example in the study of Wade et al. (1997) as a compensation justification. Concealment may also be seen as the opposite of changing perceptions by educating relevant publics since they both deal with how to tackle the aspects of an issue that are considered as illegitimate. **Table 4** below summarizes all the presented impression management strategies for legitimation. Examples of each strategy and main contributors are also included in the table.

Table 4. Impression management strategies for legitimation

Strategy	Example	Contributors
Embedding with legitimate goals	Arguing for downsizing by stating that it is done for the sake of lower customer prizes	Ashforth & Gibbs, 1990 Elsbach, 1994 Wade et al., 1997
Embedding with legitimate actors, values or symbols	Having a celebrity as a representative of a commercial project	Ashfroth & Gibbs, 1990 Merkl-Davies & Brennan, 2007 Elsbach, 1994
Changing perceptions by offering accounts	Justifying savings from work safety measures by arguing that more harm is caused by extensive use of alcohol	Ashforth & Gibbs, 1990 Lindblom, 1994 Hooghiemstra, 2000 Tedeschi & Riess, 1981
Deflecting attention away from illegitimate aspects	Focusing on financial performance instead of CEO pay	Ashforth & Gibbs, 1990 Lindblom, 1994 Wade et al., 1997 Merkl-Davies & Brennan, 2007

It is important to note that the strategies presented in **Table 4** do not represent all the impression management strategies comprehensively. A number of choices have been made regarding the approaches in order to limit the view on the strategies relevant for the focus on this study. **Figure 4** summarizes all the choices taken regarding the approaches and typologies. First of all, the focus of

the analysis was limited to symbolic management rather than behavioral management focusing on the actual actions. Secondly, defensive strategies were selected as they analysis focused on situations where legitimacy was to be gained rather than enhanced. Third, strategies addressing the consequences were chosen instead of strategies addressing responsibility since the analysis focused on actions that the organization was evidently responsible for. These choices narrowed the impression management strategies down to justifications. Finally, from remaining justification strategies, the focus was directed to relevant strategies focusing on theme-level presentations introduced primarily by Ashforth & Gibbs (1990).

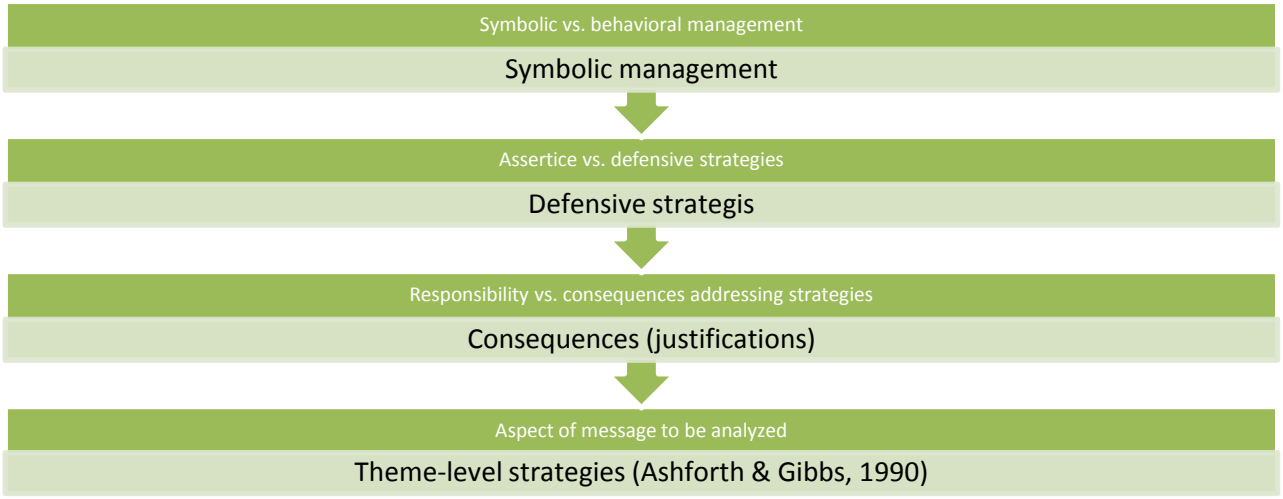


Figure 4. Limiting the focus of impression management strategies

In addition to understanding the choices made for limiting the strategies according to the need, a note about the use of names and concepts should be included. Many of the strategies have been introduced by various scholars which imply that they also have a number of names. As also not all researchers agree on a common taxonomy for the concepts, there may be exist confusions. For example the concept of justification is at times used as a name of a specific impression management strategy (e.g. Tedeschi & Riess, 1981), at times as a specific type of an account in the strategy of offering accounts (e.g. Ashforth & Gibbs, 1990) and at times as a general concept for defensive, attributing strategies (e.g. Wade et al., 1997). This study follows the last approach. For the sake of clarity, this study uses descriptive names for each concept instead of adopting names of specific authors.

On the whole, four thematic impression management strategies have been identified for the purpose of justifying an episodic action. In the following, the focus will be drawn to rhetorical impression management strategies.

3.2 Rhetorical strategies

Unlike impression management strategies, rhetorical strategies are primarily concerned with the content of messages used for persuasion and not their form (Bitektine & Haack, 2015). Contemporary rhetoric studies as a discipline "attempt a scientific understanding of how shifts or displacements of meaning occur in the context of social change" (Suddaby & Greenwood, 2005, p. 39; McCloskey, 1985). Since rhetorical analyses base on the idea of language structuring social action, they are most often used in discourse, narrative and linguistic analysis. In some contexts, rhetorical analysis is even seen as a subset of discourse analysis. (Suddaby & Greenwood, 2005) However, rhetorical analyses restrict their focus on explicitly political or interest-laden discourse as it seeks to identify genres or recurrent patterns of interests, goals, and shared assumptions in the content of persuasive texts (Freedman & Medway, 2003). Following this definition and adopting a sociological point of view, rhetorical analyses can be distinguished from discourse analysis (Suddaby & Greenwood, 2005). Rhetorical analysis in the context of legitimation aims at identifying and classifying the persuasive themes used to manipulate perceptions of legitimacy on different dimensions.

Rhetorical strategies can be broadly divided into two categories: strategies addressing validity beliefs and those addressing the propriety of the object of legitimation (Bitektine & Haack, 2015). These strategies address the value and performance strategies identified already by Hirsch and Andrews (1986). The strategies addressing validity beliefs are strongly attached to moral or normative legitimacy as they persuade an evaluator based on the socially addressed norms and institutionalized beliefs. (Green, 2004) Strategies addressing validity beliefs show the evaluator that many other evaluators have adopted the judgement in question and in normative boundaries it is the only valid judgement. Validity-promoting strategies may appeal to for example tradition, authority or mythological narratives. (Bitektine & Haack, 2015) Elsbach (1994) perceives validity-promoting strategies as an impression management strategy of the institutional theories and defines them as content "consisted of normative and socially endorsed organizational practices" (Elsbach 1994, p. 65).

Rhetorical strategies addressing propriety beliefs, in turn, focus more on evaluators' individual judgements of legitimacy than the general, society-level validity perceptions. Propriety-promoting strategies suggest norms through which an individual can judge a practice or object and that generally emphasize the positive outcomes of the object or practice in question. (Bitektine & Haack, 2015) Strategies promoting propriety beliefs are linked to pragmatic legitimacy because they tend to emphasize the benefits that are in the self-interests of the evaluator and generally use rational logic. Typical propriety-promoting rhetorical strategies appeal to evaluator by discussing the efficiency, performance and effectiveness of an object or practice. (Green, 2004) Elsbach (1994) defines strategies addressing propriety beliefs as "technical characteristics which signal efficiency and effectiveness in organizational performance" (Elsbach 1994, p.66).

Various rhetorical legitimation strategies have been presented in literature with regard to both the categories. Within validity-promoting legitimation strategies, one of the most common ones is legitimation through references to authority (Elsbach, 1994; Van Leeuwen & Wodak, 1999; Vaara et al., 2006). The authority in question may be authority of tradition, custom, law or persons in whom institutional authority of some kind is vested, for example an expert of some kind. Vaara et al. (2006), for example, identify the use of industry experts as one way of legitimating a corporate merger in media. (Vaara et al., 2006) The use of this strategy naturally implies that the authority is institutionally valid and generally accepted as an authority.

As the range of the rhetorical strategy of authorial evaluations is wide covering both references to actual authorities and traditions, different subcategories for authorization have been introduced. Vaara et al. (2006) argue that normative evaluations should be counted as its own rhetorical strategy. By normative evaluations, they mean for example references to normal or natural functioning that often relate to retrospective references to similar actions done in the past. (Vaara et al., 2006) Van Leeuwen & Wodak (1999), on the other hand, consider normative evaluations that deal with customs or traditions as a subtype of authorial evaluations.

Another strategy that is commonly used for addressing validity beliefs is references to moral evaluations (Vaara et al., 2006; Van Leeuwen & Wodak, 1999). These are contents that refer to the norms of society regarding what is right to do within the institutional context and are thus linked to moral legitimacy. Moralization may consist of for example references to socially accepted values such as nationalism, nature and happiness. (Van Leeuwen & Wodak, 1999) Moralization covers all

the dimensions of moral legitimacy and thus includes a wide range of references to commonly accepted institutional procedures as well as valid institutional goals and outcomes. (Elsbach, 1994)

Regarding the propriety-addressing strategies, rational evaluations are one of the most common rhetorical strategies. Rational or technocratic strategies are strongly tied with pragmatic legitimacy and thus generally refer to the "utility or function of a specific action or practice" (Vaara et al., 2006, p. 800). Rationalization signals the efficiency or effectiveness of an organization and focus on the benefits, purposes, functions or outcomes of an action. (Elsbach, 1994) Rational arguments often involve measureable technical aspects and performance evaluations such as financial or economic accounts and appeal especially to business audiences (Joutsenvirta & Vaara, 2015; Green, 2004).

All the presented rhetorical strategies are gathered and shown in **Table 5** according to their category. It should be noted that, in case of all of the strategies, not a clear consensus exist regarding the categorization of each strategy. Where Bitektine and Haack (2015), for example, count authority as a validity-addressing strategy and consider it as a strategy used in case of already institutionalized and stable settings, Humphreys (2010) interprets the references to rules and regulations as examples of regulative legitimacy that, as an explicit judgment, signals the diffusion stage of legitimation. Similarly, while Green (2004) and Elsbach (1994) perceive references to values and norms as examples of moral legitimacy and classify them to belong to the highest stage of legitimacy, Bitektine and Haack (2015) see moralization as an embodiment of propriety-addressing legitimacy. In this study, the logic of Elsbach (1994) and Green (2004) have been followed by classifying references to moral values into validity-promoting rhetorical legitimation strategies.

Table 5. Rhetorical legitimation strategies

Category	Strategy	Explanations
Validity-addressing	Authorization	Legitimation by references to authority such as a rule, directive or expert
	Normalization	Legitimation by references to past or normal actions
	Moralization	Legitimation by references to moral values or norms
Propriety-addressing	Rationalization (technocratic characteristics)	Legitimation by references to utility, benefits, functions or outcomes of a practice

As stated in chapter two, the legitimation strategies may indicate the level of institutional stability and stage of legitimation. In case of impression management strategies, direct links between specific strategies and legitimation stages are few. Ashforth & Gibbs (1990) examine the key differences in the use of impression management strategies in gaining, maintaining and repairing legitimacy yet do not link any individual strategies to the legitimation challenges. However, they argue that the higher the intensity of the legitimation activities, the more problematic the legitimacy is at the moment. Similarly, the higher the constituent scrutiny, the higher the legitimacy challenge faced by the organization. This suggest, as previously already noted, that the amount of impression management techniques for legitimating on object or practice indicate the current level of legitimacy.

In case of rhetorical strategies, specific strategies are discussed more often with respect to the legitimation process stages than impression management strategies. Since validity-promoting strategies are attached mostly to moral legitimacy and propriety-promoting strategies to pragmatic legitimacy, it seems that validity-promoting justifications indicate a higher stage of legitimacy than propriety Specifically, the rhetorical theory of legitimation suggests that authorial and moral evaluations relate to the general validation stage of legitimation while rational justifications relate to the diffusion stage of legitimation. The links of both impression management and rhetorical strategies to the stages of legitimation are presented in **Figure 5**. The abbreviation "IM" in the

figure refers to an impression management strategy whereas the abbreviation of "R" refers to rhetorical strategy.

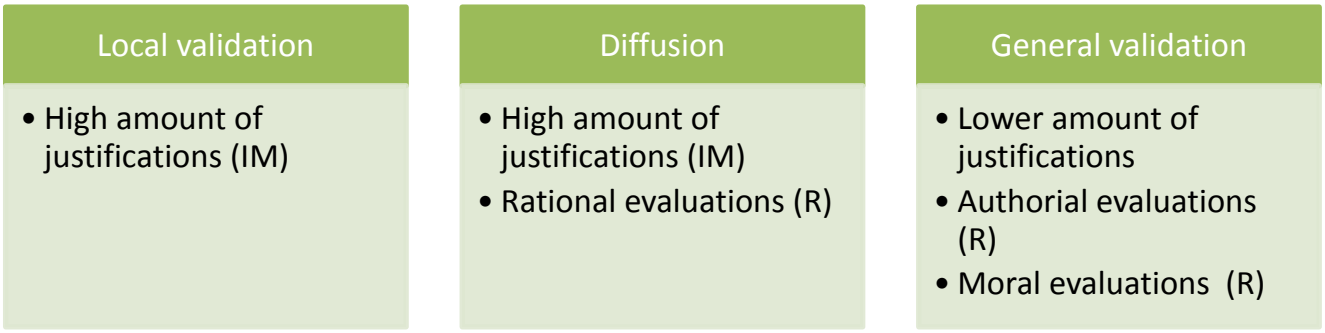


Figure 5. Links between legitimation stages and strategies

This chapter has introduced the different strategies with respect to legitimation through corporate narratives. The strategies with respect to the stages of legitimation process have also been evaluated. Next, the attention will be drawn to the context of the study, namely energy investments.

4 LEGITIMATION OF STRATEGIC ENERGY INVESTMENTS

Since legitimacy is dependent on the social environment and stakeholders by definition, the context is to be understood in order to analyze it. This chapter focuses on explaining the public discussion and possible stakeholder perceptions shaping the institutional validity of energy investments. The concept of strategic investment will be defined first, after which the attention will be drawn to the stakeholder expectations and legitimacy aspects of energy investments.

4.1 Strategic investments

Due to their importance in the development and growth of firms, strategic investments have been discussed in literature in multiple disciplines. Examples include fields such as accounting (Carr & Tomkins, 1996; Alkaraan & Northcott, 2006), management (Woolridge & Snow, 1990), economics (Milgrom & Roberts, 1992) and different fields of technology (Wüstenhagen & Menichetti, 2012). The discussion has produced a wide variety of definitions for strategic investments from a range of years, starting from the early 1990's. A sample of definitions of strategic investments by different authors are collected and presented in **Table 5** in order to provide a comprehensive picture of the existing perspectives to the topic.

Table 6. A sample of definitions for strategic investments from literature

Author	Definition
Wüstenhagen and Menichetti 2012	"Strategic choices are characterized by one-off, new, ambiguous and complex decision contexts; they require resource commitment (or the decision not to commit), and they are not easily reversible."
Chevalier-Roignant, Flath, Huchzermeier and Trigeorgis 2011	"strategic effect depends on the intent of the commitment and the type of competitive reaction"
Puolamäki and Ruusunen 2009	"Strategic investments change the nature of the business. In an extreme case they realize new business in a new business field when the risks are also significant. The role of the top management in the planning of a strategic investment is central. "
Alkaraan and Northcott 2006	"'Strategic' projects are substantial investments that involve high levels of risk, produce hard-to-quantify (or intangible) outcomes, and have a significant long-term impact on corporate performance."
Cooremans 2011	"Investment is strategic if it contributes to create, maintain, or develop a sustainable competitive advantage."
Carr and Tomkins 1996	"Strategic investment decisions have a significant effect on the organization as a whole and on longer term performance."
Cauwenbergh, Durinck, Martens, Laveren and Bogaert 1996	"Investments were considered strategic if they had a significant potential for improving corporate performance."
Milgrom and Roberts 1992	"Strategic investments are defined as investments which can provide benefits to the whole organization and not just the operating unit making the investment decision."
Woolridge and Snow 1990, p. 353	"Investment decisions that improve the long run competitiveness"

As it can be observed from the **Table 6**, the definitions of strategic investments from the 1990's highlight especially the long-run corporate performance effects of the investments: for example Woolridge and Snow (1990) emphasized the impact on the long-run competitiveness and Milgrom and Roberts (1992) the impacts over the whole organization rather than just the unit making the investment. Cauwenbergh, Durinck, Martens, Laveren and Bogaert (1996) reinforced the importance of long-term performance effects further by classifying investments as strategic if they had significant potential for improving corporate performance.

More recent definitions of strategic investments have specified the concept further. Perhaps one of the most comprehensive and detailed definitions is that of Wüstenhagen and Menichetti (2012), adding the characteristics of uniqueness, novelty, irreversibility and resource commitment to the earlier definition of investments with long-term strategic effects. Puolamäki and Ruusunen (2009) highlight similar factors while emphasizing also the role of top management. Alkaraan and Northcott (2006) mentioned "acquisitions and mergers, the introduction of major new product lines, the installation of new manufacturing processes, the introduction of advanced manufacturing and business technologies, and substantial shifts in production capability" as typical examples of strategic investments (Alkaraan & Northcott, 2006). Woolridge & Snow (1990), in turn, classify strategic investments in their study to the classes of joint venture, R&D project, capital expenditure and product or market diversification.

Table 7. Main characteristics of strategic investments identified from the definitions

	One-off	Resource Commit-ment / size	Uncertain/ involve high risk	Influence overall performance	Complex, not easily reversible	Long-term effects	Top management involvement
Wüstenhagen et al. 2011	X	X	X		X		
Chevalier-Roignant et al. 2011		X	X	X			
Cooremans 2011				X			
Puolamäki et al. 2009			X	X			X
Alkaraan et al. 2006		X	X	X		X	
Carr et al. 1996				X		X	
Cauwenbergh et al. 1996				X			
Milgron et al. 1992				X			
Woolridge et al. 1990				X		X	
Total	1	3	4	8	1	3	1

Despite the varying sources and years of the definitions for strategic investments, there seems to exist some level of consensus about the main aspects of the concept. This can be seen by studying the **Table 7** that shows which characteristics are most widely present in definitions for strategic investments. By far, the most repeated feature of strategic investments is their influence to the overall corporate performance and the competitive advantage of the company making the investment. The aspect was directly mentioned in eight out of nine of the analyzed definitions.

Other important characteristics consisted of long-term effects, substantial resource commitment required and the involvement of high uncertainty and risk. Less-repeated features included for example intangible outcomes, complexity and involvement of top management.

On the whole, literature on the topic suggests that the most important characteristics distinguishing strategic investments from other investments are their influence on the overall corporate performance, substantial size, long-term effects and the involvement of high risks. Next, focus will be directed to social acceptance of strategic investments in the context of power generation.

4.2 Social acceptance of strategic energy investments

According to legitimacy theory, a practice may secure legitimacy if all the stakeholders accept the practice. In the context of energy investments, Wüstenhagen, Wolsink and Bürer (2007) have identified three dimensions of social acceptance that together determine the acceptance of an energy investment project: socio-political acceptance, community acceptance and market acceptance. The dimensions and the correspondent key stakeholders are introduced in the following.

Socio-political acceptance means the social acceptance of policies and technologies at "the broadest, most general level" (Wüstenhagen et al., 2007, p. 2684). Socio-political acceptance can be observed from the results of public opinion polls and is generally well researched (e.g. Kaldellis, 2005; Iniyan, Suganthi & Samuel, 2001). The socio-political acceptance levels of renewable energy at least on national level tend to be high yet on local level they decrease dramatically. In addition to public, socio-political acceptance requires the acceptance of a project by key stakeholders and policy-makers.

Community acceptance refers to the acceptance of energy investment projects by local stakeholders such as residents and local authorities. Community acceptance concerns especially the acceptance of specific local decisions like siting decisions. Wolsink (2007) suggests that in the case of renewable energy, the acceptance of a project generally follows a U-curve by being high in the beginning and the end of a project but relatively lower in the siting phase. Community acceptance is influenced for example by fairness on the distributional and procedural issues. (Wüstenhagen et al., 2007)

The third dimension of social acceptance, market acceptance, has been research the least of the acceptance dimensions. In market acceptance, the focus is mostly on consumers but also on investors. Market acceptance has been explained by the concept of diffusion of innovation (Rogers,

1995) and it could also be understood by the diffusion of market legitimatization (Humphreys, 2010) that explains why consumers accept and adopt a product. Painuly (2001) identifies the lack of consumer acceptance of renewable energy as a significant barrier for investments in developing countries. One dimension of market acceptance is also intra-firm acceptance that refers to the speed of accepting and adopting new technologies within a firm (Wüstenhagen et al., 2007).

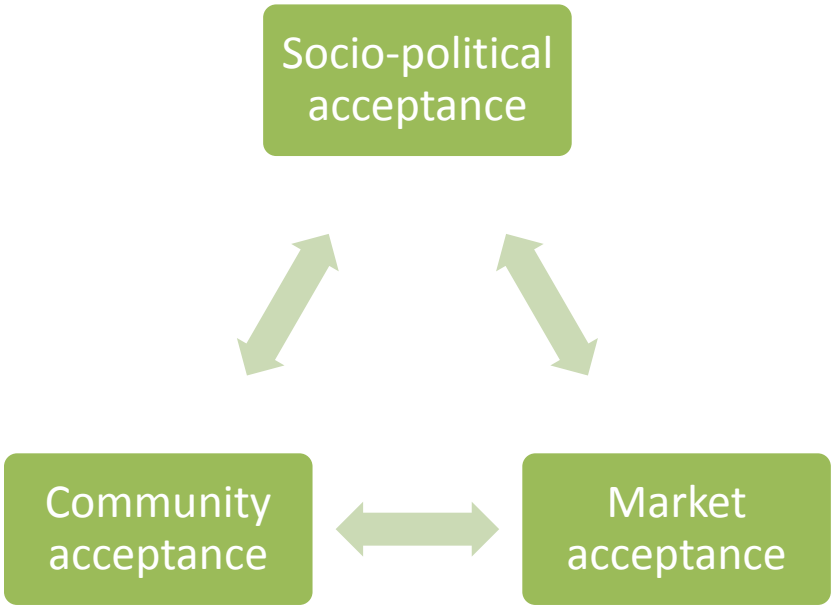


Figure 6. Dimensions of social acceptance of energy investments (Wüstenhagen et al., 2007)

The three dimensions of social acceptance are represented in **Figure 6**. It is important to observe that while the dimensions may occur independently, in most cases there are interdependencies between the three. Main differences of the dimensions can be concluded to concern the stakeholders that determine the acceptance: socio-political acceptance is granted by the society and policy-makers in general whereas community acceptance is granted individually by the community that the investment project concerns. Market acceptance, in contrast, is granted by the actors on the market that mainly refer to customers and investors.

Renewable energy is generally favored in the public discussion and thus, as mentioned, the socio-political levels acceptance levels of it are also high. The main benefits of renewable energy highlighted in the public discussion include first and foremost environmental impacts. Renewable energy does not damage environment and accelerate climate change through emissions or cause problems for human health through local pollutants. Other benefits of renewable energy include national energy security since renewable energy sources such as wind and solar radiation are

generally more evenly distributed in the geographical sense than non-renewable energy sources. Renewable energy also enables economic development and electrification on rural and isolated areas through off-grid solutions. Because of these benefits, governments have put in place various supportive policies for renewable energy. (IEA, 2014b)

While renewable energy is favored in the socio-political dimension of social acceptance, it seems that non-renewable energy still has some advantages within the dimension of market acceptance. Despite of all the benefits of renewable energy, majority of energy investments is till made in non-renewable energy. One reason for this is that, despite the subsidies imposed by governments, non-renewable energy sources are generally still experiencing lower average levelized costs of electricity than renewable energy. Partly due to the costs, investors often consider renewable energy investments as more risky than renewable energy investments (Wüstenhagen & Menichetti, 2012).

Overall, renewable energy and non-renewable energy are facing very different challenges in terms of legitimacy. While renewable energy enjoys high public support and stability in institutional norms, it still needs to gain legitimacy from new stakeholder groups such as investors and customers. Non-renewable energy, on the other hand, is losing the public support it has experienced for decades and thus needs to defend its legitimacy in order to maintain its position and decreasing institutional validity. However, when analyzing the stages of legitimation between the two it should be kept mind that both renewable energy and non-renewable energy investments have established solid position in the market. Therefore the legitimacy challenges experienced by the two industries mainly concern responding to the changes in institutional stability and social acceptance rather than establishing legitimacy from the very start. Exceptions may include very early-stage technologies such as micro-nuclear reactors, space-based solar power and wave-and tidal power technologies.

This chapter has introduced and defined the concept of strategic investment and the dimensions of social acceptance of energy investments. Public pressure and legitimacy challenges of investments into renewable energy and non-renewable energy have also been examined in order to understand the context in which legitimacy is to be analyzed in the study. Next chapter will direct the focus away from the theory and introduce the methodology and execution of the actual study.

5 METHODOLOGY

The execution of a study involves planning and choices to be made even prior to the actual research. These include for example the research strategy, time perspective and data collection methods (Saunders, Lewis & Thornhill, 2009). This chapter aims at creating an understanding regarding those methodological choices and the execution of this study. First part of the chapter focuses on content analysis as the research method chosen for this study, followed by an introduction of the data collection and sampling methods. The part presenting the data analysis will be divided into qualitative and quantitative parts with respect to the two kinds of analysis. Finally, chapter 4.5 discusses briefly the reliability aspects of the study.

5.1 Content analysis

This study employs the research method of content analysis that can be defined as a "research technique for making replicable and valid inferences from texts (or other meaningful matter) to the contexts of their use" (Krippendorff, 2013, 24). In addition to text, content may include meanings, pictures, symbols, ideas, themes, or any message that can be communicated (Neuman, 2003). As a social science research method, content analysis has gained popularity especially because its flexibility that derives from its breadth: it may be applied to text-driven, problem-driven and method-driven analyses. Content analysis is used particularly in archival research and it has been applied to for example corporate annual reports (e.g. Ogden & Clarke, 2005), letters to shareholders (e.g. Pollach, 2012), environmental reports (e.g. Beck, Campbell & Shrives, 2010), press releases (Henry 2006, 2008), customer references (e.g. Jalkala and Salminen, 2009) and web sites (Opoku, 2007). Within corporate narrative reporting, content analysis has even gained position as the 'dominant method' (Craig, Lehman, Milne & Tregidga, 2010, p. 1).

Despite of its dominant position in corporate narratives, content analysis represents only one of the approaches for analyzing texts and its limitations due to its underlying assumptions should be acknowledged. Merkl-Davies, Brennan and Vourvachis (2011) have developed taxonomy to divide the text analysis approaches into positivist, social constructivist and critical based on their epistemological assumptions on texts. While positivist approach assumes objectivist stance and interprets texts as a media to describe the reality, constructivist and critical approaches argue that texts do not only describe the reality but also construct it. These interpretations also have influence over the aims of analysis: while positivist approach aims at describing reality through the text, constructivist approach attempts to capture the meaning construction of it. Content analysis

represents the positive text analysis approach and therefore perceives texts as description of the reality. Social constructivist and critical approaches employ the analysis methods of interpretative text analysis and critical discourse analysis, respectively. (Merkl-Davies et al., 2011, Krippendorff, 2013)

No clear consensus has been achieved about whether content analysis is primarily a quantitative or qualitative research method. Some authors recognize it as quantitative (see Bell & Bryman, 2003; Berelson, 1952), others as qualitative (e.g. Tesch, 1990) and still others argue that it can be adopted to both research traditions (Cooper & Schindler, 2003; Krippendorf, 2013). Krippendorf (2013, p. 22) questions the entire validity of the distinction since argued that "all reading of texts is qualitative, even when certain characteristics of a text are later converted into numbers". This study recognizes the benefits of both the approaches and employs a mixed method approach. While the coding of the themes is first conducted qualitatively, quantitative computer-aided analysis is later utilized to measure differences in the occurrence of themes with respect to variables.

Content analysis may be conducted both deductively and inductively. In deductive analysis, dictionaries or word lists are derived from theory and tested through the material. Another alternative is to use existing dictionaries created for example to measure words related to a specific emotion. Inductive analysis, on the other hand, derives the word categories from the text. Although in content analysis categories tend to be derived deductively, have inductive approaches provided valuable insights especially in less researched text types (Merk-Davies et al. 2011).

Due to the breadth of the application possibilities, different orientations exist within the use of content analysis (Merkl-Davies et al., 2011; Pollach, 2012). Merkl-Davies et al. (2011) differentiate between form-oriented classical content analysis and meaning-oriented content analysis. Classical content analysis is quantitative-oriented and produces indices of the manifest content of a text meaning the actual concrete references. It uses numerical proxies to measure different dimensions of disclosure behavior, for example words with positive connotations. (Merk-Davies et al. 2011) Meaning-oriented content analysis, in turn, is a more interpretatively-oriented and intends to identify also the latent themes of the texts. It focuses on determining the occurrence of content categories inductively without converting them to scores or indices. (Merkl-Davies et al. 2011) While the qualitative analysis phase of this study follows the meaning-oriented method, the quantitative analysis uses the classical content analysis.

Since the development of software for literal data processing in late 1950s, computers have been used to aid in content analysis. The first popular program for computer-aided content analysis (CATA), General Inquirer, was developed in 1966 by Stone, Dunphy, Smith and Ogilvie and later on many others and more specialized programs have followed. Computers bring various benefits for content analysis as they enable the reliable search of huge bodies of literature and the processing of character strings at high speed. However, CATA also has its drawbacks as they have limited ability to understand meanings and differentiate with contexts. Advanced programs have addressed these problems with for example spell-checkers, readability indices, phrase-finding operations and KWIC (keyword in context) analyses. (Krippendorff, 2013)

The orientations of classical and meaning-oriented content analysis exists also within computer-aided content analysis (Pollach, 2012; Tesch, 1990). Classical computer-aided content analysis measures occurrence of specific themes or categories by using dictionaries that can be either existing (Opoku, 2007; Kabanoff, Waldersee, & Cohen, 1995) or self-constructed (Wade, Porac & Pollock, 1997; Palmer, Kabanoff & Dunford, 1997). Software designed for classical CATA includes for example WordStat and DICTION (Palmer & Short, 2008). Meaning-oriented content analysis, on the other hand, aims at inductively interpreting the meanings occurring in a text and coding them qualitatively (Gephart, 1997; Vaara & Tienari, 2008). Software that may be used in meaning-oriented CATA includes for example QDA Miner, Nvivo & ATLAS.ti. This study uses the QDA Miner software for qualitative content analysis and WordStat for quantitative content analysis.

Procedures have been developed in order to ensure rigor and achieve scientific objectivity in content analyses. Since content analysis generally involves coding pieces of text, units of analysis have an essential role in executing the method and ensuring its objectivity. Krippendorff (2013) defines unit of analysis as decontextualized textual wholes that are treated as separate elements and distinguished between four kinds of them: sampling units, context units, recording units and enumeration units. All the units are explained in **Figure 7** below. The units may should be separate from the context and independent from each other, and they are all needed except for enumeration unit in case of interpretative analysis. The units may be distinguished physically, syntactically, categorically, propositionally and thematically of which this study utilizes thematic method. (Krippendorff, 2013)

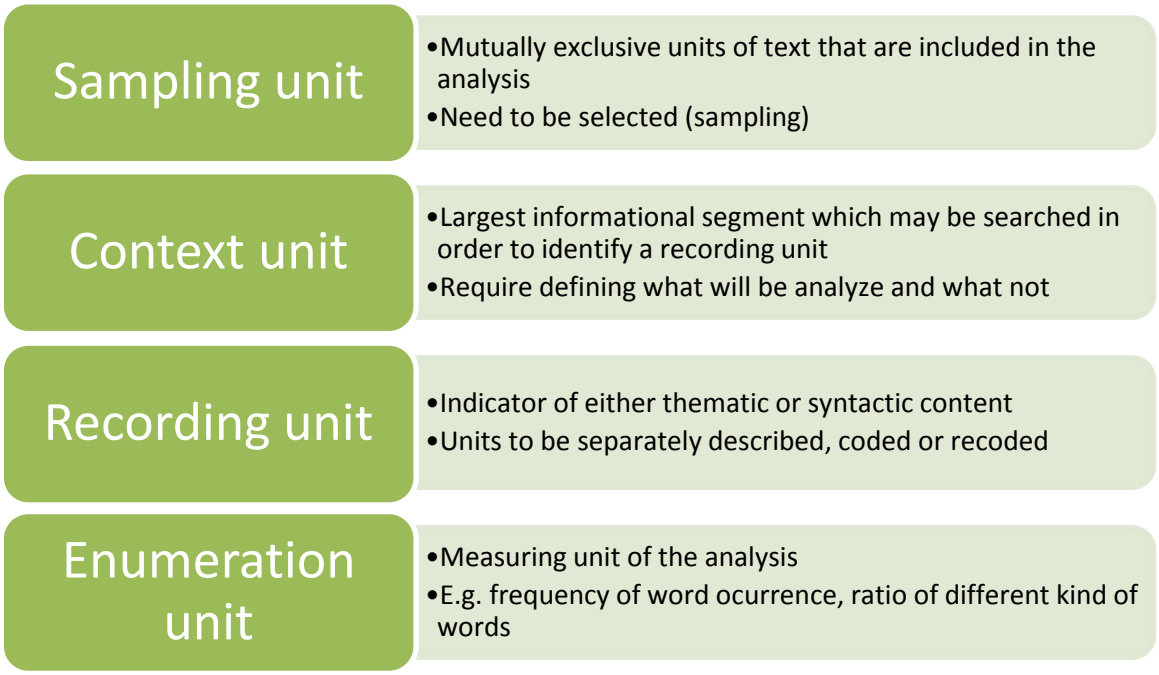


Figure 7. Units of analyses (Krippendorff, 2013)

Content analysis can be used both in studies following cross-sectional and longitudinal time perspectives. This study utilizes longitudinal data while, meaning that the data has been collected at separate instants over a period of time. However, the focus of the analysis still mainly follows cross-sectional perspective as the aim is not at revealing the development of a phenomenon within a period of time but rather on describing the phenomenon generally on the data collection period. This decision was taken because of the relatively short observation period and the small number of observations from individual observation years within the variables.

5.2 Sampling

Since this study focuses on the disclosure behavior of large utility companies, purposive sampling method was adopted to ensure that the sample of companies accurately represents the target group. The sample of companies to be analyzed was selected among the world's largest and financially most successful energy companies. After reviewing different energy company rankings, the sample was finally chosen from the Platt's 2014 Top 250 Global Energy Company Rankings list (Platts McGraw Hill Finance Group, 2014; **Attachment 1**). Platt's Top 250 Global Energy Company Rankings is an annual survey of the financial performance of large energy companies conducted by The Platt's McGraw Hill Financial Group. The ranking is based on four key metrics: asset worth,

revenues, profits and return on invested capita. The data for the ranking is obtained from a database compiled and maintained by S&P Capital IQ., a business unit of McGraw Hill Financial.

There were multiple reasons for choosing the Platt's Top 250 rankings as the data base for the study. Firstly, Platt's as a global provider of energy and metals information has experience in energy markets and company data analytics. The top 250 list has been released and utilized annually since 2002. Secondly, Platt's Top 250 rankings distinguish between industry subcategories such as exploration and production companies, gas utilities and storage and transfer companies which made it convenient to limit the analysis just on the electric utility companies. As the third reason, Platt's list was chosen because of its relatively high number of ranked companies compared to other rankings such as the one provided by Statista (Statista, 2014). High number of companies was seen as important criteria as it increased the probability of achieving a sufficient sample of press releases for the quantitative analysis.

As the study was limited to electric utilities, only the companies classified under the industry subcategory of "Electric utility" on the list were chosen to the study. This reduced the number of the companies in the sample down to 63. The analysis was conducted only with utilities in order to achieve a degree of uniformity among the stakeholders of the companies and markets that the companies acted upon. In addition, a comparison between the investments on renewable and conventional energy sources was more convenient with electric utility companies since they in general invest in variety of technologies of both the field of renewable and conventional energy unlike for example sole gas utilities. The choice aimed at minimizing the number of firm or industry related factors to be considered in the comparison.

After narrowing the sample down to 63 companies, all of their release archives were reviewed in order to have an idea about the availability of press releases. Based on the depth of the archives, the observation period was defined to be the last five years, from 2010 to 2014. This time period seemed to yield the maximum set of data: a longer observation period would have cut the number of companies significantly as about half of the companies did not have archives exceeding 2010 - yet a shorter time period would have resulted in less press releases and therefore less data. However, although leading to the optimal result in terms of press releases, the observation period reduced the number of companies in the sample since few companies did not have archives even from the last five years. Few companies were also left out because of the lack of press releases written in English. These restrictions reduced the number of companies in the sample down to 41.

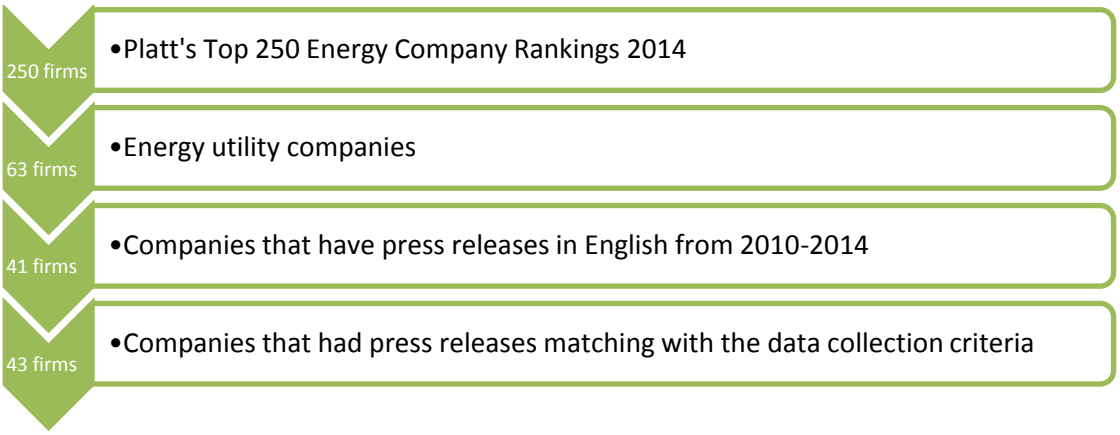


Figure 8. Sampling of the energy companies

Figure 8 above summarizes the sampling process of the companies whose archives were selected for the study. The sampling method chosen was purposive sampling. The aim of the sampling was to achieve a sample yielding to the maximum set of data while still fulfilling the sample criteria defined by the study, namely being among the world's largest energy companies and belonging to the industry subcategory of energy utilities. The sample of 41 companies was further reduced to 34 in the data collection phase due data-related reasons.

5.3 Data collection

The aim of the data collection was to identify and collect press releases concerning strategic energy investments. For this purpose, criteria for the press releases to be included in the collection had to be developed. Drawing from the literature review introduced in chapter four, the most important characteristics of a strategic investment were concluded to be influence on overall corporate performance, long term effects, substantial size and involvement of high risk. Based on these criteria and consultation with energy experts, investments that accounted for clearly less than € 10 million were deemed as non-strategic and excluded from the sample. Other investments were perceived as strategic based on their size and the fact that large energy utilities perceived that they were worth.

Some selection criteria for the press releases were also set based on the research questions and purpose of the study. For the purpose of comparing and analyzing investments concerning renewable and non-renewable energy, only press releases concerning investments on generating new capacity were collected. This ruled out for example investments on infrastructure, storing of electricity and research and development. Following the same logic, acquisitions were included

only when they concerned a specific production site but excluded when they concerned a whole company. In addition, only construction projects conducted by the company itself were considered although press releases concerning contracts for constructing other companies' productions sites often also included justifications for the investment in question.

In addition to the press releases, some basic data about each press release was collected on a separate data table. This included the company conducting the investment, the type of the investment, the name of the investment, the country of the investment, the start and finish years of the investment project, the date of the investment, the technology of the investment and the size of the investment both in terms of currency and capacity. The type of the investment was categorized in three groups: Greenfield, Brownfield and Acquisition. If the investment was conducted through joint venture or in a partnership, that was noted in a separate column. Later on, the technology of investment was further divided in technology and source of energy in order to make it more convenient to distinguish between renewable and conventional energy sources.

Since only the narrative sections of the press releases were included in the analysis, some information about the format and communication aspects of each press release were also collected in the data table for statistical purposes. This information included a column about whether the press release included any type of photos, figures or tables and another one about whether it included a separate company or project description section. The headline of each press release was also written down in order to be able to identify exactly which data cell represented which investment and for the purpose of later comparative analysis. Example of the records on the investment data sheet with all the variables can be seen in **Attachment 2**.

Despite of having narrowed down the number of company archives included in the study down to 41, the press release sample of the study included approximately 9 300 releases. The data still had to be collected manually due to the various selection criteria that made reliable automated data collection practically impossible. In order to avoid delays arising from the data collection of the large sample, two research assistants were hired to conduct part of the data collection. They were carefully instructed about the selection criteria prior to the data collection and the quality of their first data collection was examined before proceeding in the process. Altogether, there were five people involved in the data collection of the study.

As mentioned before, the number of companies decreased during the data collection to 34 companies due to unforeseeable reasons. Three companies were left out from the sample as their

business focused on the grids and transmission lines only: Red Eléctrica Corporation, Power Grid Corporation of India and TERNA SpA. In addition, there were another three companies – Korea Electric Power Corp, Kansai Electric Power Co and Chugoku Electric Power Co – that did not have any press releases from the time period. This did not necessarily reflect the number of investments made by the companies as they in general had very few press releases from the time period. Chugoku Electric Power Co's press releases consisted of updates made on their website rather than company news due to which they were not comparable with the other press releases and therefore unfeasible for the study. Additionally, Northeast Utilities was left out from the study. This was because it had changed its name to Eversource Energy in early 2015 and thus did not have its previous press release archive available on its website anymore. After the data collection, 34 companies in total remained in the study from which 396 press releases concerning strategic energy investments were collected.

5.4 Data analysis

The data analysis took part in two phases. The first part, qualitative content analysis, was conducted to a partial sample of the data set and it aimed at identifying the themes used in the text and the legitimization strategies they presented. The qualitative data analysis is described in chapter 5.4.1. The second part, quantitative content analysis, in turn attempted to measure the differences in the occurrences of the themes between two data sets. The quantitative analysis is described and evaluated in chapter 5.4.2.

5.4.1 Qualitative data analysis

As the number of prior studies exploring corporate behavior in investment press releases was limited, an inductive qualitative content analysis was seen as the most appropriate method for deriving themes and gaining insights to the data. The analysis was conducted by following a method that Krippendorff (2013) describes as text-driven content analysis method and Altheide (1987) as ethnographic content analysis. The process consisted of two phases: selecting a sample to be coded qualitatively and the coding it through the method of analytical induction.

The qualitative coding was conducted for 150 press releases. The sample was chosen by using a stratified sampling method as initial reviewing of the data suggested that there were differences in the themes depending on the technology that the investment concerned. Considering this, the data collected were classified according to the source of energy of the investment and it was ensured that

at least ten press releases from each of the most common energy sources of the press releases – wind, hydro, solar, coal, gas and nuclear – were coded. There was, however, the exception of nuclear energy because there only nine press releases concerning nuclear energy available. It was ensured that each minor energy source such as fuel cells, biomass, geothermal energy, wave power and waste was presented in the sample. Equal representation of the technologies was not achieved due to the unequal concentration of the data that will be discussed in detail in the chapter 5.1.

Qualitative inductive coding aims at identifying themes of a document by reading of a document. First, the researcher should try to identify and collect segments of the text that somehow seem important. Afterwards, the segments are classified according to themes. In this study, the qualitative coding was conducted individually by three researchers in order to achieve optimal reliability. Each coder first read through the data and then coded the press releases for the manifest themes, referring to the obvious and explicit meaning of the words (Berelson, 1952). The actual coding included two rounds after which the coders compared the themes and combined them together. At this stage, the themes were also grouped into latent themes that can be defined as the "deep structure" or implicit categories of meaning (Berg, Lune & Lune, 2004). QDAMiner software was used in the coding process.

In addition for the identification of the themes, the qualitative analysis also served for identifying the legitimation strategies used in the press releases. The identification was done by evaluating the derived themes with respect to the theory presented in chapter three. As the focus of the analysis was on the themes and the legitimation strategies that the themes presented, the strategies were identified based on the themes rather than on the text in general.

5.4.2 Quantitative data analysis

Quantitative data analysis for the sample was conducted by using the method of computer aided content analysis presented in chapter 5.1. The analysis was assisted by WordStat software. However, in order to perform the analysis, the dictionaries representing the qualitatively derived themes had to be built. This chapter describes the process of building the dictionaries as well as the actual analysis.

The process of creating the dictionaries followed mainly the five-step-process that Short, Broberg, Cogliser and Brigham (2010) have suggested in order to achieve validation when using CATA with self-constructed dictionaries. According to the process, first, a list of commonly used words in the

category should be extracted. Second, working definitions for categories of interest should be created. Third, coders should independently place words into the categories after which in the fourth phase the content of the categories should be compared by calculating inter-coder agreement. Fifth, categories should be refined iteratively between the coders. (Short et al. 2010)

In the study, the first phase of the process was conducted by extracting the commonly used words from the categories that were derived qualitative rather than the whole text. In addition, WordNet tool for finding lexically related words was used for identifying synonyms for the words placed in each category. This practice was conducted to increase the reliability of the constructed dictionaries (Pollach, 2012). The second, third and fourth phases of the process were followed without significant changes.

As the process suggested by Short et al. (2010), after building the dictionaries their reliability and validity was increased by an inter-judge between the different coders. Each of the coders reviewed the two dictionaries created by the other coders and indicated whether each word should be included or excluded from the dictionary category and whether there were words to be added to the category dictionary. Following the method described by Pennebaker, Francis and Booth (2007) and used by for example Humphreys (2010), the following rules were applied in the checking process:

- If two coders agreed that a word should be included in a dictionary, it was left there
- If two coders agreed that a word should be removed from a dictionary, it was removed
- If two coders suggested the same word to be added to a dictionary, it was added

An alpha indicating the degree of consensus was calculated for each category simply as the ratio of the added, removed or edited words to the total number of words in the category. The higher the alpha, the higher consensus existed between the coders. Even after the inter-judge of the coders, each dictionary category was once more checked with the keyword in context (KWIC) function of WordStat. By reviewing all the hits of a particular dictionary category in their context it was ensured that each word appeared accurately in the context that it was supposed to appear. **Table 8** presents the final dictionaries as well as examples of their content and the number of words they include. The entire dictionaries can be observed in **Attachment 3**.

Table 8. Dictionary categories

Dictionary	Examples of content	Number of words	Alpha
Performance	Efficient, effective, flexible, reliable, production/7/increased	31	78%
Strategy	Footprint/not after/carbon, committed, goal, portfolio, modernization	48	84%
Customers	Customer, client, affordable, power/7/supply, electricity/7/provider	20	81%
Knowledge development	Experience, expertness, know-how, pilot, learning	12	100%
Environment	Ecological, green, land use, waste, pollutant	45	80%
Society	Labor, jobs, households, boost, educational	44	85%
Technological novelty	Demonstrative, benchmark, remarkable, state-of-the-art, innovative	27	93%
Regulation	Legislation, regulated, incentive, tariff, public/5/tender	43	97%
Profitability	Earnings, profitability, return on investment, cost effective, capital costs	12	95%
Location justification	Condition/5/wind, potential/7/renewable, location, market potential, wind resources	16	94%

When finalized with the dictionaries, the computer-aided content analysis was conducted with WordStat. As described in chapter 4.1, the units of analyses have a central role in the content analyses process. The units of analyses of the study with relevant examples are presented in **Table 9** below following the units identified and presented by Krippendorff (2013).

Table 9. Units of analyses of the study

Name of the analysis unit	Unit in the study	Example
Sampling unit	Press releases concerning strategic energy investments fulfilling the data collection criteria	Press release published by Iberdrola 3.4.2010
Context unit	Narrative section of press releases (figures and tables, contact information, lead paragraphs, legal notes and recurring company information sections left out)	Press release published by Iberdrola 3.4.2010 without photo, lead paragraph and contact details
Recording unit	Word in the theme dictionaries	Customized dictionary containing of words describing "Strategy"
Enumeration unit	Number of the words belonging to one dictionary per text	Percentage of press releases in which the theme of "Strategy" occurs

WordStat software was used both to rank the presence of each theme in the press releases in general as well as compare the presence of the themes between renewable and non-renewable energy investments. The comparisons mainly measured the case occurrence of the themes, meaning the percentage of the press releases in which a theme was present compared to the total number of press releases in the category, but occasionally the attention was also drawn on the frequency of the themes. The difference calculations were based on the Dunning's log likelihood test, also known as the G^2-test, which measures the significance of statistical differences against expected values similarly as the χ^2-test. While the test is often applied in measuring word frequencies, it should be noted that it assumes interdependency between the words that necessarily is not fulfilled. This may cause overestimations in the significance of differences especially with poorly dispersed words (Lijffijt, Nevalainen, Säily, Papapetrou, Puolamäki & Mannila, 2014). Following a common standard, P-values of less than 0.05 were considered as significant.

5.5 Reliability of the results

Krippendorff (2013) distinguishes between three designs for generating data to measure reliability that lead to different kinds of reliability: stability, replicability and accuracy. Stability refers to the degree to which a process is unchanging over time and it can be tested by the process of testing and retesting. While it is the easiest form of reliability to achieve in a study by coding, learning and recoding, it is also the weakest form of it. Replicability, in turn, refers to the degree to which a

process can be reproduced by different analysts. It is generally measured by coding data by different coders and measuring the inter-coder agreements. The last type of reliability, accuracy, is the strongest type of reliability yet the most difficult to achieve. It refers to "the degree to which a process conforms to its specifications and yields what it is designed to yield" (Krippendorff, 2013, p. 271). Accuracy can be achieved by comparing the performance of a data-making procedure to one that is taken to be correct. (Krippendorff, 2013)

This study aimed to measure reliability by all the three types in order to achieve the highest standard possible. Stability was addressed by encoding data on multiple rounds and reviewing the coding categories in between to assess their objectivity. Replicability, in turn, was attempted by comparing the coding categories and encodings between all the three coders involved. While intercoder agreement was difficult to measure due to the lack of predefined pieces of text to code, replicability was addressed by discussing all the disagreements among the coders and by making decisions based on consensus. Definitions for each coding category were also created in order to have a common standard against which to reflect the encodings. The last type of reliability, accuracy, was however no achieved due to the difficulty of finding a standard against which to compare the procedure to.

In the case of the quantitative content analysis, several measures were applied to ensure the reliability of the dictionaries. First, all the dictionaries were evaluated by multiple coders as described in the previous chapter. Second, WordNet tool was applied to find synonyms for the each word identified in a dictionary. By adding lexically related words, the quality of a dictionary can be significantly improved (Pollach, 2012). Third, all the words were ensured to appear in relevant context by applying the KWIC search. If necessary, rules were applied to exclude the occurrences in irrelevant contexts. Finally, a factor analysis based on the co-occurrence of the themes was applied in order to assess the categorization of the themes. By applying these measures, it was aimed that each dictionary was as accurate and trustworthy method for comparing the occurrences of the themes between texts as possible.

6 RESULTS AND ANALYSIS OF THE STUDY

This chapter presents the results of both the qualitative and the quantitative content analysis. In order to understand the data set better, also descriptive analysis of the data set is included. The results of the analysis are presented in subchapters according to the objective of analysis.

6.1 Descriptive analysis of the data set

Altogether, the data consisted of 396 press releases that represented the strategic energy investments conducted and communicated by 34 companies listed among the World's top 250 energy utilities by Platt's McGraw Hill Finance in 2014. The press releases were all published between the years 2010 and 2014. Only press releases concerning investments on new production capacity were included while investments in infrastructure or acquisitions of other companies were excluded. The aim of this chapter is to describe the data set in order to understand better the nature of the set of press releases. Attention is paid especially for the differences between press releases concerning investments on non-renewable and renewable energy.

The set of 389 press releases included 75 duplicates, meaning press releases concerning the same investments. There seemed to be no significant differences in the relative number of duplicates between investments on renewable and conventional energy sources. On average, there were 1,30 press releases published per each investment on non-renewable energy and 1,21 per investment on renewable energy source. The most press releases, 10 in total, were published about the Wikinger offshore wind farm investment conducted by Spanish utility Iberdrola. Overall, it seemed that large investments and investments employing risky cutting-edge technology were the most likely to be disclosed in multiple press releases.

Regarding the number of investments on different energy sources, the vast majority of the investments – 79% – concerns renewable energy sources. However, there are significant differences between the capacities of investments on different energy sources as **Figure 9** shows. While an investment into nuclear energy yields in average over 2000 megawatts of capacity, an investment in wind energy, for example, yields only around 10 % of that. The average capacities were calculated from only the group the investments reporting the capacity which represented around 95 % of the total number of investment in both renewable and non-renewable energy investments.

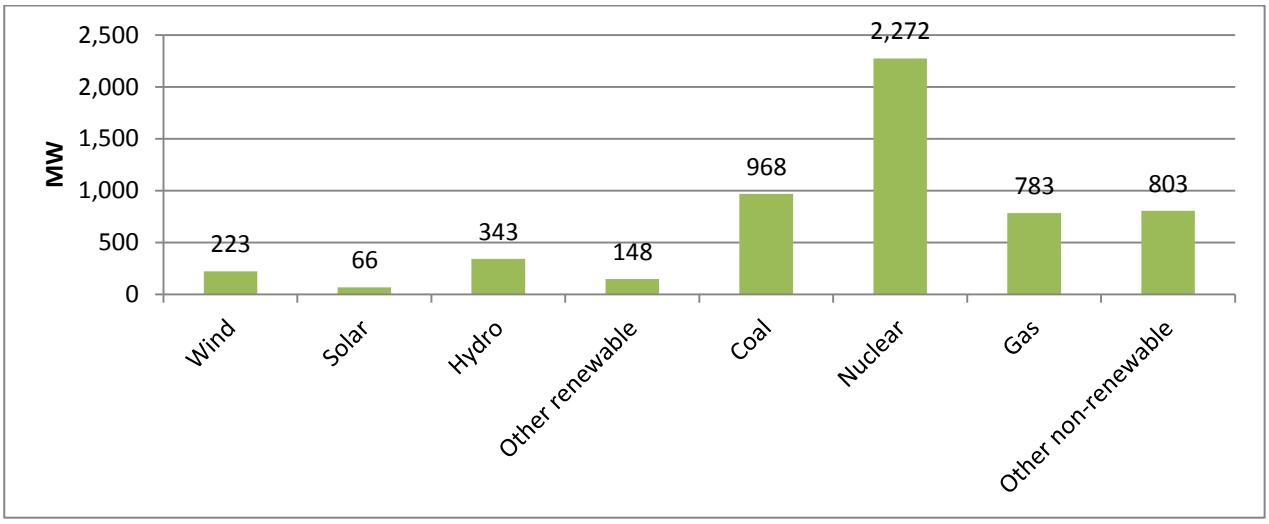


Figure 9. Average capacities of investments by energy source in MW

The significant differences in the average capacities of investments between energy sources explain why for instance solar energy may represent 18 % of the total number of investments but only 3,3 % of the total invested capacity. These ratios also influence the shares of total invested capacity of renewable and non-renewable energy sources. While renewable energy represents nearly four fifths of the number of investments, the share comes down to 43 % in terms of total invested capacity. This is illustrated also in the **Figure 10** below that represents the division of the investments into non-renewable and renewable energy sources in terms of number of investment as well as in terms of total invested capacity. The figures do not change significantly in case where acquisitions are left out in order to observe only investment into newly constructed capacity.

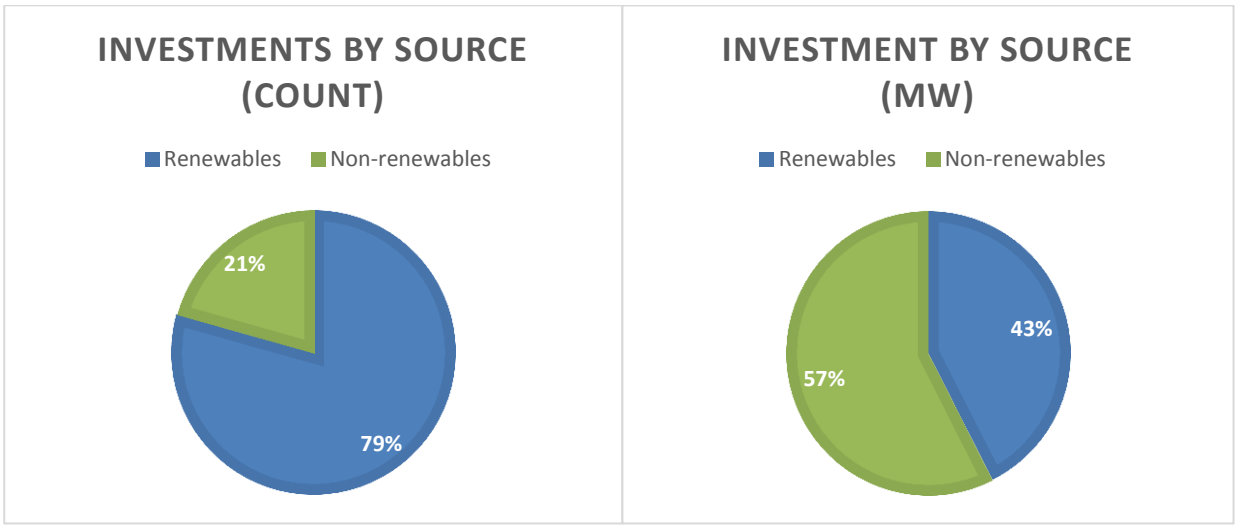


Figure 10. Investments by energy source in terms of count and capacity

The shares of different investments types, classified by the source of energy, are shown in **Table 10**. Overall, most common investment type is greenfield investments that represent 65 % of all the investments and 72 % of investments on renewable energy. The most significant difference between the investments in non-renewable and renewable energy occurs in the case of brownfield investments that represent 41 % of investments on non-renewable energy and only 9 % of. Partners are involved in 26% of the investments, the share being nearly the same in the case of the two different energy sources.

Table 10. Share of investments by type and energy source, %

	All	Non-renewable	Renewable
Greenfield	65	41	72
Brownfield	16	41	9
Acquisition	19	18	19

Regarding the representational aspects of the press releases, most significant differences between press releases concerning investments in renewable and non-renewable energy occur in the share of press releases including figures such as photos or data tables. Where over 20 % of press releases concerning investments in renewable energy include photos, only about 12 % of those concerning non-renewable ones do. In the case of separate company information sections similar differences do not occur. **Table 11** shows different shares of appearance of different representational elements in the press releases.

Table 11. Statistics about the representation of the press releases

	All	Non-renewable	Renewable
Share of investment with size in currency	40 %	43 %	39 %
Share of releases with figures	19 %	12 %	21 %
Share of releases with company information included	38 %	40 %	38 %

Overall, the descriptive analysis of the different energy investments have shown that there are significant differences in the average capacities of the investments according to the energy sources. In addition, renewable and non-renewable energy investments differ in terms of the types of investments. Next, the results of the qualitative and quantitative content analyses will be shown.

6.2 Results of the qualitative content analysis

This chapter presents the results of the qualitative content analysis of the press releases that conducted with a sample of 150 press releases of the total 396 press releases. First, there will be introduced all the themes derived from the texts with relevant extracts. Second, the use of both impression management and rhetorical legitimation strategies will be examined. The chapter concludes by presenting the relationships between the strategies and themes derived by the analysis.

6.2.1 The themes of the press releases

The qualitative content analysis resulted in 60 manifest themes that were classified into 11 categories representing the latent themes of the investment press releases. **Table 12** below represents all the identified themes and their categorization. This chapter will present and analyze each of the main categories as well as provide examples of their use.

Table 12. The themes of the qualitative content analysis

Main theme	Definition for main theme	Manifest themes
Customers	The extent to which the text refers to the impacts that the investment will have on its current and potential customers via energy supply and affordability of energy.	Customers
		Affordable energy
		Customer Price Protection
		Energy supply
		Gainsharing
Environment	The extent to which the text refers to the impacts that the investment will have on its natural environment via emission level, land use, material efficiency and conservation measures.	Clean energy
		Climate change
		Preservation of environment
		Environmental responsibility
		Emissions
		Land use
		Waste and recycling
		Water use
Knowledge development	The extent to which the text refers to the impacts that the investment will have on the level of the intellectual capital of the company, its partners and/or the local community.	Previous know-how
		Piloting
		Expertise to be achieved
Location justification	The extent to which the text refers to the	Resource potential
		Market attractiveness

	choice of a specific location for the investment based on resource potential and macro environment.	Demand
Performance	The extent to which the text refers to the efficiency and technological abilities of the investment.	Efficiency
		Synergies /economies of scale
		Reliability
		Flexibility
		Increased lifetime
		Increased energy capture
Profitability	The extent to which the text refers to profitability and monetary benefits of the investment.	Return on investment
		Long-term value
		Cost effectiveness
		Low costs
Regulation and policy	The extent to which the text refers the local regulations and policies concerning the investment.	Regulatory approval
		Compliance with regulations
		Renewable support
		Political support
		Renewable energy credits
		Price regulation
		Market regulation
Society	The extent to which the text refers to the impacts that the investment will have on societies via provision of goods, employment, economic development and effects on health and safety of humans.	Employment
		Regional economic development
		Research and education
		Tax income
		Community participation
		Electrification
		Safety
Strategy	The extent to which the text refers to the compatibility of the investment with the targets and visions of the company.	Market share
		Growth
		Portfolio building
		Portfolio diversification
		Modernization
		Position strengthening
		Renewable energy/sustainability
Technological novelty	The extent to which the text refers to the novelty value and advancement of the technology used in an investment.	Technological novelty and advance
		Uniqueness
Investment description & process	The extent to which the text refers to general information about the investment such as	Capacity
		Electricity generated
		Location
		Investment type

	capacity, location, partners and finances.	Progress & timeline
		Technical description
		Suppliers, partners & collaboration
		Financing
		Power purchase agreement

Customers

The category of customers was created in order to gather all the discussions that referred to the customers of the company conducting the investment. The theme focused mainly on the customer benefits and gains from the investment. The subcategory 'customers' gathered all the general references to customers as a stakeholder group whereas the other subcategories discussed specific benefits.

The discussion related to customers was centered especially on the price effects and affordability of electricity. There were identified two themes in relations to electricity price effects, affordable energy and customer price protections, that differed regarding the time horizon of the discussion. The theme of affordable energy was used while talking about the effects of an investment in the long run and the overall triggers of the investment that were tight to the aim of providing low-cost energy to customers as the example below shows. The second theme, in turn, was used when discussing the impacts of a new investment project in the short run. Companies generally estimated the price effects of an investment to remain small or took actions to make them do so by different funding schemes as the quote below demonstrates.

"The framework keeps long-term costs down for customers through a pay-as-you-go process" (NextEraEnergy 18.4.2013)

In addition to price matters, the theme of energy supply was also discussed in relation to customers. This theme was at times difficult to distinguish with the electrification theme discussed in the sense of societal benefits yet it was done as they clearly were a two separate discussions. When talking about benefits to customers the focus was more on the affordability and the language used focused on words "customers" and "businesses" whereas when talking about social benefits the focus on the access to the electricity and the words used where "households" and "homes". In addition to energy supply and price themes, the concept of gainsharing was used to describe the customer benefits of investments and the common interests between the companies and their customers.

Environment

The category of environment consisted of large set of references to the environmental impacts and natural surroundings of an investment. The environmental impacts were, without exceptions, treated with positive tone – even if a power plant produced emissions, it was communicated through how much less it produced emissions than other similar power plants or power plants in the past. The common manifest theme of emission reduction commonly included the reduced amount of pollution in terms of numerical measures as the quote below demonstrates.

"*The fully-operational plant is able to generate over 250 million kWh of clean energy annually, therefore avoiding atmospheric emissions of over 100 thousand tonnes of CO2 every year."* (Enel 9.7.2012)

The qualitative coding revealed many themes related to environment that seemed to concern more about the symbolic responsibility over the well-being of nature rather than actual actions. For example, most references to clean energy did not specify in what way the energy was seen as "clean" or "green". The theme of climate change was also used similarly to bridge an action to the prevention of greater environmental challenge and therefore create positive associations as the example below shows.

"*Hydroelectricity, as a renewable and low carbon energy complementary to intermittent energies, is a crucial element to fight against climate change"* (EDF 12.12.2014)

In addition to clean energy and climate change, preservation of environment was a recurring theme that was used to associate investment projects with environmental values and responsibility over environment. In some cases environment was preserved during the construction of a plant, for example, whereas in other ones it was conducted as a separate project simultaneously with the investment in order to "pay back" for the impacts of the new power plant, as in the case presented in the quote below. The preservation initiatives were tightly linked to the theme of environmental responsibility that sometimes existed also as a separate remark highlighting concepts such as sustainability, environmentally-friendly technologies and ecological solutions.

"The "Caney River" wind project provides 8.5 million dollars in funding for the plan to protect the tallgrass prairie environment in Kansas" (Enel 20.7.2012)

Regarding concrete actions, land use, waste and recycling and water use were identified as environmental themes in addition to emissions. Land use was usually referred to in the sense that a power plant fitted well its surroundings or could use an idle spot as the example above demonstrates. The use of waste or recycled material for energy production and the diminished need for water in generation processes were also environmental themes that reoccurred in the press releases.

Knowledge development

At times companies based their investment decisions on experience or expertise of a particular investment type that they already had or that they could attain through an investment. These references gave light to the main theme of knowledge development that included all the references to the development of the abilities and know-how of a company, such as the ones below.

"This demonstration project is an ingenious European industrial match combining the best of Finnish and French expertise in renewable energy" (Fortum 19.9.2013)

"We will use the knowledge we gain from operating this pilot project" (AEP 8.7.2014)

Eventually knowledge development came to include three different types of encoding: references to previous know-how or experience, references to the development of know-how in the future by an investment project and piloting. Although knowledge development did not seem to be a main theme or argument for the investments, it was still not uncommon especially in the case of advanced technologies.

Location justification

Unlike the majority of the themes, location justification did not focus on the arguments why the investment should be conducted in general but rather why it should be conducted in a specific location. The manifest themes categorized into location justification could be divided into three: resource potential, market attractiveness and demand. While resource potential, favorable wind conditions for a wind farm for example, was location-specific on small scale, market attractiveness and demand concerned the benefits that a location provided in larger, often national scale. Market attractiveness was partly tight to politics as it often included arguments such as stable economy. The two examples below serve as typical examples of the location justification encodings.

"We decided to invest in one of EU's poorest regions because we firmly believe in the economic potential of this region" (CEZ 23.5.2012)

"Balabanli wind farm is located in an area of north-western Turkey rich in wind" (EnBW 23.9.2013)

Location justification as a theme occurred more in press releases concerning strategic energy investments since power plants fired by non-renewable energy are not as sensitive for the surrounding natural conditions. However, resource potential was perceived to cover also for example the availability of fuel and thus cannot be considered as a theme relevant only for renewable energy.

Performance

There were a number of discussions about the superior abilities and technical features of the investments that eventually were labeled under the category of technology and performance. Most important subcategory by far was efficiency, referring to the ratio of the output a power plant to its input rather than for example efficiency in financial terms. Efficiency was mentioned especially while discussing the features of modernized power plants as the quote below demonstrates.

"LNG-fired combined cycle facility with the world's highest level of efficiency" (Chubu 14.9.2010)

Regarding the other themes under the category of performance, reliability and flexibility were among the most significant ones. While reliability was associated to energy security and low maintaining costs, flexibility referred to the ability of the production site to respond to fluctuations in demand. The theme of energy capture increase, economies of scale and increased lifetime were less occurring yet still present in the texts. The theme of energy capture increase discussed the ability of renewable energy production sites such as wind farms or solar farms to capture energy into their generation system. Perhaps the most common example here was the use of advanced tracking systems of solar panels such as the quote above refers to.

"The panels use a tracking system to follow the sun's movement during the day, which increases sunlight capture" (Duke 11.11.2010)

Economies of scale referred to the cost reductions achieved by scaling up the production at a specific site or building multiple plants nearby each other. The theme of increased lifetime gathered remarks of extending the use period of a plant compared to past power plants.

Profitability

The main theme of profitability consisted mainly on manifest themes referring to returns – or conversely to the low costs – of an investment. The themes representing the returns consisted of encodings of return on investment and long term value that the investment yielded. Below is an example of a typical reference to return of an investment.

"TEPCO's decision to invest in STP 3&4 is based on the stable long-term earnings expected from the project" (Tepco 10.5.2010)

The themes representing low costs, in turn, included cost-effectiveness and low costs. In general, profitability was surprisingly not often discussed in the press releases in great length or detail. Instead, it seemed to remain more on the level of taken-as-granted expectation.

Regulation and policy

The theme of regulation was one of the most frequent encodings in the qualitative analysis. Various references to regulations, policies and officials were eventually classified into seven themes: regulatory approval, compliance with regulations, renewable support, political support, renewable energy credits and price and market regulation.

Regulation compliance and regulatory approval were perhaps the most common themes in the regulation category. While regulation compliance referred to situations where companies made it evident that they have behaved as ordered by the officials, regulatory approval was used when companies announced something to be approved by subject to be approved by the officials. The themes did not, however, separate whether the regulation was a law, rule, instruction, directive or other kind of regulation. Often both of the themes were expressed shortly, maybe with just a brief sentence embedded into another sentence. The example below belongs to the theme of compliance.

"Furthermore, this project constitutes a security against the restrictive objectives of the European Union's climate and energy policy" (PGE 4.9.2014)

The themes of renewable support and political support both concerned support granted for energy investments by officials in terms of tax breaks, grants and other incentives. The difference between the two was that while renewable support was granted only for investments concerning renewable energy, political support was granted for all investments. A specific type of tradable renewable energy production subsidy used in the United States, Renewable Energy Credits, were encoded as its own category. The quote below shows an example of a reference to renewable support.

"Over more, the project is expected to qualify for the Section 1603 Renewable Energy Treasury Grant Program, therefore accessing the fiscal incentives envisaged by said regulation" (Enel 27.11.2013)

Other themes in the regulation category included price and market regulation. These two separate categories consisted of references to the mechanisms such as distribution of capacity rights. These regulations, however, seemed to vary significantly across the countries and markets.

Society

The main theme of society consisted of seven manifest themes identified on coding rounds. As in the case of environment, also the theme of society included only references to benefits that the society or local community gained from the project. Employment and regional economic development – often called by the name 'economic boost' – were, for example, among the most common societal benefits mentioned in the press releases. Economic boost was often based on not just the employment but the establishment of an entire local supply chain and the use of local services such as housing and transportation during the construction period. Some press releases also mentioned the direct benefits to local communities in the form of increased tax income or decreased subsidy expense. The quote below is a typical example of describing employment effects of an investment.

"Hinkley Point C also has the potential to give a massive boost to the economy with 25,000 people working on the power station during its construction, and 900 during its lifetime." (EDF 19.3.2013)

In addition to economic benefits, safety was at times mentioned as a benefit to the surrounding community. Electrification was used when discussing the energy supply to homes and households. Education and research possibilities were also referred to as societal impacts of an investment. The theme stretched over a large set of different levels of education from developing the competition

capability of a whole region or country to providing local school children a possibility to get to know how energy is produced as the quotes below demonstrate.

"Its construction can strengthen the UK's industrial capability, equipping it to compete for business around the world" (EDF 19.3.2013)

"An interactive electronic display allows Martins Creek Elementary School students to track power production at the PV facility" (Duke 12.4.2012)

The theme of education often coexisted with another, closely related theme of community participation that referred to for example possibilities of the local community to track the productivity of a solar plant or participate an event at the production site. An interesting cultural observation was also that sometimes community participation was linked to transparency and the ways of avoiding corruption. For example OJSC RusHydro provided a service to track the money allocated to one of its investment project through the website of a cooperating bank.

Strategy

Strategy emerged as one of the most important and occurring qualitative encodings. Interestingly, however, the variety of strategic aspects referred to in the investments was quite large. Strategic themes were also often tightly linked to other categories, such as environment and customers, which made the classification at times challenging.

One of the most common references of strategy was portfolio building. Many investments were stated to fit well the company's portfolio of renewable energy assets, for example, or expand its portfolio in a certain area. Usually in these cases there were also mentioned previous similar investments of the company and the total installed capacity of those investments. Individual investments were most of the times presented as being part of strategic plans of a higher level that also increased their importance. The quote below demonstrates the encodings in this theme.

"Acquisition of the plant will further strengthen CKI/Power Assets' Canadian portfolio" (CKI 28.2.2011)

In addition to portfolio building, the diversification of a portfolio was a strategic element recurrently linked to the individual investments. Diversification was used as an argument for an investment both while diversifying between renewable and non-renewable energy sources and when diversifying within non-renewable of renewable technologies as in the case below.

"With this project, I&M will further broaden the diversity of our power generation, with three sources of renewable energy – solar, wind and water" (AEP 8.7.2014)

Closely linked to portfolio building, growth and position strengthening were also reoccurring themes in the investment press releases. Investments were often perceived as a method of expanding a company's footprint on a specific region, market segment or technology or even as a way to internationalize further. Gaining market share was also used as a reasoning for an investment. The example below demonstrates the theme of position strengthening.

"Through this plant ACCIONA strengthens its status as the main Spanish benchmark in the use of herbaceous agricultural waste for the production of electricity" (Acciona 3.9.2010)

In addition to the mentioned themes, modernization was also a significant strategic theme. Closely linked to brownfield investments, modernization was used as a strategic argument especially in case of replacement or refurbishment of fossil-fuel-fired power plants. Renewable energy or sustainability in strategy emerged as another equally important strategic theme. Companies had integrated sustainable values and renewable energy into their strategy so strongly that it the strategy itself was used as an argument for investments.

Technological novelty

Technological novelty formed one of the smallest yet important latent themes identified in the press releases. It included two closely related manifest themes: technological novelty and advance and uniqueness. Technological novelty and advance addressed the specialty of technology used in an investment. Highlighting the value of an investment by emphasizing how advanced and state-of-the-art technology it employed was a common practice for many different kind of investments as the example below demonstrates.

"EZ Plovdiv Sever will be the most modern cogeneration plant in all of the Balkans" (EVN 13.9.2010)

Uniqueness, on the other hand, referred to any argument claiming the one-of-a-kindness of an investment. This category included also statements that clearly had nothing to do with technology such as an investment being the largest wind farm in this state or first investment by a company in that country.

Investment description and process

In addition to the different accounts and arguments in favor of the investment in question, each of the press releases contained elements describing the investment and the process of conducting it. This basic "what? where? when?" type of information eventually formed the theme of investment description and process. Because the themes of the last category were present in almost every press release and did not provide any accounts for or against an investment, they were left out from the quantitative analysis. However, some of them were collected on a separate fact sheet as background information to complement the understanding on the content of the press releases.

Most basic information in the press releases consisted of capacity in terms of megawatts, electricity generated in terms of kWh or the number of households that it could satisfy, the type of the investment and its location. Possible power purchase agreement was often mentioned in relation to the generated electricity. Progress and timeline were also commonly referred to by providing the estimated year for the start of commercial operations or by describing the production process and its phases. Many investments included basic technical descriptions in the press releases such as the number of wind turbines on a wind farm, the capacity of individual turbines and their supplier.

Suppliers, partners and collaboration as well as financing were also categorized into the main theme of investment description and process. The two themes, although linked to the investment process, were discussed in greater length and with greater variety of connotations than the other ones which made their status more challenging to determine. Suppliers, partners and collaborations consisted of a variety of references to cooperation with external parties, both public and private, as well as of references to collaboration and agreement types. In some of the press releases, the investor was affiliated with a highly reputable partner in the field, indicating status transfer mechanism (Podolny, 1993). Financing, on the other hand, included references to loans, cost-sharing, financing institutes and banks as well as financing costs. The external parties organizing and assisting in financing and formal partnerships such as joint ventures were also mentioned.

6.2.2 The use of impression management strategies

After identifying the themes of the press releases, the legitimation strategies of the press releases were analyzed. Regarding the impression management strategies, the analysis consisted of examining the occurrence and use of the four strategies identified in chapter three. These were embedding an object or practice with legitimate goals, embedding with legitimate values, symbols

or actors, changing perceptions by offering accounts and deflecting attention away from illegitimate aspects.

Regarding the first impression management strategy, embedding an object or practice with legitimate objectives, multiple themes were identified fitting the strategy. As the legitimacy of a given objective depends on the stakeholder in question, the goals were divided into stakeholder groups representing the market, community and socio-political acceptance. The division was based on the dimensions of renewable energy investment acceptance presented in chapter four. Goals aligning with the market interests included all the manifest themes in the categories of strategy, customers, knowledge development and profitability. Examples include themes such as position strengthening, portfolio building, experience to be gained and return on investment. These were seen to address the market actors since they concerned the success of the company and benefits for the customers.

Goals aligning with community interests, in turn, included themes such as employment, economy boost from the main theme of society. These themes were perceived to address the community expectations since they mainly concerned the society surrounding the investment. Socio-political interests were addressed with mainly environmental themes as those were seen important even for the public that was not directly affected by the investments. Since also authorities are counted as general public, the theme of compliance with regulations from the main theme of regulation and policy was included in the goals aligning with socio-political interests.

In addressing the stakeholder expectations, the strategy of extension was commonly made use of. This meant that a concept was extended beyond its initial boundaries in order to appeal to a larger stakeholder base as illustrated below. One example of the use of extension is the theme of strategy: even the smallest investments were always linked to the strategy of the company, in which way they could represent large and ambitious concepts such as growth, portfolio-building and diversification. Extension was used also within the theme of environment by connecting emission reduction to frames such as the prevention of climate change and environmental sustainability.

"As of today the nuclear power programme, which so far has been the responsibility of PGE Polska Grupa Energetyczna, becomes a matter of national importance" (PGE 4.9.2014)

The second impression management strategy for legitimation, embedding an object or practice with legitimate values, actors or symbols, occurred also commonly. Considering the market audience, the

strategy was used to emphasize the competitiveness of a production site by embedding it to symbols of superior performance and novelty. This was done by using words of the technological novelty theme such as state-of-the-art, cutting-edge, advanced and innovative in the technology descriptions. Considering general public, on the other hand, the use of legitimate values occurred through the theme of environmental values. The use of values extended also to the names of the companies such as "Enel Green", "Acciona Green Energy" and "EDF Energies Nouvelles".

In addition to values and symbols, second impression management strategy was employed in the press releases through the use of actors. This was especially common in the case of the market: investments, especially those made in partnership, were attempted be legitimized by embedding them to other legitimate companies and institutions. This strategy, also called status-transfer, was made use of by highlighting the success of partners. In reverse, the partners were sometimes used by including complementary comments presented by them in the press releases in order to have external validation for the actions. In addition to other companies, development banks and organizations were sometimes used similarly in order to gain status transfer and external validation for investments from the community audience as the example below demonstrates.

The project also includes ambitious environmental and social programmes, designed and implemented in cooperation with -- its backers from international funds, including the World Bank --" (EDF 12.5.2010)

The third impression management strategy, changing perceptions by offering accounts, consisted of themes that were identified as justifications but did not address such large stakeholder expectations as the legitimate goals. The accounts were used especially to change perceptions of the stakeholders. Regarding the market audience, the themes in the categories of performance and location justification were counted as such since they both influenced the profitability expectations of an investment: performance by describing the abilities of the production equipment and location justification by addressing the conditions for production. Regarding the community audience, on the other hand, the theme of safety was identified as an account since it aimed at changing perceptions about the community influences of an investment. In the case of socio-political audience, the accounts consisted mostly of themes related to regulation and policies since they clearly encourage general acceptance of the investment in question.

No themes matching with the impression management strategy of deflecting attention away were identified. This is probably partly due to the nature of qualitative analysis: it is easier to notice the

themes present in a text than identify those that are not (Humphreys, 2010). It is also not surprising that no examples of denial were present since the companies clearly wished to take responsibility over their investments by revealing disclosing them in public. The strategy of deflecting attention away is reviewed in the quantitative data analysis as it provides better tools for identifying differences in occurrences.

6.2.3 The use of rhetorical strategies

In addition to identifying the impression management strategies employed in the press releases, also the use of the rhetorical legitimation strategies in the press releases was examined. The analysis was conducted by evaluating each theme with respect to the rhetorical strategies identified earlier: authorization, moralization and rationalization.

Authorization as a rhetorical strategy refers to legitimating by authority. In the case of strategic energy investments, the authority was most often represented by regulations, policies or directives of either local or national authorities. Thus, all the subthemes belonging to the main theme of regulation and policy were identified as use of authorization. According to the rhetorical legitimation theories, the use of regulations and policies as an argument signals high levels of institutional stability since the legitimacy of authorities relies on institutional validity.

One of the subtypes of authorization, namely normalization, was counted as its own rhetorical legitimacy strategy as it based legitimacy on different characteristics than authorization. In the context of energy investments, normalization was used to show how well a specific investment fit the other investments that were already made or were to be made in the future. Specifically, the themes of strategy and portfolio-building were the sole themes included to the strategy of normalization. Yet few in numbers, the themes included in normalization strategy were perceived to represent a significantly different nature than other themes related to strategy. Unlike themes such as growth or modernization, the themes of strategy and portfolio persuaded an evaluator only if the evaluator judged the top management of the company to be trustworthy.

The third of the identified rhetorical strategies, moralization, refers to legitimacy by references to commonly accepted values and practices. This strategy was represented by a large range of themes from the main themes of society and environment such as employment, economy boost and emission reduction. These themes were perceived as moralization since they represented the benefits that investments provided for the public in general and were therefore seen to be accepted.

The last of the rhetorical legitimation strategies, rationalization, means legitimation by references to outcomes, purposes, benefits and functions of an object or practice. Rationalization focuses on the efficiency and effectiveness of a practice and often includes measurable factors. For this reason, all the themes belonging to the main themes of performance or location justification and most of the themes belonging to the main theme of strategy were included in the strategy. While the decision regarding the theme of customers was not clear between the strategies of moralization and rationalization, the decision was finally made based on whom the theme concerns: evaluator or society in general. Since the themes included to the category of customers were seen to address more the self-interests of the evaluator than society in general, customer-related themes were eventually included in the propriety-addressing strategy of rationalization.

All the legitimation strategies identified in the press releases are presented in **Table 13.** The themes have been categorized according to the impression management strategy and the relevant public that the themes address. The rhetorical strategies have been assigned to each theme by marking them with the initial of the strategy they belong to. The justifications written in italics represent categories that were not included in the quantitative analysis. The themes presented in the table include only those that were included in the quantitative analysis.

Table 13. Legitimation strategies identified in press releases

Impression management strategy / relevant public	Market	Community	Socio-political
Embedding with legitimate goals	• Strategy (N) • Portfolio (N) • Growth (R) • Diversification (R) • Modernization (R) • Knowledge development (R) • Profitability (R) • Customers (R) • Customers supply (R) • Affordable energy (R)	• Employment (M) • Economy boost (M) • Electrification (M) • Education (M) • Community (M)	• Emission reduction (M) • Land use (M) • Waste and recycling (M) • Compliance with regulations (A)
Embedding with legitimate actors, values or symbols	• Technological novelty (R) • *Status transfer*		• Environmental values (M) • *Environmental values embedded in company names*
Changing perceptions by accounts	• Resource potential (R) • Demand and macro environment (R) • Efficiency (R) • Flexibility (R) • Reliability (R)	• Safety (M)	• Regulation (A) • Market & price regulation (A) • Support schemes (A)
Rhetorical strategies: A = authorization N = normalization M = moralization R = rationalization *Note! Themes that are in italics are not included in the computer-aided analysis*			

From **Table 13** it can be observed that a majority of the themes were directed to the market audience or the general public representing the socio-political audience. However, this does not necessarily reflect the importance of the stakeholder groups since the table does not reveal information about the frequency or occurrence of the themes. Excluding the strategy of concealment, it can be observed that all the impression management strategies have been addressed by different themes. The least themes are allocated to the strategy of embedding an object or practice with legitimate actors, values or symbols. This may be explained by the relatively large size of the existing categories of technological novelty and environmental values. Another explaining factor might be that the analysis primarily focused on the manifest themes of the press release which hinders the ability to identify latent content such as underlying values.

From the table it can be observed that there seems to occur a linkage between the rhetorical strategies and the relevant publics representing the key stakeholder groups. The strategies of rationalization and normalization primarily served the market audience while the strategies of moralization and authorization were used to address community audience and general public. While the linkage may seem peculiar, it can also be perceived as quite logical. The market audiences, for example, are closely attached to the company by dependencies and thus the addressing of self-interests is more relevant in their case than in the case of loosely attached stakeholders. In addition, rational justifications are studied to be effective especially in case of business audiences (Green, 2004). On the other hand, themes addressing general benefits of investments are logical to connect to the actors that do not have a clear dependency to the company such as the local community and general public. The linkage can also be explained by the theory of legitimation process: rational justifications are more common when pleading the acceptance from key stakeholders while moral arguments are used when extending the stakeholder base in the diffusion stage of the legitimacy.

While observing the qualitative categorization of the themes in **Table 13**, it should be remembered that despite of the representation, the categories are not necessarily mutually exclusive. This means that the theme of economy-boost, for example, may in many cases address not just the expectations of the community that the investment concerns but the public in general as well. Similarly, environmental values may also be important for customers and other market actors as well as reliability may be perceived as a benefit also by the community. However, each theme was decided to represent the stakeholder group, impression management strategy and rhetorical strategy that it primarily belonged to for the sake of the quantitative analysis conducted in the next phase. The expectations of stakeholder groups, in turn, were derived from the traditional economic roles of the stakeholders: while in real-life a customer, for example, may care significantly for the environment, in the analysis the expectations of customers were judged solely by the market role assigned to them as rational consumers.

6.3 Results of the quantitative content analysis

Quantitative content analysis was conducted to reveal the differences in the frequency and appearance of the qualitatively derived themes between press releases concerning investments in renewable and non-renewable energy. By comparing the number of justifications and the use of rhetorical strategies, the aim was to achieve indices also regarding the levels of institutional stability with respect to the energy sources. The results will be presented in four phases: occurrence of the

themes, comparisons of the themes, comparisons of the use of rhetorical legitimation strategies and longitudinal analysis.

In order to measure the themes derived qualitatively by a quantitative method, the themes were converted into dictionaries as the methodology chapter described. However, not all manifest themes were included in the quantitative analysis. In most cases, a single manifest theme was too difficult to represent in a single dictionary in a reliable way and was therefore combined with other similar themes within the same main theme. This was the case with for example the themes of clean energy, climate change, preservation of environment and environmental responsibility that were all represented by the dictionary of environmental values. However, in some cases a qualitatively derived manifest theme occurred so rarely in the press releases that it was not perceived to have importance in the quantitative comparisons and was thus not included in the dictionaries at all. This occurred for example in the cases of the themes gainsharing and increased energy capture. In addition, the whole theme of investment description and process was left out from the dictionaries as it was evaluated to be irrelevant for social acceptance and legitimation. Overall, the 60 manifest themes resulted in 30 theme dictionaries. **Attachment 4** represents the entire conversion process from the qualitative themes to dictionaries and the correspondences between the two.

6.3.1 Occurrences of the themes

The case occurrences, meaning the number in how many press releases of the entire sample a theme was present, of the main themes are presented in **Figure 11** below. The three most-occurring themes – strategy, society and environment – clearly stand out from the rest. Also the middle class consisting of regulation and policy, technological novelty, performance and customers form a separate and distinctive group as do the minor themes of location justification, knowledge development and profitability. In general, the percentage of the press releases in which single themes were present varied between 82,1 % and 11,6 %.

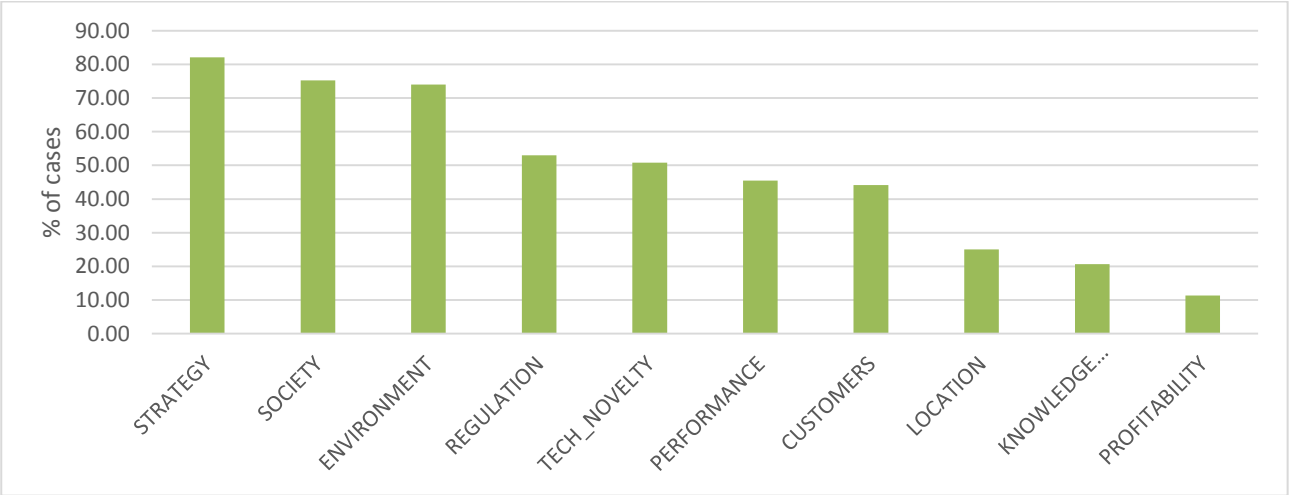


Figure 11. Case occurrence shares of main themes

The differences in the occurrences of the themes are not particularly surprising. The most occurring themes have the most relevance in gaining general social acceptance and thus legitimacy. In addition, they cover larger variety of subthemes than the rest which yields a higher number of words for them. However, it is still interesting that the differences between the occurrences of main themes are as significant as they appear to be. The theme of profitability seems to be a particular outlier since it is traditionally seen as the most important factor determining the investment decision. On the other hand, it can be that firms refrain from making profitability claims at the point of release as the profitability of an investment can be only evaluated afterwards.

Figure 12. Frequencies of the main themes

Figure 12 also illustrates the occurrence of the identified themes in the text, yet this time judged by the number of words occurring from each theme-based dictionary. As it can be seen, the greatest change in the themes occurs with the theme of technological novelty that seems to be discussed in

relatively high number of press releases but in relatively short length. The same, yet in reverse, occurs with environment that seems to be discussed in relative higher length than for example strategy. Another observation from the case occurrence chart is that the gap between the most occurring three themes and the rest of themes is much more significant when measuring the frequency of the words than when measuring the case occurrence. This suggests that the most occurring themes are discussed in significantly greater length than others.

6.3.2 Comparisons of the themes

In order to understand the differences between press releases concerning investments in renewable and non-renewable energy, the most common themes of each category were examined separately. This helped in understanding the nature of nature of each type of press releases better than pure comparisons of occurrences. The top five most common themes of both groups of press releases with their respective case occurrences are listed in **Figure 13**.

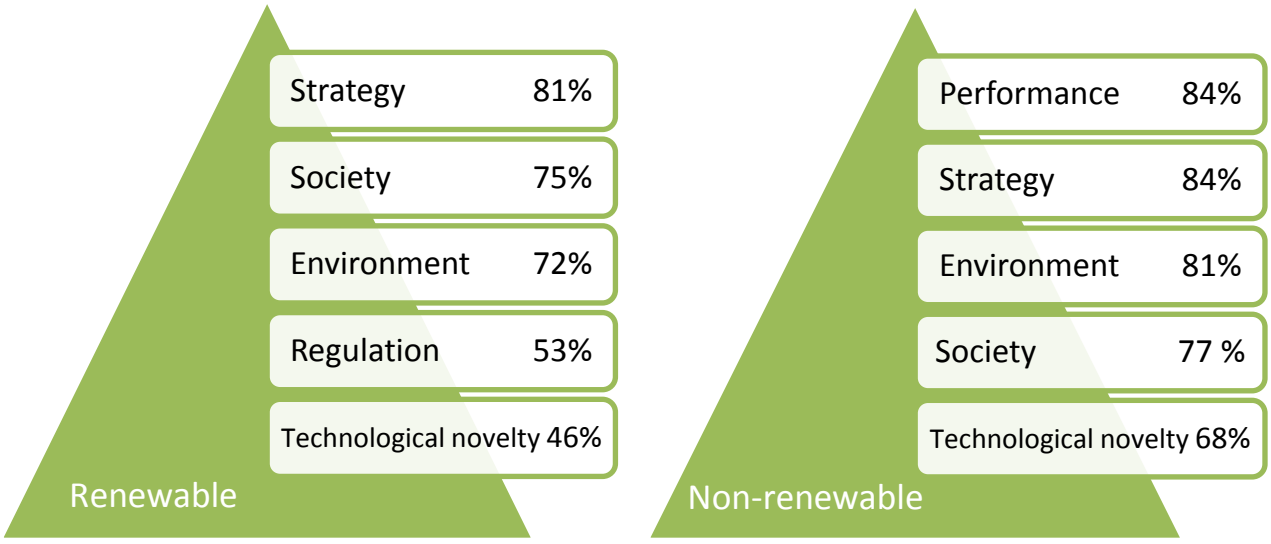


Figure 13. Most common themes, renewable vs. non-renewable

The three overall most common themes – society, environment and strategy – can be found from the top five themes of both renewable and non-renewable energy investments. However, there are also differences between the themes. In case of renewable energy investments, regulation and novelty occupies the highest rank after the three most common themes. In the case of non-renewable energy, in turn, performance ranks even higher than the overall most common themes. In addition, the theme of society ranks significantly higher in case of renewable energy compared to non-renewable energy.

In order to examine the observed differences in depth, a comparison between the case occurrences of all the themes was conducted. The case occurrences of the main themes and their differences between renewable energy and non-renewable energy are shown below in percentage measures in **Table 14.** The difference calculations are based on the Dunning's log likelihood test and the significant differences are market with a star sign.

Table 14. Comparison of case occurrences of the themes

	Non-renewable	Renewable	G2	P (2-tails)
PERFORMANCE	84.09%	34.42%	72.027	0.000*
CUSTOMERS	63.64%	38.64%	17.323	0.000*
PROFITABILITY	23.86%	7.79%	15.118	0.000*
TECH_NOVELTY	68.18%	45.78%	14.014	0.000*
ENVIRONMENT	80.68%	72.08%	2.758	0.097
LOCATION JUSTIFICATION	29.55%	23.70%	1.215	0.270
STRATEGY	84.09%	81.49%	0.321	0.571
SOCIETY	77.27%	74.68%	0.251	0.616
REGULATION	54.55%	52.60%	0.104	0.747
KNOWLEDGE DEVELOPMENT	20.45%	20.78%	0.004	0.947

Table 13 shows that there is a statistically significant difference between themes on performance, customers, profitability and technological novelty arguments. Interestingly, all of the themes occurred more in press releases concerning non-renewable energy investments. Indeed, all the themes with the exception of knowledge development can be observed to occur more in case of non-renewable energy although other differences do not prove to be significant. This seems to suggest significant differences concerning whether a given theme is present in a press release or not.

In order to gain insights to the differences in the occurrences of the main themes, also the differences in the occurrences of the subthemes were observed. **Table 15** presents the subthemes showing significant difference in the presence between non-renewable and renewable energy. Not surprisingly, the most significant differences can be detected in the occurrences of the subthemes of the performance category such as efficiency and reliability. These differences can be considered quite understandable due to the generation process of renewable energy: power plants have inputs, outputs and production hours that can be measured more easily than those of renewable energy production sites for the sake of performance indicators. The difference in the strategy subtheme of

modernization also is understandable since modernization is closely related to brownfield investments that were much more common in case of non-renewable than renewable energy.

Table 15. Comparison of case occurrences of the subthemes showing significant differences

Main theme \ subtheme	Non-renewable	Renewable	G2	P (2-tails)
PERFORMANCE\EFFICIENCY	75.00%	24.68%	73.704	0.000*
PERFORMANCE\RELIABILITY	48.86%	13.96%	43.488	0.000*
STRATEGY\MODERNIZATION	35.23%	7.79%	36.356	0.000*
SOCIETY\ELECTRICATION	14.77%	44.16%	28.006	0.000*
PROFITABILITY	23.86%	7.79%	15.118	0.000*
TECH_NOVELTY	68.18%	45.78%	14.014	0.000*
LOCATION JUSTIFICATION\DEMAND AND MACRO ENVIRONMENT	22.73%	8.12%	12.605	0.000*
ENVIRONMENT\EMISSION REDUCTION	69.32%	49.68%	10.909	0.001*
REGULATION\COMPLIANCE_WITH_REGULATIONS	28.41%	13.31%	10.174	0.001*
SOCIETY\SAFETY	12.50%	3.25%	9.682	0.002*
CUSTOMERS\CUSTOMERS SUPPLY	39.77%	25.65%	6.381	0.012*
ENVIRONMENT\WASTE AND RECYCLING	13.64%	5.52%	5.801	0.016*
LOCATION JUSTIFICATION\RESOURCE POTENTIAL	7.95%	17.86%	5.766	0.016*
CUSTOMERS\CUSTOMERS	31.82%	19.48%	5.681	0.017*
STRATEGY\DIVERSIFICATION	10.23%	3.90%	4.716	0.030*
STRATEGY\STRATEGY_GENERAL	50.00%	62.34%	4.272	0.039*

There were also a few subthemes that were discussed more in renewable than in non-renewable energy investments. These were electrification that refers to energy provision in the social context, resource potential and strategy. The last one, resource potential, is simple to comprehend since renewable energy generation is much more site-dependent than that of non-renewable energy. A wind farm, for example, is much better to build in a windy spot than in a still one. The differences in the subthemes of energy provision and strategy are more difficult to explain yet they contribute to understanding of why the difference in the main theme of society was the least significant of the all significant themes.

In addition to the case occurrences, also the frequencies of the themes between renewable and non-renewable energy investments were compared in order to have an understanding of the differences in the length of discussion of the themes. The frequencies of the word occurrences of the theme-based dictionaries for investments into renewable and non-renewable energy sources are presented in **Table 16** below. Since there are significant differences in the number of press releases

concerning investment into renewable and non-renewable energy, the frequencies are expressed as ratios of the total number of words in each category.

Table 16. Comparison of frequencies of the themes

	Non-renewable	Renewable	G2	P (2-tails)
CUSTOMERS	0.41%	0.23%	52.151	0.000*
ENVIRONMENT	1.01%	0.80%	40.670	0.000*
PERFORMANCE	0.69%	0.19%	252.641	0.000*
TECH_NOVELTY	0.34%	0.20%	38.702	0.000*
PROFITABILITY	0.08%	0.02%	24.718	0.000*
REGULATION	0.42%	0.31%	21.959	0.000*
STRATEGY	0.90%	0.80%	20.756	0.000*
SOCIETY	0.89%	0.79%	18.892	0.000*
LOCATION JUSTIFICATION	0.09%	0.09%	1.488	0.222
KNOWLEDGE DEVELOPMENT	0.07%	0.09%	0.439	0.508

As it can be observed, there were significant differences in the frequencies of seven out of ten themes: customers, environment, performance, technological novelty, profitability regulation, strategy and society. In all of the cases, the themes were once again discussed in greater length in press releases concerning investments into non-renewable energy. The overall result seems to suggest that in general, investments into non-renewable energy are justified more – or at least the arguments are discussed in greater length – than investments into renewable energy. One possible explanation for the differences is that, in general, press releases concerning investments into non-renewable energy are longer. The length, in turn, may be related to the higher average size of non-renewable energy investments in terms of capacity. However, the differences in the frequencies of the themes in the case of non-renewable energy may be even three of four times that of renewable energy which suggests that average length is not the only explaining factor behind the differences. Nevertheless, differences in frequencies may be caused also by excessive discussions of themes in just few press releases due to which case occurrences are used as the primary enumeration unit for comparing the themes and strategies.

An interesting observation within the differences was the theme of environment. Since the discussion of the legitimacy challenges of non-renewable energy showed that environmental damage and emissions are a legitimacy problem for non-renewable energy, the theme of environment was suddenly discussed even more in case of non-renewable than renewable energy

both in frequency and length. The specific theme of emissions was also discussed more in case of non-renewable energy. On the other hand, the theme of performance that could be seen as a legitimacy challenge for renewable energy was not discussed within renewable energy investments. This suggests that renewable energy investments prefer to deflect attention away from legitimacy problems by using the impression management strategy of concealment. Non-renewable energy investments, on the other hand, prefer to change the perfections of people with respect to illegitimate aspects. In the following, the analysis is continued by examining differences in the occurrence of rhetorical legitimation strategies.

6.3.3 Comparisons of the use of rhetorical strategies

The comparisons with respect to legitimation strategies used were conducted only for rhetorical legitimation strategies. There were two reasons for this. First, only rhetorical strategies could indicate the stage of legitimacy of a practice and the institutional stability of a field. Second, due to the small number of themes representing different impression management themes and the difficulties to categorize each theme only into one strategy, the comparisons between impression management strategies could not have been carried out in a meaningful way. However, since all the themes were assigned to one rhetorical strategy, the rhetorical analysis was assumed to give a satisfactory picture of the differences in the legitimation strategies between renewable and non-renewable energy.

The comparisons of the dictionaries representing the different rhetorical strategies are shown in **Table 17** below. The themes included in each dictionary were presented in **Table 13** earlier in this chapter. While in literature normalization is sometimes included in the category of authorization, it was presented as a separate category in the analysis as it was considered to address a different authority.

Table 17. Differences in the use of rhetorical legitimation strategies

	Non-renewable	Renewable	G2	P (2-tails)
NORMALIZATION	60.23%	73.70%	5.766	0.016*
RATIONALIZATION	96.59%	89.94%	4.640	0.031*
MORALIZATION	90.91%	84.09%	2.822	0.093
AUTHORIZATION	54.55%	52.60%	0.104	0.747

As **Table 17** shows, the statistical analysis revealed two significant differences in the use of the strategies. As the most significant difference, the theme or normalization was used significantly more within press releases concerning investments into renewable energy. This indicated that renewable energy investments were more often legitimated by references to their fit into the strategy and by other the similar investments that had already been made. Since normalization belongs to the validity-addressing strategies that indicate a high degree of legitimacy and institutional stability within an industry, the difference suggests higher degrees of institutional stability for renewable energy.

As the second significant difference, the strategy of rationalization was used significantly more within the case of non-renewable energy. The differences were significant especially within the themes of efficiency, modernization, reliability, profitability and technological novelty. Since rationalization as a propriety-addressing strategy is typically used in case of institutional instability, this difference also suggests that renewable energy enjoys a higher degree of institutional stability with respect to legitimacy. However, it should also be noted that there were no significant differences in the cases of moralization and authorization supporting the statement. In case of both themes, the statistics actually showed higher occurrence levels for non-renewable energy even if they were not significant. In order to gain insights to the trends in the theme occurrences, a longitudinal analysis will also be conducted.

6.3.4 Longitudinal analysis

Due to the small number of press releases per year especially in the case of non-renewable energy, the longitudinal analysis was conducted by comparing the occurrences of the themes on the first and last years of the observation period. This meant that all the comparisons were made between the time period of 2010-2011 and that of 2013-2014. In order to increase the reliability of the analysis further, the analysis was conducted only in the case of the main themes.

When considering the differences of the occurrences of the themes, only one significant differences could be found between the beginning the observation period. This difference concerned the theme of regulation that had decreased significantly on the observation period. Comparing the case occurrence between renewable and non-renewable energy made it evident that the decrease had occurred within reasoning of renewable energy. Comparisons within non-renewable energy showed no significant differences in the use of any of the themes between the observation periods.

An analysis of the frequency of the themes referring to the length that the themes were discussed revealed more significant differences between the themes. **Table 18** shows the comparison in the frequency of the themes within renewable energy. As it can be observed, the occurrences of environment, regulation and customers have decreased significantly from the period of 2010-2011 to the period of 2013-2014. The theme of knowledge development has also experienced growth yet is still among the least discussed themes. These findings seem to suggest that the need to justify renewable energy investments has decreased during the observation period especially in the cases of environmental benefits, regulation and customers. On the other hand, the results may also indicate that the effectiveness of those themes as justifications has decreased.

Table 18. Frequencies of the main themes in 2010-2011 and 2013-2014, renewable energy

	2010-2011	2013-2014	G2	P (2-tails)
ENVIRONMENT	0.97%	0.64%	49.452	0.000*
REGULATION	0.37%	0.22%	27.279	0.000*
CUSTOMERS	0.27%	0.18%	12.583	0.000*
KNOWLEDGE DEVELOPMENT	0.07%	0.14%	7.845	0.005*
TECH_NOVELTY	0.22%	0.19%	2.727	0.099
PERFORMANCE	0.21%	0.19%	2.131	0.144
SOCIETY	0.76%	0.87%	0.142	0.706
PROFITABILITY	0.02%	0.02%	0.077	0.781
STRATEGY	0.78%	0.87%	0.017	0.898
LOCATION JUSTIFICATION	0.09%	0.10%	0.011	0.918

Table 19 also presents the differences in the frequencies of the themes between 2010-2011 and 2013-2014 but this time for non-renewable energy. As it can be observed, the changes have occurred in case of different themes than in the press releases concerning renewable energy investments. Instead of environment, regulation and customers, the themes of strategy and society have experienced decreases. However, there has also occurred an increase within the most common theme of performance.

Table 19. Frequencies of the main themes in 2010-2011 and 2013-2014, non-renewable energy

	2010-2011	2013-2014	G2	P (2-tails)
STRATEGY	1.14%	0.68%	20.979	0.000*
SOCIETY	0.99%	0.78%	5.103	0.024*
PERFORMANCE	0.61%	0.81%	4.550	0.033*
LOCATION JUSTIFICATION	0.07%	0.12%	2.983	0.084
CUSTOMERS	0.44%	0.35%	1.911	0.167
ENVIRONMENT	1.09%	0.97%	1.518	0.218
PROFITABILITY	0.10%	0.06%	1.358	0.244
REGULATION	0.44%	0.38%	0.726	0.394
KNOWLEDGE DEVELOPMENT	0.08%	0.06%	0.220	0.639
TECH_NOVELTY	0.36%	0.35%	0.023	0.878

The findings from the longitudinal analysis seem mostly supportive for the trends suggested by the differences in themes and the general length of discussions. Renewable energy has, for example, experienced major decreases in the amount of justifications within major themes. Although this same occurs also in case of non-renewable energy, the themes that have decreased in length are those that mostly represent validity-addressing rhetorical strategies and thus support the institutional changes occurring in case of non-renewable. This is also backed by the growth in the occurrence of the theme of performance that belongs to the rational justification strategies. However, it should be remembered that the frequency measures are vulnerable to errors caused by excessive use of themes in just few press releases as they do not pay attention to the distribution of the words. In addition, the longitudinal analysis has been carried out within a relative short time period that makes it difficult to draw conclusions on general trends.

7 CONCLUSIONS AND DISCUSSION

Renewable energy investments play a key role in energy transition yet they are still outnumbered by investments into non-renewable energy. While studies have suggested that social acceptance may form a barrier for renewable energy investments, the social pressure experienced by energy companies and the ways in which they attempt to respond to it have received little attention. This study attempted to fill the gap by exploring how large electric utilities publicly reason their strategic investment decision in their press releases. By comparing disclosures of investments into renewable and non-renewable energy, the differences in themes and strategies used between the renewable and non-renewable energy investments were also examined. The study aimed at contributing to research on social acceptance of renewable energy and on legitimation in corporate narratives.

This chapter presents the answers to the research questions presented in the introduction and evaluates the results with respect to the limitations of the study. Theoretical implications are also discussed. In addition, future research opportunities are identified in order to proceed on the research concerning the legitimacy of renewable and non-renewable energy.

7.1 Research questions answered

Legitimation can be defined as the process of gaining social acceptance for a specific practice. The aim of the study was to explore how the world's largest and financially most successful electric utilities legitimate their strategic energy investments decisions in their public disclosures by justifications. In addition, the study intended to identify the differences in the legitimation between practices that are experiencing different institutional pressures by comparing justifications between renewable and non-renewable energy investments. In order to reach the set targets, the following research questions were formed:

1. What are the recurring manifest and latent themes of press releases concerning strategic energy investments?
2. What kind of legitimation strategies can be identified in press releases?
3. How do the justifications of investments into renewable and non-renewable energy differ in terms of themes and legitimation strategies?

The qualitative analysis revealed 60 manifest themes that were categorized into eleven latent themes of which ten were seen to represent the reasoning of the investment. By far, the most

occurring latent themes were fit with the strategy of the company and benefits that the investment provided for society and environment. Other important themes included performance, benefits to customers, technological novelty value of the investment and regulations that the investment complied to or benefitted from. All the themes identified are presented in Table 12.

A literature review regarding the legitimation strategies in corporate narratives revealed than they can broadly be categorized into two: strategies addressing the form a message and those addressing the content of it. Regarding the form, four impression management strategies following Ashforth and Gibbs (1990) were eventually chosen as relevant for theme-level analysis of justifications. Regarding the content rhetorical strategies were chosen as the base for the analysis and four relevant ones were identified for the study. While distinct authors suggested different ways of categorizing rhetorical legitimation strategies, the views of Elsbach (1994) and Green (2004) were followed in the study.

The most important impression management strategy identified in the press releases was embedding the investment with goals that are in the interests of its stakeholders. Oher impression management strategies that were identified included embedding the investments to values and actors that the companies considered to be accepted by the stakeholders and offering accounts to respond to possible negative perceptions regarding the investments. The quantitative analysis revealed also that renewable energy investments used the strategy of deflecting attention away from illegitimate aspects by not discussing performance issues of their investments.

The qualitative analysis identified the use of four rhetorical strategies in the content of the themes: authorization, normalization, moralization and rationalization. Authorization was used to legitimate an investment by referring to laws, regulations or authorities. Its subtype, normalization, was used to legitimate investments based on tradition and past activities that in the context of energy investments were perceived to be represented by portfolio and strategy. Moralization refers to legitimation by conforming to commonly accepted norms, and in the case of the energy investments its use was identified in themes describing societal and environmental benefits. Finally, rationalization was used to legitimate investments by emphasizing rational arguments such as performance and outcome. The four strategies were divided into two approaches with respect to whether they persuaded the evaluator based on institutionally set norms and authorities or based on the proprieties of the investment. While authorization, normalization and moralization were

perceived to address the validity beliefs, rationalization was categorized as a propriety-addressing strategy. The majority of the themes represented either moralization or rationalization.

Overall, it was noticed that stakeholders played a key role in the legitimation of the strategic energy investments. All the themes could be identified to address the expectations of one of the key stakeholder segments of energy investments identified by the literature: the market, the local community that the investment concerned or the public in general. Especially the stakeholder segment of market had a central position in the justifications since the most occurring themes of both renewable and non-renewable energy addressed the expectations of market actors. This notion is further supported by the notion that, in terms of number of themes, most of the justifications addressed the expectations of market actors. The importance of market-directed themes suggests that electric utilities perceive the social acceptance of market as the most important dimension of social acceptance for them. On the other hand, the occurrence of market-directed justifications may have been caused by the nature of press releases as market-directed corporate narratives or because the specific justifications happened to be favorable for the investments.

Regarding the comparisons between renewable and non-renewable energy investments, it was observed that investments into non-renewable energy were justified significantly more than investments into renewable energy. This was evident in the case of all major themes when comparing the discussion length. One possible explanation for this is that the press releases concerning non-renewable energy investments were longer. However, the longitudinal analysis supports the notion by showing that the amount of justifications has decreased more in case of renewable than non-renewable energy during the observation period. The difference in the amount of justifications provides support for the expected higher institutional stability of renewable energy.

Another major difference revealed by the comparison between renewable and non-renewable energy investments occurred in the use of content of the justifications. The statistics showed that rational arguments were used significantly more in the case of investments into non-renewable whereas normalization was used more often in case of renewable energy. These differences suggested that non-renewable energy investments are justified more with propriety-addressing arguments while renewable energy investments rely more on evaluators' beliefs on valid values and norms. Since non-renewable and renewable energy can be perceived to experience different institutional pressures, the notion has implications for legitimation in dynamic institutional contexts by suggesting that, in case of favorable institutional norms, validity-addressing justifications are

emphasized. However, the occurrences of the strategies of moralization and authorization do not support the statement.

By comparing the themes to the public arguments of renewable and non-renewable energy presented in chapter four, it was noticed that the justifications followed the public perceptions of the benefits of the energy sources. The benefits of renewable energy, for example, highlight the environmental and societal benefits as did the press releases. An interesting difference, however, occurred in the way the downsides of the energy sources were addressed. While non-renewable energy investments are generally perceived damaging for environment, the environmental arguments were discussed even more in press releases concerning non-renewable than renewable energy. In contrast, performance and profitability were nearly absent from renewable energy investments. This suggests that while investments in renewable energy attempt to legitimatize by conforming to the existing normatively valid beliefs and concealing the possible problems, non-renewable energy investments attempt to educate the public to change their perceptions about the illegitimate aspects associated with non-renewable energy. Nevertheless, it should be into consideration that the use of carbon capture technologies within non-renewable energy investments may distort this view.

The observations regarding the representation of the downsides of investments and the use of validity-addressing and propriety-addressing strategies may also be linked. It seems that when the institutional stability of a practice is perceived to be high and normative beliefs support the practice, it is legitimized by addressing the validity beliefs and concealing the opposing views. When the institutional stability is low, in turn, the practice is legitimized by offering propriety-addressing accounts to change the negative views of the public. However, the longitudinal analysis did not reveal significant trends in the usage of propriety-addressing and validity-addressing themes and thus does not provide evidence regarding their relationships to specific institutional situations. In addition, the use of likelihood ratio to measure the differences may have caused the differences in occurrences to seem more significant than they actually are. The limitations of the study and their influences are discussed in detail after reviewing the theoretical implications of the study.

7.2 Theoretical implications

This research makes three contributions to existing theories. First, this study contributes to the research on social acceptance of renewable energy investments by examining how large energy utilities attempt to gain social acceptance from their stakeholders. While many studies have been

conducted on the social acceptance of energy investments from the stakeholders' point of view, little attention have been directed to the perceptions of companies regarding the relative importance of stakeholder expectations. There is a need for studies observing the different dimensions of social acceptance in interaction (Wüstenhagen et al., 2007). The findings of this study show that the market actors are addressed the most often in justifications and therefore suggest that the dimension of market acceptance is of special importance for the utilities.

Second, this study has implications to the rhetorical theory of diffusion of legitimacy. While previous studies have suggested that rhetorical legitimation strategies are used differently according to the stability of institutional norms of a practice (Bitektine & Haack, 2015; Green, 2004), few empirical studies have been conducted regarding the differences in rhetorical legitimation in domains that are experiencing institutional changes. The need for these kinds of studies has, however, been recognized (Green, 2004). This study compares the use of rhetorical legitimation strategies between two closely related practices that are experiencing different institutional settings. The findings appear to support the notion that the propriety-addressing rhetorical legitimation strategies are used more in case of institutional change whereas validity-addressing rhetorical strategies are emphasized in stable institutional settings.

Third, this paper contributes to the research on the use of impression management strategies in legitimation through corporate narratives. Although previous studies on impression management as a legitimation tool have provided a comprehensive view on the different justification strategies, little is known about how they are used on different stages of institutionalization. (Ashfroth & Gibbs, 1990) This study expands the view by suggesting that the impression management strategy of offering accounts is used more to change the perceptions of stakeholders in instable institutional settings while the use of concealment occurs more when the practice has been already institutionalized.

7.3 Limitations and future research opportunities

This study focused on observing only the world's largest and financially successful electric utilities which limited the results significantly. Broadly-taking, large electric utilities can be after all considered to be a quite homogenous group since most of them operate globally, enjoy largely established institutional position and legitimacy and have higher than average resources to invest in new technologies. Replicating the study with different samples of SMEs would therefore provide

opportunities to explore the influences of different company sizes and ages, cultural factors and limited resources on the justifications of energy investments and the perceptions of their acceptance.

The time scope of the study limited significantly the opportunities for observing trends and drawing longitudinal conclusions. However, the longitudinal studies would be of vital importance for detecting trends and changes in the social acceptance of energy investments and the institutional norms concerning them. When including the legitimation strategies to the analysis, significant contributions could be made also for the theory of rhetorical diffusion of legitimacy.

With respect to the legitimation strategies, an interesting area for future research would be extending the scope of the impression management strategies included in the study. While this study only focused on the themes, it did not reveal information about the use of for example visual or rhetorical presentation such as reading ease or use of qualifiers. An in-depth qualitative content analysis or the application of linguistic technics could increase understanding of the use of language in the context of justifying energy investments. In addition, more attention could be paid on impression management through positive entitlements instead of only justifications.

Considering the social acceptance and legitimacy of strategic energy investments, better understanding would be needed regarding the expectations of different stakeholders. While press releases as a general type of corporate narrative that covers multiple audiences limited the possibilities of the study to draw conclusions regarding the expectations of a specific group, studies focusing on narratives directed to more specific audience groups such as shareholder letters could provide insights to the justifications between different stakeholder groups. Another interesting area for further research could be examining the justifications between investments into fossil fuels and carbon-free technologies in order to provide further insights to the role of environment in the social acceptance of energy investments.

Finally, while justifications and arguments presented in public disclosures provide a media for observing how companies address the expectations of their stakeholders and attempt to legitimate, it remains unclear whether the companies manage to address correct stakeholder expectations and convince the public. Analyses on post-investment stock market reactions or news articles published based on the press releases would shed light on the success of the corporate communication as well as provide evidence of the social acceptance levels of the public with respect to strategic energy investments.

8 RESOURCES

Albert, S. & Whetten, D.A. (1985). Organisational Identity. *Research in Organisational Behaviour*, 7, 263-295.

Alkaraan, F., & Northcott, D. (2006). Strategic capital investment Decision-Making: A role for emergent analysis tools? A study of practice in large UK manufacturing companies. *The British Accounting review*, 38(2), 149-173.

Altheide, D. L. (1987). Reflections: Ethnographic content analysis. *Qualitative sociology*, *10*(1), 65-77.

Ashforth, B. E. & Gibbs, B. W. (1990). The double-edge of organizational legitimation. *Organization Science,* 1(2), 177-194.

Bansal, P. & Clelland, I. (2004). Talking, trash: legitimacy, impression management, and unsystematic risk in the context of the natural environment. *Academy of Management Journal*, 47 (1), 93-103.

Beck, A. C., Campbell, D., & Shrives, P. J. (2010). Content analysis in environmental reporting research: Enrichment and rehearsal of the method in a British–German context. *The British Accounting Review*, *42*(3), 207-222.

Bell, E., & Bryman, A. (2007). The ethics of management research: an exploratory content analysis. *British Journal of Management*, *18*(1), 63-77.

Berg, B. L., Lune, H. & Lune, H. (2004). *Qualitative research methods for the social sciences* (Vol. 5). Boston, MA: Pearson.

Benford, R.D. & Snow, D.A. (2000). Framing Processes and Social Movements: An Overview and Assessment. *Annual Review of Sociology*, 26, 611-639.

Berelson, B. (1952). *Content analysis in communication research.* Free Press.

Birkigt, K. & Stadler, M.M. (1986). *Corporate Identity – Grundlagen, Funktionen, Fallbeispiele.* Landsberg am Lech: Verlag Moderne Industrie.

Bitektine, A. & Haack, P. (2015). The "macro" and the "micro" of legitimacy: Toward a multilevel theory of the legitimacy process. *Academy of Management Review* (40), 1, 49-75.

Carr, C., & Tomkins, C. (1996). Strategic Investment Decisions: the importance of SCM. A comparative Analysis of 51 case studies in U.K, U.S. and German companies. *Management Accounting Research,* 7(2), 199-217.

Cauwenbergh, A.V., Durinck, E., Martens, R., Laveren, E., & Bogaert, I. (1996). On the role and function of formal analysis in strategic investment decision processes: results from an empirical study in Belgium. *Management Accounting Research,* 7(2), 169-184.

Chevalier-Roignant, B., Flath, C. M., Huchzermeier, A., & Trigeorgis, L. (2011). Strategic investment under uncertainty: A synthesis. *European journal of Operational Research,* 215(3), 639-650.

Cooper, D. R. & Schindler, P. S. (2003). *Business research methods*. McGraw-Hill.

Cooremans, C. (2011). Make it Strategic! Financial investment logic is not enough. *Energy Efficiency*, 4, 473-492.

Craig, R., Lehman, G., Milne, M. & Tregidga, H. (2010). Analysing the quality, meaning and accountability of organisational reporting and communication. *Call for papers for Special Issue of Accounting Forum*.

Deegan, C. (2002). Introduction: the legitimising effect of social and environmental disclosures-a theoretical foundation. *Accounting, Auditing & Accountability Journal*, *15*(3), 282-311.

Deephouse, D.L & Suchman, M. (2008). "Legitimacy in Organizational Institutionalism" in Greenwood, R., Oliver, C., Sahlin, K. & Suddaby, R. (eds.) *The Sage Handbook of Organizational Institutionalism* (pp. 49-77). London: Sage Publications Ltd.

Demers, C., Giroux, N., & Chreim, S. (2003). Merger and acquisition announcements as corporate wedding narratives. *Journal of Organizational Change Management*, *16*(2), 223-242.

DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review,* 48(2), 147-160.

Dowling, J., & Pfeffer, J. (1975). Organizational legitimacy: Social values and organizational behavior. *Pacific sociological review*, 122-136.

Dubois, A., & Gadde, L. E. (2002). Systematic combining: an abductive approach to case research. *Journal of business research*, *55*(7), 553-560.

Elsbach, K. D. (1994). Managing organizational legitimacy in the California cattle industry: The construction and effectiveness of verbal accounts. *Administrative science quarterly*, 57-88.

Elsbach, K.D. & Sutton, R.I. (1992). Acquiring Organizational Legitimacy through Illegitimate Actions: A Marriage of Institutional and Impression Management Theories. *Academy of Management Journal*, 35 (4), 699-738.

Freedman, A., & Medway, P. (Eds.). (2003). *Genre in the new rhetoric*. Taylor & Francis.

Gephart, R. (1997). Hazardous measures: an interpretive textual analysis of quantitative sensemaking during crises. *Journal of Organizational Behavior*, 18, 583-622.

Green, S. E. (2004). A rhetorical theory of diffusion. *Academy of Management Review*, *29*(4), 653-669.

Grunig, J. E. (2006). Furnishing the edifice: Ongoing research on public relations as a strategic management function. *Journal of Public Relations Research*, *18*(2), 151-176.

Henry, E. (2006). Market Reaction to Verbal Components of Earnings Press Releases: Event Study Using a Predictive Algorithm. *Journal of Emerging Technologies in Accounting*, 3(1), 1-19.

Henry, E. (2008). Are investors influenced by how earnings press releases are written? *Journal of Business Communication*, 45(4), 363-407.

Hooghiemstra, R. (2000). Corporate Communication and Impression Management – New Perspectives Why Companies Engage in Corporate Social Reporting. *Journal of Business Ethics*, 27, 55-68.

Humphreys, A. (2010). Megamarketing: the Creation of Markets as a Social Process. *Journal of Marketing*, 74, 1-19.

Iniyan, S., Suganthi, L., & Samuel, A. A. (2001). A survey of social acceptance in using renewable energy sources for the new millennium. *Renewable Energy*, 24(3), 657-661

IEA. (2014a). World Energy Investment Outlook 2014. International Energy Agency, Paris.

IEA. (2014b). Renewables. International Energy Agency. *Online.* Accessible at: http://www.iea.org/topics/renewables/ [Accessed 14.5.2015]

Jalkala, A. & Salminen, R.T. (2009). Communicating customer references on industrial companies' Web sites. *Industrial Marketing Management*, 38, 825-837.

Johnson, C., Dowd, T.J., Ridgeway, C.L., Cook, K.S. & Massey, D.S. (2006). Legitimacy as a Social Process. *Annual Review of Sociology*, 32 (1), 53–79.

Joutsenvirta, M., & Vaara, E. (2015). Legitimacy Struggles and Political Corporate Social Responsibility in International Settings: A Comparative Discursive Analysis of a Contested Investment in Latin America. *Organization Studies*, 0170840615571958.

Kabanoff, B., Waldersee, R., & Cohen, M. (1995). Espoused values and organizational change themes. *Academy of Management Journal*, *38*(4), 1075-1104.

Kaldellis, J. K. (2005). Social attitude towards wind energy applications in Greece. *Energy Policy*, *33*(5), 595-602.

Kothari, S. P., Lewellen, J., & Warner, J. B. (2014). The behavior of aggregate corporate investment. *Available at SSRN*.

Krippendorff, K. (2013). *Content analysis: An introduction to its methodology*. (3rd ed.) Thousand Oaks, CA: sage.

Lijffijt, J., Nevalainen, T., Säily, T., Papapetrou, P., Puolamäki, K., & Mannila, H. (2014). Significance Testing of Word Frequencies in Corpora. *Digital Scholarship in the Humanitites*, DOI: http://dx.doi.org/10.1093/llc/fqu064

Lindblom, C. K. (1994). The implications of organizational legitimacy for corporate social performance and disclosure. *Critical perspectives on accounting conference, New York.* Vol 120.

McCloskey, D. N. (1985). The loss function has been mislaid: The rhetoric of significance tests. *The American Economic Review*, 201-205.

Merkl-Davies, D.M. & Brennan, N.M. (2011). A conceptual framework of impression management: new insights from psychology, sociology and critical perspectives. *Accounting and Business Research*, 41(5), 425-437.

Merkl-Davies, D.M. & Brennan, N.M. (2007). Discretionary Disclosure Strategies in Corporate Narratives: Incremental Information or Impression Management? *Journal of Accounting Literature*, 27, 116-196.

Merkl-Davies, D.M., Brennan, N.M., & Vourvachis, P. (2011). Text analysis methodologies in corporate narrative reporting research. In *23rd CSEAR International Colloquium. St Andrews, United Kingdom*

Meyer, J. W., & Rowan, B. (1991). "Institutionalized organizations: Formal structure as myth and ceremony" in Powell, W.W. & DiMaggio, P.J. (Eds.) *The new institutionalism in organizational analysis**:*** **41-62.** Chicago: University of Chicago Press.

Milgrom, J., & Roberts, P. (1992). *Economics, Organization and Management*. NJ: Prentice Hall

Neuman, S. B., & Dickinson, D. K. (Eds.). (2003). *Handbook of early literacy research* (Vol. 1). Guilford Press.

Ogden, S., & Clarke, J. (2005). Customer disclosures, impression management and the construction of legitimacy: Corporate reports in the UK privatised water industry. *Accounting, Auditing & Accountability Journal*, 18(3), 313-345.

Opoku, R.A., Pitt, L.F. & Abratt, R. (2007). Positioning in cyberspace: Evaluating bestselling authors' online communicated brand personalities using computer-aided content analysis. *South African Journal of Business Management*, 38(4).

Painuly, J. P. (2001). Barriers to renewable energy penetration; a framework for analysis. *Renewable energy*, *24*(1), 73-89.

Palmer, I., Kabanoff, B., & Dunford, R. (1997). Managerial accounts of downsizing. *Journal of Organizational Behavior*, *18*(S1), 623-639.

Palmer, T. B., & Short, J. C. (2008). Mission statements in US colleges of business: An empirical examination of their content with linkages to configurations and performance. *Academy of Management Learning & Education*, *7*(4), 454-470.

Pennebaker, J. W., Booth, R. J., & Francis, M. E. (2007). LIWC2007: Linguistic inquiry and word count. *Austin, Texas: liwc. net*.

Pfeffer, J. (1981). "Management as symbolic action: The creation and maintenance of organizational paradigms" in Cummings, L.L. & Staw, B.M. (Eds.) *Research in organizational behavior*, Vol. 13, 1-52. Greenwich, CT: JAI Press.

Platt's McGraw Hill Finance Group. (2014). Platts Top 250 Global Energy Company Rankings 2014. Online. Available at: http://top250.platts.com/Top250Rankings [Accessed 7.1.2015]

Podolny, J. M. (1993). A status-based model of market competition. *American journal of sociology*, 829-872.

Pollach, I. (2012). Taming Textual Data: The Contribution of Corpus Linguistics to Computer-Aided Text Analysis. *Organizational Research Methods*, 15(2), 263-287.

Puolamäki, E., & Ruusunen, P. (2009). *Strategiset investoinnit. Johtaminen, prosessit ja talouden ohjaus*. Porvoo: Tietosanoma Oy

Riel, C. B. M. van. (1995). *Corporate Communication.* NY: Prentice Hall.

Rogers Everett, M. (1995). Diffusion of innovations. *New York*

Saunders, M., Lewis, P. & Thornhill, A. 2009. *Research methods for business students*. 5th edition. Essex: Pearson Education Limited.

Scott, W. R. (1995). *Institutions and Organizations*. Thousand Oaks, CA: Sage Publications.

Short, J. C., Broberg, J. C., Cogliser, C. C., & Brigham, K. H. (2010). Construct validation using computer-aided text analysis (CATA): An illustration using entrepreneurial orientation. *Organizational Research Methods*, 13(2), 320-347.

Schlenker, B. R. (1980). *Impression management: The self-concept, social identity, and interpersonal relations*. Monterey, CA: Brooks/Cole Publishing Company.

Statista – The Statistics Portal. (2014). Largest electric utilities in the U.S. in 2014, based on market value. Online. Acessible at: http://www.statista.com/statistics/237773/the-largest-electric-utilities-in-the-us-based-on-market-value/ [Accessed 7.1.2015]

Suchman, C. (1995). Managing Legitimacy: Strategic and Institutional Approaches. *Academy of Management Review*, 20 (3), 571–611.

Suddaby, R. & Greenwood, R. (2005). Rhetorical strategies of legitimacy. *Administrative science quarterly*, *50*(1), 35-67.

Tedeschi, J. T., & Reiss, M. (1981). Verbal strategies in impression management. *The psychology of ordinary explanations of social behavior*, *271*, 309.

Tesch, R. (1990). *Qualitative research: Analysis types and software tools*. Psychology Press.

Vaara, E., & Tienari, J. (2008). A discursive perspective on legitimation strategies in multinational corporations. *Academy of Management Review*,33(4), 985-993.

Van Leeuwen, T., & Wodak, R. (1999). Legitimizing immigration control: A discourse-historical analysis. *Discourse Studies*, *1*(1), 83-118.

Wade, J.B., Porac, J.F. & Pollock, T.G. (1997). Worth, words, and the justification of executive pay. *Journal of Organizational Behavior*, 18, 641-664.

Woolridge, J.R., & Snow, C.C. (1990). Stock Market Reactions to Strategic Investment Decisions. *Strategic Management Journal*, 11, 353-363.

Wolsink, M. (2007). Planning of renewables schemes: Deliberative and fair decision-making on landscape issues instead of reproachful accusations of non-cooperation. *Energy policy*, *35*(5), 2692-2704

Wüstenhagen, R., & Menichetti, E. (2012). Strategic Choices for renewable energy investment: Conceptual framework and opportunities for further research. *Energy Policy*, 40 (1), 1-10.

Wüstenhagen, R., Wolsink, M., & Bürer, M. J. (2007). Social acceptance of renewable energy innovation: An introduction to the concept. *Energy policy*,*35*(5), 2683-2691.

Zucker, L. G. (1987). Institutional theories of organization. *Annual review of sociology*, 443-464.

ATTACHMENTS

ATTACHMENT 1. Platt's Top 250 Energy Company Rankings 2014 (Platt's McGraw Hill Finance Group, 2014)

1. Exxon Mobil Corp
2. BP plc
3. Chevron Corp
4. OJSC Gazprom
5. Royal Dutch Shell plc
6. OJSC Rosneft Oil Co
7. PetroChina Co Ltd
8. Total SA
9. China Petroleum & Chemical Corp
10. ConocoPhillips
11. OJSC LUKOIL Oil Co
12. CNOOC Ltd
13. Phillips 66
14. Ecopetrol SA
15. China Shenhua Energy Co Ltd
16. Statoil ASA
17. Eni SpA
18. OJSC Surgutneftegas
19. Valero Energy Corp
20. Occidental Petroleum Corp
21. Oil & Natural Gas Corp Ltd
22. Reliance Industries Ltd
23. Suncor Energy Inc
24. PTT Plc
25. Marathon Petroleum Corp
26. Tokyo Electric Power Co, Incorporated
27. Petroleo Brasileiro SA - Petrobras
28. Hess Corp
29. OAO AK Transneft
30. National Grid plc
31. Enterprise Products Partners LP
32. Electricite de France SA
33. E.ON SE
34. Centrica plc
35. Iberdrola SA
36. Enel SpA
37. Sasol Ltd
38. OMV Aktiengesellschaft
39. EOG Resources, Inc
40. Gas Natural SDG SA
41. Canadian Natural Resources Ltd
42. Husky Energy Inc
43. Indian Oil Corp Ltd

44. BG Group plc
45. Apache Corp
46. Exelon Corp
47. Coal India Ltd
48. OAO Tatneft
49. Duke Energy Corp
50. NTPC Ltd
51. Dominion Resources, Inc
52. CEZ, a.s.
53. Huaneng Power International, Inc
54. Marathon Oil Corp
55. OAO Novatek
56. Southern Co
57. Plains All American Pipeline, LP
58. NextEra Energy, Inc
59. American Electric Power Co, Inc
60. Tenaga Nasional Berhad
61. Inpex Corp
62. JX Holdings, Inc
63. Repsol, SA
64. Tokyo Gas Co Ltd
65. EDP-Energias de Portugal, SA
66. Bharat Petroleum Corp Ltd
67. JSOC Bashneft
68. Polska Grupa Energetyczna SA
69. Woodside Petroleum Ltd
70. Formosa Petrochemical Corp
71. Fortum Oyj
72. Public Service Enterprise Group Inc
73. Showa Shell Sekiyu KK
74. Consolidated Edison, Inc
75. China Resources Power Holdings Co Ltd
76. SK Innovation Co, Ltd
77. Edison International
78. Xcel Energy Inc
79. Empresas Copec SA
80. Companhia Energetica de Minas Gerais SA
81. TransCanada Corp
82. PG&E Corp
83. PPL Corp
84. Kinder Morgan, Inc
85. Neste Oil Corp
86. HollyFrontier Corp
87. Sempra Energy
88. SSE plc
89. Turkiye Petrol Rafinerileri A.S.
90. VERBUND AG
91. Anadarko Petroleum Corp

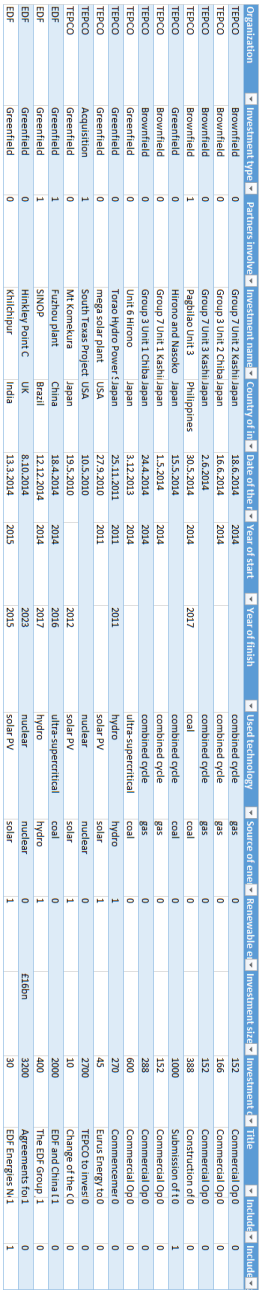
92. YPF SA
93. Cenovus Energy Inc
94. Zhejiang Zheneng Electric Power Co Ltd
95. Murphy Oil Corp
96. Snam S.p.A.
97. GAIL (India) Ltd
98. Saudi Electricity Co
99. CLP Holdings Ltd
100. Entergy Corp
101. GD Power Development Co, Ltd
102. China Yangtze Power Co Ltd
103. Noble Energy, Inc
104. Cairn India Ltd
105. Northeast Utilities
106. Spectra Energy Corp
107. DTE Energy Co
108. Tesoro Corp
109. Kunlun Energy Co Ltd
110. Ultrapar Holdings Inc
111. Enbridge Inc
112. Polskie Gornictwo Naftowe I Gazownictwo SA
113. Idemitsu Kosan Co Ltd
114. Chesapeake Energy Corp
115. China Coal Energy Co Ltd
116. Caltex Australia Ltd
117. Huadian Power International Corp Ltd
118. The Hong Kong & China Gas Co Ltd
119. Datang International Power Generation Co, Ltd
120. ONEOK Partners, LP
121. FirstEnergy Corp
122. Shaanxi Coal Industry Co, Ltd
123. Power Assets Holdings Ltd
124. Continental Resources, Inc
125. Tohoku Electric Power Co Inc
126. Canadian Oil Sands Ltd
127. Korea Electric Power Corp
128. Wisconsin Energy Corp
129. Energy Transfer Equity, LP
130. OJSC Federal Hydro-Generating Co - RusHydro
131. Cheung Kong Infrastructure Holdings Ltd
132. JSC KazMunaiGas Exploration Production
133. Osaka Gas Co, Ltd
134. Ameren Corp
135. TonenGeneral Sekiyu KK
136. The AES Corp
137. CMS Energy Corp
138. NiSource Inc
139. Origin Energy Ltd

140. Red Electrica Corporacion S A.
141. Southwestern Energy Co
142. Power Grid Corp of India Ltd
143. S-Oil Corp
144. Galp Energia SGPS SA
145. TERNA SpA
146. Williams Companies, Inc
147. EnBW Energie Baden-Wuerttemberg AG
148. SCANA Corp
149. Tauron Polska Energia SA
150. Manila Electric Co
151. Guangdong Electric Power Development Co Ltd
152. JSC Moscow United Electric Grid Co
153. Hindustan Petroleum Corp Ltd
154. CPFL Energia SA
155. ONEOK Inc
156. Companhia Paranaense de Energia
157. AGL Energy Ltd
158. CenterPoint Energy, Inc
159. SDIC Power Holdings Co, Ltd
160. Integrys Energy Group, Inc
161. Pinnacle West Capital Corp
162. Inner Mongolia Yitai Coal Co Ltd
163. Pacific Rubiales Energy Corp
164. GDF SUEZ SA
165. Thai Oil Pcl
166. YTL Corp Berhad
167. GS Holdings Corp
168. Santos Ltd
169. RWE AG
170. Korea Gas Corp
171. The Kansai Electric Power Co, Incorporated
172. Veolia Environnement SA
173. Electric Power Development Co, Ltd
174. Cimarex Energy Co
175. Plains GP Holdings, LP
176. MOL Hungarian Oil & Gas Co
177. Polski Koncern Naftowy Orlen SA
178. Chubu Electric Power Co, Incorporated
179. AGL Resources Inc
180. ATCO Ltd
181. EnagÃ¡s, SA
182. OGE Energy Corp
183. Western Refining, Inc
184. Alliant Energy Corp
185. UGI Corp
186. Enable Midstream Partners, LP
187. HK Electric Investments Ltd

188. Cosmo Oil Co, Ltd
189. Denbury Resources Inc
190. Shenergy Co Ltd
191. YTL Power International Berhad
192. Buckeye Partners, LP
193. Encana Corp
194. Devon Energy Corp
195. Pembina Pipeline Corp
196. JSC Russian Grids
197. Whiting Petroleum Corp
198. Reliance Infrastructure Ltd
199. Yanzhou Coal Mining Co Ltd
200. Fortis Inc
201. MDU Resources Group Inc
202. Kyushu Electric Power Co, Incorporated
203. China Power International Development Ltd
204. China Longyuan Power Group Corp Ltd
205. Delek Group Ltd
206. The Chugoku Electric Power Co,Inc
207. Royal Vopak NV
208. Oil India Ltd
209. Essar Energy plc
210. Rabigh Refining & Petrochemical Co
211. Hera S.p.A.
212. Westar Energy, Inc
213. Empresa de Energia de BogotÃ¡ SA ESP
214. Hawaiian Electric Industries Inc
215. Centrais Eletricas Brasileiras SA - Eletrobras
216. NRG Energy, Inc
217. Shanxi Lu'an Environmental Energy Development Co, Ltd
218. China Resources Gas Group Ltd
219. Atmos Energy Corp
220. A2A S.p.A.
221. EQT Corp
222. El Paso Pipeline Partners, LP
223. Light SA
224. ACEA S.p.A.
225. ENERGA Spolka Akcyjna
226. Cameco Corp
227. Japan Petroleum Exploration Co, Ltd
228. Alpiq Holding AG
229. Pepco Holdings, Inc
230. National Fuel Gas Co
231. Great Plains Energy Incorporated
232. Essar Oil Ltd
233. PT Adaro Energy Tbk
234. Calpine Corp
235. Abu Dhabi National Energy Co PJSC

236. ENN Energy Holdings Ltd
237. Shanxi Xishan Coal & Electricity Power Co,Ltd
238. Meridian Energy Ltd
239. Concho Resources, Inc
240. Public Power Corp SA
241. Interconexion Electrica SA E.S.P.
242. Jizhong Energy Resources Co, Ltd
243. EVN AG
244. Huadian Fuxin Energy Corp Ltd
245. TECO Energy, Inc
246. Hokuriku Electric Power Co
247. Petron Corp
248. Tullow Oil plc
249. Elia System Operator SA
250. Acciona, SA

ATTACHMENT 2. Example of the data sheet records collected from each investment



Organization	Investment type	Partners involve	Investment name	Country of in	Date of the r	Year of start	Year of finish	Used technology	Source of ene	Renewable e	Investment size	Investment	Title	Include	Include
TEPCO	Brownfield	0	Group 7 Unit 2 Kashi	Japan	18.6.2014	2014		combined cycle	gas	0		152	Commercial Op	0	0
TEPCO	Brownfield	0	Group 3 Unit 2 Chiba	Japan	16.6.2014	2014		combined cycle	gas	0		166	Commercial Op	0	0
TEPCO	Brownfield	0	Group 7 Unit 3 Kashi	Japan	2.6.2014			combined cycle	gas	0		152	Commercial Op	0	0
TEPCO	Brownfield	1	Pagbilao Unit 3	Philippines	30.5.2014	2014	2017	coal	coal	0		388	Construction of	0	0
TEPCO	Greenfield	0	Hirono and Naraho	Japan	15.5.2014			combined cycle	coal	0		1000	Submission of	0	1
TEPCO	Brownfield	0	Group 7 Unit 1 Kashi	Japan	1.5.2014	2014		combined cycle	gas	0		152	Commercial Op	0	0
TEPCO	Brownfield	0	Group 3 Unit 1 Chiba	Japan	24.4.2014	2014		combined cycle	gas	0		288	Commercial Op	0	0
TEPCO	Greenfield	0	Unit 6 Hirono	Japan	3.12.2013	2014		ultra-supercritical	coal	0		600	Commercial Op	0	0
TEPCO	Greenfield	0	Torao Hydro Power S	Japan	25.11.2011	2011		hydro	hydro	1		270	Commencemer	0	0
TEPCO	Greenfield	0	mega solar plant	USA	27.9.2010	2011		solar PV	solar	1		45	Eurus Energy to	0	0
TEPCO	Acquisition	1	South Texas Project	USA	10.5.2010			nuclear	nuclear	0		2700	TEPCO to invest	0	0
TEPCO	Greenfield	0	Mt Komekura	Japan	19.5.2010		2012	solar PV	solar	1		10	Change of the c	0	0
EDF	Greenfield	1	Fuzhou plant	China	18.4.2014	2014	2016	ultra-supercritical	coal	0		2000	EDF and China t	1	0
EDF	Greenfield	1	SINOP	Brazil	12.12.2014	2014	2017	hydro	hydro	1		400	The EDF Group	1	0
EDF	Greenfield	0	Hinkley Point C	UK	8.10.2014		2023	nuclear	nuclear	0	£16bn	3200	Agreements fo	1	0
EDF	Greenfield	0	Khichipur	India	13.3.2014	2015	2015	solar PV	solar	1		30	EDF Energies N	1	1

ATTACHMENT 3. Dictionaries used in the quantitative analysis

ENVIRONMENT

EMISSION REDUCTION

- CARBON
- CLIMATE
- CO2
- EMISSIONS
- EXHAUST
- FOSSIL
- POLLUTANTS
- AIR_QUALITY
- POLLUTANT
- NOX
- TONNES
- TONS
- GREENHOUSE

LAND USE

- @DISUSED_LAND [LAND NEAR DISUSED /A /S5]
- IDLE_PROPERTY
- PRODUCTIVE_USE
- SURROUNDINGS
- ECOSYSTEM
- ECOSYSTEMS
- LAND_USE
- WASTELAND
- EMPLOYS
- EMPLOY
- EMPLOYEE
- Staff
- Skilled

WASTE AND RECYCLING

- @MATERIAL_EFFICIENCY [MATERIAL NEAR EFFICIENCY /A /S7]
- @MATERIAL_USE [MATERIAL NEAR USE /A /S7]
- RECYCLE
- RECYCLING
- WASTE
- ASH
- MATERIAL
- @LU1 [WATER NEAR USE /A /S7]
- WASTEWATER
- WATER_QUALITY

ENVIRONMENTAL VALUES

- ECO_FRIENDLY
- ENVIRONMENTAL
- ENVIRONMENTALLY_FRIENDLY
- ENVIRONMENT_FRIENDLY
- IMPACTED
- ECOLOGIC
- @GREEN [GREEN NOT AFTER ENEL /A /S5]
- DECOUPLING
- CLEAN
- CLEANER
- ECO
- DAMAGE
- ECOLOGICAL
- SUSTAINABLE

SOCIETY

EMPLOYMENT

- Work
- Workers
- JOB
- LABOR
- Jobs
- Employees
- EMPLOYING

COMMUNITY

- Residents
- Community
- Landowners
- District
- Local
- DOMESTIC
- People
- PROVINCIAL
- SOCIETY

ELECTRICATION

- FAMILIES
- HOMES
- Household
- FAMILY
- HOUSEHOLDS

EDUCATION

- Education
- EDUCATIONAL
- School
- UNIVERSITY
- TRAINING

ECONOMY BOOST

- @ECONOMY_BOOSTING [ECONOMY NEAR BOOSTING /A /S7]
- @ECONOMY_DEVELOPMENT [ECONOMY NEAR DEVELOPMENT /A /S7]
- @TAX_REVENUE [TAX NEAR REVENUE /A /S7]
- @TAX_BASE [TAX NEAR BASE /A /S7]
- BOOST
- ECONOMIC_DEVELOPMENT
- ECONOMIC_VITALITY
- INDUSTRIAL_DEVELOPMENT
- LOCAL_SPENDING
- WEALTH_CREATION

SAFETY

- Safety
- SAFE

PERFORMANCE

EFFICIENCY

- @E1 [CAPACITY NEAR ADDITIONAL /A /S7]
- @E2 [CAPACITY NEAR HIGHER /A /S7]

• @E3 [CAPACITY NEAR INCREASE /A /S7]
• @E4 [CAPACITY NEAR INCREASED /A /S7]
• @E5 [PRODUCTION NEAR HIGHER /A /S7]
• @E6 [PRODUCTION NEAR IMPROVED /A /S7]
• @E7 [PRODUCTION NEAR IMPROVE /A /S7]
• @E8 [PRODUCTION NEAR INCREASE /A /S7]
• @EFFECTIVE [EFFECTIVE NOT AFTER COST /A /S5]
• COMPETENT
• EFFECTIVENESS
• EFFICACY
• EFFICIENCY
• EFFICIENT
• PERFORMANCE
• LOAD_FACTOR
• SYNERGY
• SYNERGIES

FLEXIBILITY

• FLEXIBILITY
• FLEXIBLE
• FLUCTUATE
• FLUCTUATION
• INTERMITTENT
• PEAK_POWER
• ROUND_THE_CLOCK

RELIABILITY

• RELIABLE
• SECURE
• Stability
• Stable
• Security
• RELIABILITY

CUSTOMERS

AFFORDABLE_ENERGY

• @PRICE_DEC1 [PRICE NEAR DECREASE /A /S7]
• @PRICE_RED1 [PRICE NEAR REDUCTION /A /S7]
• @PRICE_RED2 [PRICE NEAR REDUCED /A /S7]
• @PRICE_RED3 [PRICE NEAR REDUCE /A /S7]
• @SAVE [SAVE NEAR CUSTOMERS /A /S5]
• AFFORDABLE
• CHEAP

CUSTOMERS

• RESIDENTIAL
• CUSTOMERS
• CUSTOMER
• CLIENT

CUSTOMERS SUPPLY

• @S1 [SUPPLY NEAR POWER /A /S7]
• @S2 [SUPPLY NEAR ELECTRICITY /A /S7]
• @S3 [PROVIDER NEAR ENERGY /A /S7]
• @S4 [SUPPLY NEAR ENERGY /A /S7]
• @S5 [PROVIDER NEAR POWER /A /S7]
• @S6 [PROVIDER NEAR ELECTRICITY /A /S7]
• @S7 [SUPPLIER NEAR POWER /A /S7]
• @S8 [SUPPLIER NEAR ENERGY /A /S7]
• @S9 [SUPPLIER NEAR ELECTRICITY /A /S7]

KNOWLEDGE DEVELOPMENT

• EXPERIENCE
• EXPERIENCES
• EXPERTISE
• EXPERTNESS
• KNOWLEDGE
• KNOW_HOW
• LEARN
• LEARNED
• LEARNING
• PILOT
• TESTING
• TEST

STRATEGY

STRATEGY_GENERAL

• @PROG1 [PROGRAM NOT NEAR GOVERNMENTAL /A /S5]
• @ST2 [FOOTPRINT NOT AFTER CARBON /A /S1]
• BUSINESS_PLAN
• COMMITMENT
• COMMITTED
• GOAL
• PROGRAM
• PURSUING
• STEP
• STRATEGIES
• STRATEGY
• STRATEGIC
• STRENGHTEN
• STRENGHTENED
• STRENGHTENS
• TARGET
• TARGETS

PORTFOLIO

• @PF1 [TOTAL NEAR INSTALLED_CAPACITY /A /S5]
• ASSET
• ASSETS
• FLEET
• PORTFOLIO

DIVERSIFICATION

• DIVERSIFIED
• DIVERSIFY
• MIX
• DIVERSITY

MODERNIZATION

• AGING
• MODERNIZE
• MODERNIZING
• MODERNIZATION
• RECONSTRUCTION
• REFURBISHMENT
• RENEW
• RENEWAL
• REPLACE

• REPLACEMENT
• REPLACES
• RESTORATION
• RESTORE

GROWTH

• ADD
• ADDING
• EXPAND
• EXPANDING
• GROW
• GROWING
• GROWTH
• EXPANSION
• INTERNATIONALIZATION

REGULATION

REGULATION_GENERAL

• @LAW1 [LAW NOT NEAR BLACK /A /S2]
• @RE1 [TAX BEFORE INCENTIVE /A /S2]
• ADMINISTRATION
• AGENCY
• COMMISSION
• COUNSELOR
• GOVERNMENT
• LEGAL
• LEGALLY
• LEGISLATION
• LEGISLATIVE
• MINISTRY
• OFFICIALS
• REGULATOR
• REGULATORS

MARKET AND PRICE REGULATION

• @PUBLIC1 [PUBLIC NEAR TENDER /A /S5]
• REGULATED
• AUCTION
• TARIFFS
• TARIFF
• RATE_CASE
• RATEMAKING
• @MARKET1 [MARKET NEAR REGULATED /A /S5]

COMPLIANCE_WITH_REGULATIONS

• @CR1 [REQUIREMENTS NOT NEAR ELECTRICITY /A /S5]
• COMPLY
• COMPLIES
• DIRECTIVES
• PERMIT
• PERMITS
• REGULATION
• REGULATIONS
• STANDARD
• STANDARDS
• HEARINGS

SUPPORT_SCHEMES

• ACT
• BONUS_DEPRECIATION
• CERTIFICATES
• CREDITS
• INCENTIVE
• INCENTIVES
• STIMULUS_PROGRAMME
• RECS
• MECHANISMS

PROFITABILITY

• @RETURN [RETURN NOT AFTER IN /A /S2]
• EARNINGS
• INVESTMENT_OPPORTUNITY
• PROFITABILITY
• PROFITABLE
• RETURN_ON_INVESTMENT
• LONG_TERM_VALUE
• @ESTIMATE1 [ESTIMATE NEAR COST /A /S5]
• @LOWCOSTS [COSTS NEAR LOW /A /S5]
• COST_EFFECTIVE
• COST_EFFICIENT
• COST_ESTIMATE

LOCATION JUSTIFICATION

RESOURCE POTENTIAL

• @CONDITIONS1 [CONDITIONS NEAR WEATHER /A /S5]
• @CONDITIONS2 [CONDITIONS NEAR WIND /A /S5]
• @CONDITIONS3 [CONDITIONS NEAR ENVIRONMENTAL /A /S5]
• @CONDITIONS4 [CONDITIONS NEAR FAVOURABLE /A /S5]
• @CONDITIONS5 [CONDITIONS NEAR NATURAL /A /S5]
• @CONDITIONS6 [CONDITIONS NEAR OCEAN /A /S5]
• @FUEL1 [AVAILABLE NEAR FUEL /A /S5]
• @FUEL2 [AVAILABILITY NEAR FUEL /A /S5]
• @POTENTIAL1 [POTENTIAL NEAR RENEWABLE /A /S7]
• @POTENTIAL2 [POTENTIAL NEAR HYDROPOWER /A /S5]
• @OFFERS2 [OFFERS NEAR RESOURCES /A /S5]
• @OFFERS1 [OFFERS NEAR ENVIRONMENT /A /S5]
• WIND_RESOURCES
• RESOURCE

DEMAND AND MACRO ENVIRONMENT

• DEMAND
• @MACRO1 [MACROECONOMIC NEAR ENVIRONMENT /A /S5]

TECH_NOVELTY

• @NEXTGENERATION1 [NEXT_GENERATION NOT BEFORE CLEAN /A /S5]
• CUTTING_EDGE
• MODERN
• STATE_OF_THE_ART
• SUPERIOR
• PARAMOUNT

- ADVANCED
- DEMONSTRATIVE
- ACHIEVEMENT
- EXPLORING
- AMBITIOUS
- BENCHMARK
- DEMONSTRATE
- FOREMOST
- LANDMARK
- MILESTONE
- SIGNIFICANT
- REFERENCE
- REMARKABLE
- SALIENT
- SIGNIFICANCE
- SOPHISTICATED
- ULTRAMODERN
- UNPARALLELED
- UNIQUE
- INNOVATIVE
- CONSIDERABLE

ATTACHMENT 4. Conversion of qualitatively-derived themes into dictionaries

Main theme	Manifest theme, QL	Dictionary, QN
Customers	Customers	Customers
	Affordable energy	Affordable energy
	Customer Price Protection	
	Energy supply	Customers supply
	Gainsharing	
Environment	Clean energy	Environmental values
	Climate change	
	Preservation of environment	
	Environmental responsibility	
	Emission reduction	Emission reduction
	Land use	Land use
	Waste and recycling	Waste and recycling
	Water use	
Knowledge development	Previous know-how	Knowledge development
	Expertise to be achieved	
	Piloting	
Location justification	Resource potential	Resource potential
	Market attractiveness	Demand and macro environment
	Demand	
Profitability	Return on investment	Profitability
	Long-term value	
	Cost effectiveness	
	Low costs	
Performance	Efficiency	Efficiency
	Synergies /economies of scale	
	Reliability	Reliability
	Flexibility	Flexibility
	Increased lifetime	
	Increased energy capture	
Regulation and policy	Regulatory approval	Regulation
	Compliance with regulations	Compliance
	Renewable support	Support schemes
	Political support	
	Renewable energy credits	

	Price regulation	Market and Price regulation
	Market regulation	
Society	Employment	Employment
	Regional economic development	Economy boost
	Research and education	Education
	Tax income	Community
	Community participation	
	Electrification	Electrification
	Safety	Safety
Strategy	Market share	Growth
	Growth	
	Portfolio building	Portfolio
	Portfolio diversification	Diversification
	Modernization	Modernization
	Position strengthening	Strategy
	Renewable energy/sustainability	
Technological novelty	Technological novelty & advance	Technological novelty
	Uniqueness	
Investment description & process	Capacity	
	Electricity generated	
	Location	
	Progress & timeline	
	Technical description	
	Suppliers, partners & collaboration	
	Financing	
	Power purchase agreement	

Note! Manifest themes written in red were not converted into any dictionary due to too low occurrence or difficulties in presentation as a dictionary