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Faculty of Business and Social Sciences

Delivery Date: 01.06.2016  
Number of keystrokes: 207.157

# The role of Corporate Social Responsibility for SMEs in the electronics industry: The case of Flonidan

Master Thesis Spring 2016

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## **Sworn statement**

I hereby solemnly declare that I have personally and independently prepared this paper. All Quotations in the text have been marked as such, and the paper or considerable parts of it have not previously been subject to any examination or assessment

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## Abstract

The growing impact of the electronics industry on the environment and on the society requires that businesses act in the benefit of their stakeholders, as well as implement environmentally and socially responsible practices. However, the literature on stakeholder theory and Corporate Social Responsibility (CSR) has focused more on big corporations and less on small and medium-sized enterprises (SMEs). The study's goal is to clarify the role of CSR in SMEs, by examining the case of Flonidan, a Danish developer and distributor of smart gas meters. For the achievement of this goal, this research combines qualitative data taken from in-depth interviews, field notes, and archival data. The study has shown how stakeholder theory can be applied to Flonidan, as well as the challenges and opportunities that an SME like Flonidan faces when communicating with stakeholders. Further, the thesis has provided recommendations on how Flonidan can strengthen its social- and environmental responsibility prospects. Finally, Some of the study's limitations include factors such as location and scope of research. Therefore, generalizability of findings depends on the characteristics and geographical context of the relevant organization.

## Acknowledgments

Upon realization of this thesis and of my studies in the M.Sc. in Economics and Business Administration – Management of Innovation Processes, I would like to thank the people who contributed to this effort.

First of all, I would like to thank my supervisor, Oana Brindusa Albu, from the Department of Marketing and Management of the University of Southern Denmark. She has provided valuable guidance that contributed considerably to my research. She was always available to respond to my questions, even on the weekends.

I would like to express my warmest gratitude to Flonidan, and in particular to Hans Kastrup and Buggi Carina Buch Widell for entrusting me with important responsibilities and for providing me the opportunity to work on something I feel passionate about. I hope that this report is beneficial to the company. I apologize, in advance, to Buggi for using American English extensively.

I would also like to thank Emil for being a source of strength and support for me and for being patient during the long hours of work.

Above all, I would like to thank my sister, Eleana, for her unfailing encouragement and my parents, Manolis and Archontoula, for sacrificing everything for my education. This would not have been possible without them.

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## List of Abbreviations

|              |   |
|--------------|---|
| <b>3TG</b>   | Tungsten, Tantalum, Tin, Gold   |
| <b>AMO</b>   | Arbejdsmiljøorganisation (Occupational Health and Safety Organization)            |
| <b>BOM</b>   | Bill of Materials   |
| <b>CEO</b>   | Chief Executive Officer   |
| <b>CFSi</b>  | Conflict-Free Sourcing Initiative   |
| <b>CMRT</b>  | Conflict Minerals Reporting Template  |
| <b>CQO</b>   | Chief Quality Officer   |
| <b>CSR</b>   | Corporate Social Responsibility   |
| <b>DRC</b>   | Democratic Republic of Congo  |
| <b>EEE</b>   | Electrical and Electronic Equipment   |
| <b>EICC</b>  | Electronic Industry Citizenship Coalition   |
| <b>FLA</b>   | Fair Labor Association  |
| <b>FSC</b>   | Forest Stewardship Council  |
| <b>HR</b>    | Human Resources   |
| <b>HSE</b>   | Health, Safety, Environment   |
| <b>ICT</b>   | Information and Communications Technology   |
| <b>ILO</b>   | International Labor Organization  |
| <b>IPM</b>   | Integrated Pest Management  |
| <b>IS</b>    | Information Security  |
| <b>ISO</b>   | International Organization for Standardization                                    |
| <b>MNE</b>   | Multinational Enterprise  |
| <b>NGO</b>   | Non-governmental Organization   |
| <b>OECD</b>  | Organization for Economic Cooperation and Development                             |
| <b>PCB</b>   | Printed Circuit Board   |
| <b>REACH</b> | Registration, Evaluation, Authorization, and Restriction of Chemicals (Directive) |
| <b>RoHS</b>  | Restriction of Hazardous Substances (Directive)                                   |
| <b>SA</b>    | Social Accountability   |
| <b>SME</b>   | Small and Medium-sized Enterprises  |
| <b>SMM</b>   | Samen Meters Maken  |
| <b>SRI</b>   | Stanford Research Institute (now SRI International)                               |
| <b>UN</b>    | United Nations  |
| <b>WEEE</b>  | Waste Electrical and Electronic Equipment (Directive)                             |

# 1 Introduction

## 1.1 Background

In today's world, most people's lives revolve around businesses (Crane & Matten, 2007). Crane and Matten (2007) report that corporations are now involved with many of the activities that people consider being the responsibility of governments and the public sector. On the one hand, critics call attention to the repercussions of business's activities on society (Porter & Kramer, 2006) and on the other hand, corporations help create economic growth, and provide jobs and benefits (Crane & Matten, 2007).

In general, the role of business in society has been widely debated (Sastry, 2011). Scherer and Palazzo (2011) report that scholars in management and economics share the assumption that firms focus only on profits, while the state system's responsibility is to provide public goods. For example, in the mid-1980s, a business leader would have considered the company's philanthropic budget to be an unnecessary luxury (Sagawa & Segal, 2000).

However, some academics seem to think that this is not the case. Sastry (2011) mentions that businesses are more conscious of the environment and of sustainability, or of possible harmful impacts on society and consumers. Already, three decades ago, Freeman (1984) stated that both business and service organizations are experiencing turbulence. More precisely, "gone are the 'good old days' of worrying only about taking products and services to market", as local, national and global issues and groups are having far-reaching impacts on organizations (Freeman, 1984, p. 4).

One of the emerging issues of our time is the impact of the electronics industry on society and on the environment (Bhutta, Omar, & Yang, 2011). The negative themes most closely associated with this industry are those of *conflict minerals* and *electronic waste* (Buxbaum, n.d.).

As far as conflict minerals go, the term refers to tantalum, tin, tungsten and gold (3TG); minerals that are mined in conditions of armed conflict and human rights abuses, notably in the eastern provinces of the Democratic Republic of the Congo (DRC) ("What Are Conflict Minerals," n.d.). Those minerals and their derivatives can be found in many of the products that the average person uses every day: zippers, jewellery, watches, footwear, LED lights, food packaging and product packaging, paint, batteries, wires, cell phones, computers, and much more ("How Are Conflict Minerals (3TG) Used?," 2013). It becomes, therefore, apparent that such minerals are important for today's innovative technologies. Tantalum, for example, allows Apples iPhone to maintain an electrical charge (Browning, 2015).

According to Heath (2014), the minerals from the DRC's mines change hands numerous times on their journey towards personal computers and phones. First of all, the miners dig the minerals

up in central Africa. Then, the minerals travel through a long chain of suppliers, for example to Asia and elsewhere, in order to be smelted into metals, before ending up in electronics, as well as in vehicles and jewellery (Heath, 2014). In tracing those minerals, companies face a challenging task, as they are required to collect data from smelters and processing centres halfway around the world, who make use of multiple sources (Browning, 2015).

As far as electronic waste is concerned (hereafter *e-waste*), Puckett et al. (2002) mention that it encompasses a broad scope of electronic devices ranging from large household appliances (refrigerators, air conditioners) to consumer electronics (phones and computers). Over 40 million tonnes of e-waste are produced worldwide every year (Ottaviani, 2016). In the United States, there are three major sectors that generate e-waste (Puckett et al., 2002):

- Individuals and small businesses
- Large businesses, institutions, and governments
- Original equipment manufacturers.

However, only a small part of the produced waste is recycled with methods that are efficient and environmentally safe (Ottaviani, 2016). Due to the high costs of recycling it, e-waste mostly ends up in countries where environmental standards are low (or non-existent) and working conditions are poor (Bhutta et al., 2011). For example, the West African country of Ghana is the location of an enormous and heavily polluted electronic waste dumpsite (Ottaviani, 2016).

Another issue that is commonly linked to the electronics industry is that of poor labour conditions. For example, Verité (2014) interviewed 500 male female workers and found widespread presence of forced labour in the Malaysian electronics industry. The International Labour Organization (ILO) refers to forced labour as situations in which people are coerced to work through the use of violence or intimidations, or by more subtle means such as accumulated debt, retention of identity papers, or threats of exposure to immigration authorities ("The meanings of Forced Labour," 2014). Similarly, DanWatch studied cases from South Korea and China and concluded that the information and communications technology (ICT) industry faces structural labour rights challenges such as limited freedom of association, and health and safety issues (DanWatch, 2014).

Those subjects belong to the sphere of Corporate Social Responsibility. Such cases are sometimes not enough to convince both executives and academics that CSR is not optional. For instance, Corporate Social Responsibility is often looked at as an "add on" to "business as usual, and the phrase often heard from executives is "corporate social responsibility is fine, if you can afford it" (Freeman, 1984, p. 40). Similarly, academics such as Elaine Sternberg hold the view that the trend in Corporate Social Responsibility involves various dangers and defects, and that businesses exist only to maximize long-term owner value, while respecting the law (Sternberg, 2009).

Yet, despite the fact that CSR has received a lot of attention, both from critics as well as from advocates of the concept, research has mainly focused on large, multinational enterprises (MNEs) and not on small or medium-sized enterprises (SMEs). Indeed, as Jenkins (2006) mentions, CSR has been well researched in large companies, but SMEs have received less attention in this area.

Small and medium-sized enterprises are considered to be as important as large organizations. For example, according to the European Commission, SMEs are the engine of the European economy due to the fact that they drive job creation and economic growth and ensure social stability. In 2013, for example, over 21 million SMEs provided 88,8 million jobs throughout the EU. SMEs stimulate an entrepreneurial spirit and innovation throughout the EU and are thus crucial for fostering competitiveness and employment (European Commission, 2015b).

Besides the fact that they are economically relevant and that they employ a considerable amount of the European Union's population, SMEs can also have significant impacts on the environment, as well. For instance, the OECD reports that SMEs can pose serious environmental problems due to their high numbers and their cumulative effect (OECD, 2007).

Under those circumstances, it becomes obvious that CSR practices in SMEs should not be ignored. What is more, given the fact that SMEs are inherently very different from MNEs, not only in terms of size but also in terms of availability of resources, time constraints, etc. (Welsh & White, 1981), it would be unjustifiable to assume that the same CSR rules apply to both small and large organizations. As Tilley (1999) notes, small firms are not little big firms – they need their own unique answers to, and understanding of, the difficult environmental problems they face.

All in all, it appears that corporate failures highlight corporations' need for legitimacy. Hence, businesses need to take CSR more into account. However, researchers have inspected the concept of CSR mostly in the setting of large organizations. SMEs are important for the economy, yet little research has occurred for SMEs and CSR. Therefore, my aim through this research is to shed some light into the CSR practices of SMEs in the electronics industry, by exploring the case of Flonidan A/S, hereinafter referred to as *Flonidan*. I believe that Flonidan's case can contribute a great deal to the research question in chapter 1.3. This is because the company is an SME of the electronics industry and is on its first steps of implementing socially and environmentally responsible practices. As such, it has a clearer and fresher view of the difficulties and the opportunities that this process can entail. Below, I give a description of the company, before moving on to the study's research question, purpose, methodology, and outline.

## 1.2 Case Description

Flonidan is a developer and distributor of gas and water metering solutions, based in Horsens, Denmark and is a subsidiary of the Danish AVK Group. In 1982, utility owners and the AVK

Group established Flonidan, with the aim to construct gas stations and supply metering and regulating equipment for the gasification of Scandinavia. In 2009, Flonidan launched the fourth generation of smart gas meters. The meter integrates the following functions: temperature conversion, valve, data-log, tamper detection, removable communication board, etc. ("History of Flonidan," n.d.).

According to the company's press release, in 2015, Flonidan was selected as a supplier of smart gas meters by the Dutch supply network, a deal that has a potential of one billion Danish krone (DKK). The contract was made with a consolidation of the following four gas grid operators: Liander (also referred to as *Alliander*), Stedin, Enduris (earlier Delta Netwerkbedrijf) and Westland. From 2016 to 2021, Flonidan is responsible to deliver more than 1 million smart gas meters, with a possible extension of the contract to 2026 ("Press Release," 2015). For this project, Flonidan created a joint venture with Iskraemeco, a manufacturer of smart electricity meters, based in Slovenia. This joint venture is called FlonIskra ("FlonIskra," 2015).

According to Flonidan's Press Release (2015), the main objectives of the contract with the Dutch supply network are to:

- 1) Provide at least 80% of all residential households with a smart meter before 2021
- 2) Maximize customer satisfaction
- 3) Minimize total cost of ownership of the entire smart meter supply chain and process
- 4) Implement measures according to the Fair Meter principles.

The central topic of this thesis is the Fair Meter, which Flonidan and the Dutch grid operators hope to achieve. The Fair Meter concept was an initiative between the Dutch grid operators and the Dutch government (Appendix A).

A Fair Meter is a smart energy meter consisting of circular materials and originating in socially responsible sources in a socially responsible production process ("Fair Meter," n.d.). The term *circular materials* is associated to the term *circular economy*. A circular economy is an economy that is restorative and regenerative by design, and which aims to keep products, components and materials at their highest utility and value at all times, distinguishing between technical and biological cycles ("Circular Economy," n.d.).

One of the goals of the Fair Meter is to maximize transparency in the complete supply chain. This includes the following processes: mining, production and logistics, installation, use, second-life solutions, and data and software management. A 100% Fair Meter can only be achieved through close cooperation between consumers, suppliers and producers, knowledge institutions, and the government ("Fair Meter," n.d.).

Part of the contract between FlonIskra and the Dutch grid operators is the development of a *Fair Meter transparency tool*. This will be a software tool that will provide both sides of the deal with product and supply chain transparency for the electricity and gas meters. The overall focus will

be on labor conditions, energy use, emissions, and resources and raw materials (Hermans, 2016).

### **1.3 Research Question**

The research aims to address the following question: What is the role of CSR for SMEs in the electronics industry? – The case of Flonidan.

### **1.4 Purpose of the Study**

The purpose of the study is to provide insights on the CSR practices of SMEs in the electronics industry and to strengthen Flonidan's environmental and social responsibility prospects, by providing recommendations for improvement.

### **1.5 Methodology**

The type of research method that I have chosen for my study is of qualitative nature. Qualitative research methods are designed to enable greater understanding of how people experience their lives within specific cultural contexts (Buzzanell, 2015). To my understanding, and as the literature will show, CSR is a social phenomenon with a high degree of complexity and subjectivity. Therefore, CSR is highly influenced by the people who practice it. In order for me as a researcher to understand CSR inside a company, it is important to discuss with the people who make up the company, and examine the experience of CSR through the feelings, tastes and opinions of the individuals.

Therefore, I have conducted four individual interviews with: Flonidan's Chief Executive Officer (CEO), Chief Quality Officer (CQO), Health, Safety, Environment, and Information Security (HSE/IS) coordinator, and an Internal Sales employee. In the introductory paragraph under Results of Individual Interviews, I analyse the reasons why I chose the particular interviewees.

Furthermore, I have analysed Flonidan's archival data and my own field notes, in order to support the insights from the interviews, as well as gather new evidence.

I have chosen to use multiple research methodologies, because I believe that multiple sources of evidence shall lead to more valid conclusions. Indeed, as Eriksen (2013) states, the combination of different methods can reduce the weaknesses and biases that emerge from using only one method. Furthermore, in choosing to make use of qualitative methods, my aim is to understand the complex issue of social and environmental responsibility in small businesses in depth and not focus on the quantity of data.

## 1.6 Thesis Outline

This master thesis is divided into two parts: theoretical and practical, and is structured as follows. Initially, I provide a study of the relevant literature, for easier acquaintance of the paradigms within which this thesis operates on. More precisely, I introduce the basic concept of Corporate Social Responsibility, along with a brief history and certain definitions. Subsequently, I present the different aspects of CSR, with particular emphasis on Normative Stakeholder Theory. Afterwards, I analyse the relevant literature from an SME perspective. Given the fact there are limited resources concerning SMEs and Stakeholder Theory, it is necessary to extend the analysis to the subject of how SMEs implement CSR. Mainly, I examine the particular characteristics of SMEs, the economic and environmental impact of SMEs, as well as some of the elements that influence SMEs when implementing deeper social and environmental responsibility, with an emphasis on contractual buyer requirements. Then, I analyse the role of different stakeholders on the implementation of CSR by SMEs, such as buyers, employees, management, and suppliers.

Before moving on to the practical part, I present the chosen methodology for this thesis: qualitative analysis with individual interviews, archival data, and observation combined. Afterwards, in chapter 4, I proceed with the presentation of the research results, as they appear in their original sources. First of all, I provide some background information that is necessary if the reader wishes to have a better understanding of the results. Then, I present some of Flonidan's archival data: contract files and other relevant documents. Next, I introduce the insights from my note taking during phone calls and meetings with Flonidan's buyers. Lastly, in the chapter of the Results, I introduce the four interviewees' responses during the interviews. Chapter 5 presents the analysis of the results after interpretation with the help of the relevant theory. First, I apply the two models of the theory to the case of Flonidan and examine which one suits the case best. Afterwards, I interpret current implementation of CSR, in relation to what theory recommends. Taking the analysis into account, I present some recommendations for improvement for the company's CSR agenda for the future, before submitting my concluding remarks.

## 2 Literature Review

### 2.1 Corporate Social Responsibility

In the past 50 years, formal writings on social responsibility of businesses started to emerge (Carroll, 1999). In 1953, Bowen (1953) published his book entitled *Social Responsibilities of the Businessman*, a work that made him to be considered by some authors as the *Father of Corporate Social Responsibility* (Carroll, 1999). Since then, the term *social responsibility of business* has

shifted to *Corporate Social Responsibility* (Garriga & Melé, 2004) and alternative concepts and themes, such as stakeholder theory, corporate social responsiveness, corporate social performance, etc., have started to appear (Carroll, 1999). However, before starting to analyse the different aspects of CSR, I will address the concept's definition.

Numerous studies have put forward definitions of Corporate Social Responsibility (CSR). For instance, according to Davis (1973, p. 312), CSR "refers to the firm's consideration of, and response to, issues beyond the narrow economics, technical, and legal requirements of the firm". For Carroll (1979, p. 499), "the social responsibility of business encompasses the economic, legal, ethical, and discretionary expectations that society has of organizations at a given point in time". Carroll (1979) explains this definition by stating that the economic responsibilities are the businesses' first and foremost social responsibilities. For Carroll, the legal responsibilities concern the laws and regulations under which businesses should operate and the ethical ones are the most difficult for business to deal with. Lastly, Carroll mentions that the discretionary ones are the ones left to individual judgement and choice – they are at the business's discretion. Friedman (1970), on the other hand, offers a completely opposite notion of what constitutes social responsibility for a firm, by stating "the social responsibility of business is to increase its profits" and thus, rejecting the possibility that businesses have other roles besides solely serving their shareholders. In my research, however, I have chosen to make use of the definition provided by the European Commission and which describes CSR as "a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis" (European Commission, 2006, p. 5).

Yet, CSR has a broad range of definitions and different authors interpret it in different ways. As Crane and Matten (2007, p. vii) state: "the subject of CSR can be approached from a variety of perspectives, disciplinary lenses, and ideological positions". Likewise, after investigating the status of CSR research in the management literature from 1992 to 2002, Lockett, Moon, and Visser (2006, p. 133) concluded that CSR knowledge can be described as in a "continuing state of emergence". More precisely, despite the fact that the field seems to be well established, it is not characterized by any particular theoretical approach, assumptions or method (Lockett et al., 2006).

However impressive the different variations of CSR are, it becomes evident that the CSR literature, so far, is too general and therefore inadequate to provide practical insights about the role of CSR on small and medium-sized enterprises.

For this to be achieved, the literature that needs to be studied should involve more realistic themes. Indeed, as Freeman (1984, p. 40) observed: "while the corporate social responsibility literature has been important in bringing to the foreground, in organizational research, a concern with social and political issues, it has failed to indicate ways of integrating these

concerns into the strategic systems of the corporation [...]"'. This means that, the CSR literature has not managed to propose methods of how managers can incorporate the social issues into the business's strategy and every-day processes.

In the same manner, Carroll (1991) observes that the word *social* in CSR has always been vague and lacking in specific direction as to whom the corporation is responsible. Therefore, it is at this point that I will delve deeper into the alternative themes and subjects that emerged from the subject of CSR, in search of a less vague approach.

## 2.2 The CSR theories - Normative Stakeholder Theory

Even though very few unique contributions occurred to the definition of CSR in the '90s, the CSR concept functioned as the starting point for other related concepts and themes (Carroll, 1999).

Garriga and Melé (2004) succeeded in providing an overview of the most relevant CSR theories and related approaches. They started by dividing the various theories into four groups of theories: instrumental, political, integrative, and ethical.

The group of ethical theories focuses on the ethical requirements that cement the relationship between business and society. They are based on principles that express the right thing to do or the necessity to achieve a good society. As its main approaches, Garriga and Melé (2004) recognize:

- 1) Normative stakeholder theory
- 2) Universal rights
- 3) Sustainable development
- 4) The common good approach

Among the four approaches, I recognize normative stakeholder theory as the most useful concept to guide the thesis. The reason for this decision is twofold. First of all, the concept of *stakeholder*, in general, personalizes social or societal groups or persons that business should consider in its CSR orientation, mainly, the stakeholder concept puts *names and faces* on the societal members who are most urgent to business, and to whom it must be responsive (Carroll, 1991). Secondly, thinking in stakeholder responsibility terms is one approach that management can use to integrate values with the traditional economic mission of the organization, as it provides the opportunity for an in-depth corporate appraisal of financial as well as social and economic concerns (Carroll, 1991).

The word *stakeholder* was originally defined by the Stanford Research Institute (SRI) as "those groups without whose support the organization would cease to exist" (SRI, 1963; as cited in Freeman, 1984, p. 31) and is considered by some as a play on the word *stockholder* (Carroll, 1991). However, the prevalent definition in the stakeholder literature is the one formulated by Freeman (1984, p. 46), who states that "a stakeholder in an organization is any group or individual who can affect or is affected by the achievement of the organization's objectives".

Freeman typically mentions the following groups of stakeholders the most: customers, suppliers, owners, employees, consumer advocates, media, governments, and competitors, amongst others.

Freeman (1984) is of the opinion that *stakeholder* must be able to capture a broad range of groups and individuals. Other researchers, however, disagree. In particular, Donaldson and Preston (1995) caution that it is essential to draw a clear distinction between influencers and stakeholders, meaning that some actors in the enterprise (e.g., large investors) may be both influencers and stakeholders, while some recognizable stakeholders (e.g., job applicants) have no influence, and some influencers (e.g., the media) have no stakes. Phillips (2003) goes one step further by suggesting that it is vital, to both scholar and managers, to distinguish between normative, derivative, and non-stakeholders. He describes normative stakeholders as those to whom managers have distinct ethical obligations, such as employees, customers, suppliers, etc. Derivative stakeholders are those groups whose actions and claims must be accounted for by managers due to their ability to affect the organization and its normative stakeholders. Examples of derivative stakeholders can be competitors, activists, media, and even terrorists.

The normative base of stakeholder theory is best described by Donaldson and Preston (1995), who state that stakeholder theory has a normative fundamental basis and involves acceptance of the following two main ideas.

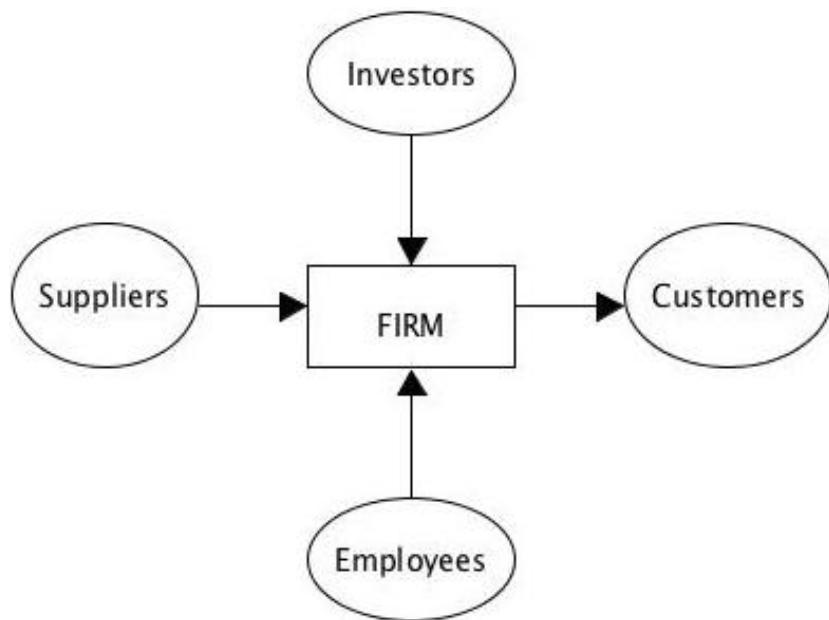
Firstly, stakeholders are persons or groups with legitimate interests in procedural and/or substantive aspects of corporate activity – their interest in the corporation identify them, whether the corporation has any corresponding interest in them.

Secondly, the interests of all stakeholders are of intrinsic value. Mainly, each group of stakeholders merits consideration for its own sake and not merely because of its ability to further the interests of some other group, such as the shareowners (Donaldson & Preston, 1995).

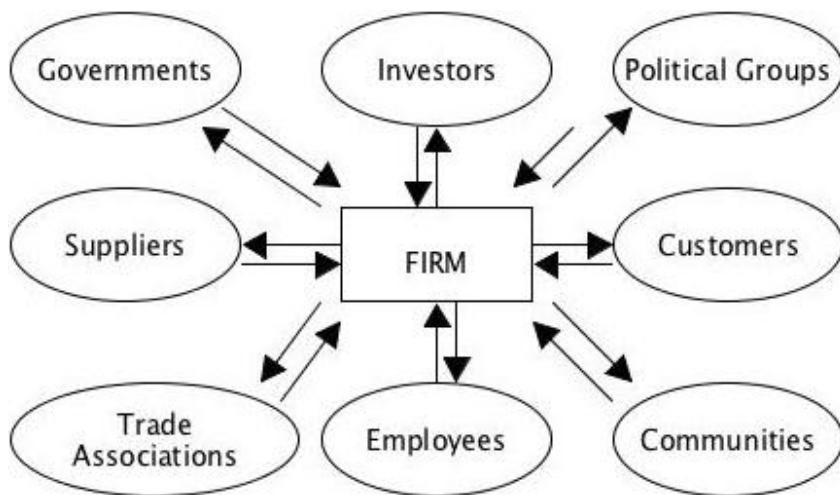
In general, stakeholder theory deals with the fact that the managers of the firm must act in the interests of the organization's stakeholders, and not just its shareholders, if they want to create value for the organization (Freeman, 1984).

Donaldson and Preston (1995) give a summary of how the stakeholder model contrasts with the conventional *input-output* perspective. In the conventional input-output model, investors, employees, and suppliers contribute time and resources (inputs), which the firm transforms into outputs for the benefit of the customers. As a result of competition throughout the system, the bulk of the benefits will go to the customers.

Figures 1 and 2 depict the input-output and stakeholder models respectively, as presented in Donaldson and Preston (1995). As can be seen, in Figure 2 the arrows between the various stakeholders and the firm run in both directions, while all stakeholder relationships are depicted in the same shape and size (Donaldson & Preston, 1995).



*Figure 1. Contrasting Models of the Corporation: Input-Output Model. Adapted from "The Stakeholder Theory of the Corporation: Concepts, Evidence, and Implications", by T. Donaldson & L.E. Preston, Academy of Management Review, 20 (1), 65-91.*



*Figure 2. Contrasting Models of the Corporation: The Stakeholder Model. Adapted from "The Stakeholder Theory of the Corporation: Concepts, Evidence, and Implications", by T. Donaldson & L.E. Preston, Academy of Management Review, 20 (1), 65-91.*

In the stakeholder model (figure 2), all persons or groups with legitimate interests participating in an enterprise do so to obtain benefits – there is no *prima facie* priority of one set of interests and benefits over another (Donaldson & Preston, 1995).

Yet, not everyone agrees with this statement. Certain academics suggest that managers often prioritize certain stakeholder claims over others. For Carroll (1991), managers often face the challenge of having to decide which stakeholders deserve more consideration in the decision-making process. He continues by stating that managers use two vital criteria in order to sort out

the importance of various stakeholder claims. Those criteria are the stakeholders' power and legitimacy. Carroll defines legitimacy as the extent to which a group has a sensible right to be making its claim. As far as power is concerned, he gives the example of small individual investors. When even small investors are organized and have measurable investments, then they can hold significant power.

It should be noted that Donaldson and Preston's (1995) summary refers specifically to the investor-owned corporation. However, Phillips, Freeman, and Wicks (2003) recognize Donaldson and Preston's (1995) limitation as a misinterpretation of stakeholder theory and as something that reflects the tendency that management scholars have with concentrating their research on large, multinational corporations. Furthermore, this has led to relatively less attention being paid to stakeholder theory in the context of other organizational forms such as small or family owned businesses, privately owned concerns of any size, etc. Phillips et al. (2003) conclude by saying that if stakeholder theory is to truly become its own as a theory of strategic management and organizational ethics, it will need to be applied to more than just the large, publicly held corporation. Indeed, one of the major flaws of the stakeholder theory literature is the fact that not much theoretical and empirical research has been done on how SME owners-managers can understand stakeholder relationships and their management (Schlierer et al., 2012). However, there are some researchers that disagree with the view that stakeholder theory applies only to large organizations. According to Spence (2016), stakeholder theory is intended to be applicable to any organization, because in each application the stakeholders should be calculated anew. Jenkins's (2006) research shows that stakeholder theory is a key (albeit not explicit) component of how SMEs frame their understanding of CSR, however, she admits that more research is needed to develop a theoretical framework in which SMEs and CSR could be best understood.

In the following sections of the literature review, I will examine the characteristics of SMEs, their economic and environmental significance, as well as the way they implement stakeholder management and CSR, in general.

## 2.3 SME characteristics

The main factors that, according to the European Commission, determine whether an enterprise is an SME are its staff headcount and its turnover or balance sheet total. When a company has more than 50 and less than 250 employees and a turnover or balance sheet total of € 50 million or € 43 million respectively, then it is considered medium-sized. For a company to be characterized as small, its staff headcount must be under 50 and its turnover or balance sheet total equal to € 10 million. However, for enterprises with a more complex structure, a case-by-

case analysis may be required to ensure that only those enterprises that fall within the “spirit” of the SME Recommendation are considered SMEs (European Commission, 2015b).

Yet, size is not the only factor that sets small businesses apart from their larger counterparts. According to Jenkins (2006), there are other internal and external dynamics that explain their behavioural characteristics.

In fact, according to Welsh and White (1981), the very size of small businesses creates a special condition – which can be referred to as *resource poverty* – that distinguishes them from their large counterparts and requires some very different management approaches. For example, small businesses cannot usually afford to pay for the kind of accounting and bookkeeping services they need, nor can they test and train new employees in advance. Further, changes in government regulations, tax laws, and labour and interest rates affect a greater percentage of expenses for small businesses than they do for large corporations (Welsh & White, 1981).

Small firms tend to be independent and owner-managed, stretched by multitasking, limited cash flows and ‘fire-fighting’, built on personal relationships, mistrustful of bureaucracy and controlled by informal mechanisms (Spence, 1999). Small organizations are also less responsive to institutional pressures such as legal, HR, union or competitor benchmarking pressures (Dex & Scheibl, 2001), yet they can also be very adaptive, swiftly adjusting their trading capacities according to changing market opportunities (Goffee & Scase, 1995, p. 18, as cited in Jenkins, 2006).

Last but not least, the European Commission reports that compared with other enterprises, SMEs are confronted with a unique set of issues, which have to do with market failures and structural barriers. Market failures may occur in areas such as finance, research, innovation or environmental regulations, therefore making SMEs unable to access finance or invest in research and innovation or comply with environmental regulations. As far as structural barriers are concerned, those can be lack of management and technical skills, rigidities in labour markets and a limited knowledge of opportunities for international expansion (European Commission, 2015b).

## 2.4 Economic & Environmental Significance of SMEs

There are many arguments for the necessity to include small and medium-sized enterprises in the CSR literature. Those arguments have to do with the fact that SMEs hold a lot of potential both on the economic and environmental level.

First of all, according to the European Commission, SMEs are the backbone of the European economy especially due to the fact that they account for over 99% of all European businesses. In 2014, for example, 22,3 million SMEs were active in the non-financial business sector (consists of all sectors of the EU28 economies, except for financial services, government services,

education, health, arts and culture, agriculture, forestry, and fishing) across the European Union's 28 Member States. At the same time, SMEs accounted for 58% of the sector's total value added with more than €3,7 trillion, and employed almost 90 million people, approximately 67% of the sector's total employment. In Denmark, for instance, the shares of employment of both small SMEs and medium-sized ones are above the EU average (European Commission, 2015a).

As can be inferred from the above figures, the total impact that SMEs have on the European economy is entirely positive. In contrast to the availability of data regarding the economic importance of SMEs, more efforts are needed to measure the environmental impact of SMEs. According to Hillary (2000, p. 11), the total environmental impact of SMEs is unknown. Despite the fact that there is little quantitative data available, as measures of environmental impact and sustainability indicators become more prevalent it will be possible to calculate the environmental impact of SMEs with more accuracy in the future (Tilley, 2000).

Hillary (2000, pp. 11-12) notes that, collectively, the environmental impacts of SMEs can be substantial, and calls to attention the fact that many smaller firms, especially in developing countries, make use of older technologies and lack awareness of legislation and of their own environmental impacts. Calogirou, Sørensen, Larsen, and Alexopoulou (2010) have attempted to provide a coherent estimation of the environmental impact of SMEs and concluded that SMEs contribute with roughly 64% to industrial pollution in Europe.

## 2.5 Factors affecting CSR implementation in SMEs

Numerous studies have put forward the factors that drive SMEs towards adopting a CSR agenda. Santos (2011) mentions that even though it is not possible to identify an explicit pattern of factors directly impacting the development of CSR practices at SMEs, there are indications that certain positive correlations might exist. For example, age, size, location, and strategy of company are some of the factors that determine SME involvement in CSR practices.

First of all, as far as age is concerned, a study by the European Commission (2002) demonstrated that there might be a positive and statistically significant relationship between involvement in external social activities and the age of a company. Namely, as the number of years of business operations increases, so does the percentage of SMEs involved in external social activities. The *point of change* seems to occur when a company has been in business more than five years. This observation from the European Commission comes in contrast with the study of Murillo and Lozano (2006, p. 233), who discovered that in all of the four Catalan SMEs they analysed, the social practices carried out began when the company was founded and constituted an element that they defined "as identifying the firm's social profile since its inception".

Secondly, the larger a company is, the more likely it is to be involved in CSR practices and to have greater awareness of the advantages it provides to the business (Santos, 2011).

Thirdly, from a locational point of view, the European Commission (2002) has observed a clear North-South European divide. More precisely, Northern European countries such as Finland, Denmark, Iceland and Norway, and central European countries such as Austria and Liechtenstein, show higher percentages of SME social involvement than France, the United Kingdom and Southern countries such as Spain, Italy and Greece. According to the European Commission's report, this phenomenon can be explained by cultural traditions on the role of enterprise in society, different expectations from the general public on the enterprises' social involvement or different public welfare traditions.

Furthermore, as far as company strategy is concerned, SMEs facing financial difficulties achieve below average CSR involvement levels (Santos, 2011). Also, the highest percentages of SMEs expecting to increase their participation in social activities are among those SMEs that pursue *quality and innovation and growth* strategies (European Commission, 2002).

According to the European Commission's (2002) report, other reasons why SMEs get involved in socially responsible activities are the company's intentions to "improve public relations with the community or the public authorities" and "improve customer loyalty" (p. 27). However, the study conducted by Jenkins (2006) concluded that while all the surveyed companies achieved business benefits from CSR, this was not the reason why they did. Put simply, according to Jenkins (2006), the majority of respondents:

Used moral and ethical arguments to justify why CSR was important to them. Companies spoke of it being the *right thing to do*, pride, feeling good, *everybody has a responsibility to do what they can*, self-worth, integrity, well-being and satisfaction. (p. 249)

Further, internal drive rather than external pressure was their main motivation for CSR, while the external pressure that was applied down the supply chain from customers and legislation was weak and focused mainly on environmental rather than social credentials (Jenkins, 2006).

For Russo and Tencati (2009) it is the community that wants CSR from small businesses and as a consequence, small businesses pursue CSR. In their words, small businesses – and to some extend medium-sized firms – are more immediately exposed to the potential economic loss that may occur from a failure to adopt some form of CSR, just because of their need to strengthen their community relations. Therefore, small businesses need such relations with the community to survive, whereas, large firms do not.

The importance of industry culture in business ethics was underlined by Vyakarnam, Bailey, Myers, and Burnett (1997):

One of the most strongly felt influences was the rules of the *game* by which one operates in a given industry. [...] Other industries have norms around the way prices are set, deals are done and so on. These forces may be stronger influences on an individual than the national culture. (p.1633)

Indeed, environmental directives and standards such as WEEE (directive 2012/19/EU on waste electrical and electronic equipment [2012] OJ L197/38) and RoHS (directive 2011/65/EU on restriction of the use of certain hazardous substances [2011] OJ L174/88) are examples of how the electronics industry responds to its increased environmental responsibilities.

Williamson, Lynch-Wood, and Ramsay (2006) found that the underpinning values and attitudes behind the environmental behaviour of manufacturing SMEs are linked to:

- 1) identifying cost savings and responding to cost pressures
- 2) responding to the supply chain
- 3) responding to regulation.

For the authors, the free market is what brings about the first two pressures, while the third is a means of correcting market failure. Their study also showed that when there is a business benefit in doing so, business performance is an overarching driver and will induce environmental actions. However, when there is no business benefit in doing so, regulation is what will drive the environmental action.

Williamson et al. (2006) conclude by saying that those underpinning values are not surprising. It is natural for SME owner-managers to regard CSR practices as optional and expensive, when a free market ideology is the politico-economic norm. This is due to the fact that the SME managers are driven mainly by the bottom line, with CSR being a cost that competitors do not incur.

Baden, Harwood, and Woodward (2009) focus their attention on supply chain pressure brought about by large organizations. More specifically, in certain instances, large organizations specify CSR criteria as preconditions for a supply tender or as elements to be considered in purchasing conditions.

In fact, according to Raynard and Forstater (2002), global brand owners increasingly include social and environmental criteria in business relationships, alongside traditional considerations such as price, quality and service standards. Unfortunately, there is little data on how small and medium-sized suppliers perceive this phenomenon, or whether such approaches are successful (Baden et al., 2009).

Starcher (2005) believes that supply chain pressures are proving to be a more powerful force for social and environmental change than local regulation. The study refers to the case of integrated pest management (IPM) in South Africa's citrus industry, as a successful example. Specifically, European supermarkets' buyer specifications resulted in the adoption of IPM. This initiative led to the reduction of pesticide consumption and the improvement of worker health and environmental quality (p.22).

Yet, certain studies suggest that there might be some issues when it comes to such supply chain drivers. For example, Jørgensen and Knudsen's (2006) survey of 300 Danish SMEs addressed the

following questions: First, to what extent are SMEs affected by social and environmental requirements from buyers? Second, to what extent do SMEs apply such requirements to their own suppliers?

Jørgensen and Knudsen's (2006) results showed that at least one in three SMEs receive social and/or environmental requirements concerning environmental protection, health and safety, labour rights, human rights, and corruption. However, a majority of buyer requirements was neither contractual nor subject to verification. The authors assume that this "gap between rule-making and rule-keeping efforts" might be due to the fact that buyers consider Danish SMEs reliable and compliant by default and, therefore, not a priority (p. 460).

Furthermore, the authors' study showed that SMEs receive substantially more requirements than they transfer to their own suppliers. SMEs that have suppliers in low-wage countries, where social and environmental standards are lower, are more likely to pass on requirements. Lastly, a large amount of the surveyed SMEs neither communicate nor try to verify those requirements (Jørgensen and Knudsen, 2006).

As stated in the European Commission's (2006) report, for many SME suppliers, CSR-related buyer requirements are, above all, an increased administrative burden. Furthermore, SMEs often say that they meet buyer requirements in order not to lose out on contracts and successful deals. The biggest barrier to a more thorough implementation of buyer requirements is the lack of resources (European Commission, 2006).

Similarly, Jørgensen, Pruzan-Jørgensen, Jungk, and Cramer (2003) conclude that "a top-down policing approach to CSR compliance is insufficient or even inappropriate: a supplier who is only implementing CSR standards because of buyer insistence can find ways to evade compliance without too much fear of detection" (p.58).

So far, I have examined the structural characteristics of SMEs, their economic and environmental significance, as well as the elements that affect them when attempting to implement CSR practices. SMEs are quite distinct from large companies. They are characterized by limited access to resources and SME employees have to deal with multiple tasks at the same time. However, at the same time SMEs can be independent and flexible. SMEs are also of significant importance to the environment. Despite the fact that their total environmental impact is unknown, many believe that they can be quite burdensome to the environment. Age, size, location, strategy, values, regulation, and industry culture can be some of the factors that determine SME involvement in CSR. At the same time, CSR requirements from the supply chain are becoming more and more popular. Those kinds of requirements have had positive effects on some industries but many doubt whether such approaches are successful in SMEs.

Nevertheless, despite the challenges concerning CSR-related buyer requirements, several studies have tried to come up with recommendations on how to manage such relationships. In

the following sections I shall examine how SMEs handle with their buyers, employees, management, and suppliers on such issues.

## 2.6 Stakeholder Management in SMEs

### 2.6.1 The role of the buyers

As far as buyers are concerned, Jørgensen and Knudsen (2006) came to the conclusion that if large buyers want to enhance the ability of small suppliers to act as change agents, they ought to provide resources to SMEs and support their bargaining power in relation to second tier suppliers. Furthermore, large buyers should enlist the help of industry organizations, non-governmental organizations (NGOs), and government agencies and develop solutions for rule keeping with their smaller partners. This, in turn, will ensure pervasiveness of standards in global value chains (Jørgensen & Knudsen, 2006).

In the same way, Starcher (2005) is of the opinion that big businesses need to offer training and advice on how to comply in ways that will benefit the small firm too.

Furthermore, The European Commission (2006) provides a series of points that aim to challenge and inspire buyers in order to have a larger impact on the actual behaviour of its SME suppliers. Specifically, the “ideal” buyer would (p. 28-29):

- 1) Explain to the SME supplier how CSR buyer requirements can represent a long-term opportunity for both parties.
- 2) Establish an open dialogue with SME suppliers about all aspects of CSR buyer requirements: the reason for them, the opportunity they represent, the capacity of the SME to meet them, and, importantly whether and how such requirements may contradict other requirements, especially those regarding cost and delivery time.
- 3) Ensure that all aspects of purchasing policy and practices are consistent with the principles and aim of CSR policy.
- 4) Help to provide adequate awareness raising and training on CSR in SME suppliers.
- 5) Recognize that both SME suppliers and large company buyers can learn from each other in the field of CSR.
- 6) Focus on a limited number of relevant and well-defined issues when establishing requirements.
- 7) Give more recognition to the kind of CSR practices that are common amongst SMEs, such as their role in the local community.
- 8) Give SMEs the opportunity to progress and improve over time, rather than demand immediate compliance with a fixed set of criteria.
- 9) Consider whether and how the SME supplier passes on requirements to its suppliers, and provide some guidance in this process.

- 10) Ensure the timely payment of SME suppliers.
- 11) Work with other large buyers in the same sector, and with other relevant stakeholders [...], to develop some common CSR requirements and verification methodologies.
- 12) Sponsor and encourage sharing of good practice between SME suppliers.

Similarly, Starcher (2005) is of the opinion that large companies that are serious about sustainability know that it is not enough to change their own practices; they also have to change those of their business partners. Specifically, Starcher (2005) believes that large companies should include reward sharing and supplier fairs to their initiatives. Starcher explains that reward sharing is a business model in which the customer and the supplier share financial benefits to reduce consumption of raw materials, energy, water, and waste. As far as supplier fairs are concerned, the author believes that large companies can organize *open days* for suppliers in order to allow them to learn about the company's policy, codes, goals, and future trends in supplier policy. Through those, Starcher (2005) believes that suppliers and customers can network and build closer relationships.

### **2.6.2 The role of the employees and senior management**

Tilley, Hooper, and Walley (2003; as cited in Jenkins, 2006, p. 253) are of the opinion that the ultimate responsibility for seizing the opportunity to change lies with SMEs themselves. Similarly, the study by Jenkins (2006) showed that external pressure, such as from the supply chain or legislation, was a weak force in persuading companies to undertake CSR. The two arguments by Tilley et al. (2003) and Jenkins (2006) suggest that SMEs should work, first and foremost, towards assuring that CSR is driven internally.

Notably, Jenkins (2006) interviewed 24 UK SMEs that are considered to be "exemplars" of CSR in SMEs (p. 241) and introduced suggestions on how SMEs, in general, can defend CSR internally. Below, I will present the relevant points from Jenkins's (2006) study.

First of all, companies ought to develop an understanding of CSR and translate it into business principles. For SMEs to understand the term *CSR*, they should define it in an informal way and use terms from everyday life. The companies from Jenkins's study hinted that the removal of the word "corporate" might boost understanding (p. 251). Then, it is up to the owner-manager to set the company's vision and principles in alignment with the company's understanding of CSR.

Next, SMEs need to target the relevant CSR activities. For this to be achieved, SMEs should engage, first, with their stakeholders and learn which aspects of CSR are key to the company. SMEs can also look at their greatest area of impact and focus their efforts there (Jenkins, 2006). The same point is reflected in the study of Avram and Kühne (2008) who conclude that:

[...] SMEs cannot be held responsible for all of the world's problems, nor do they have the resources to solve them all. In this sense, they have to detect the issues they are really responsible for and they are able to tackle. (p. 472)

At this point, it is the most senior person in the company that has to lead and act as a *champion* who will pioneer and support new ideas. However, CSR will not become a part of the company unless the employees support it, something that SMEs have difficulty in achieving (Jenkins, 2006). In the same way, Davies and Crane (2010) agree by stating that senior management in SMEs considers employee buy-in both a key role in sustaining CSR and a source of profound challenges. In spite of this, Jenkins (2006) presents that there are ways to overcome those challenges, either by channelling the CSR activities through employees or by making CSR activities directly relevant to the working life of employees.

Jenkins (2006) continues by stating that SMEs should perceive CSR as a challenge to be overcome through innovation and not as an obstacle. More precisely, SMEs should integrate CSR into all aspects of business operations and not regard it as a costly and time-consuming addition. The study showed that employees became more interested in CSR if they could be involved in schemes they could either relate to their job or utilise as an opportunity for training and development.

Throughout the study, Jenkins (2006) underlines the fact that senior management plays a key role for implementing CSR in all types of companies, including SMEs. This is because, in SMEs, the owner-manager is often both the driver and implementer of values. In a like manner, Starcher (2005) state that personal values and priorities of the owner-manager is what distinguish SMEs. Those values and principles also determine the involvement of the SMEs in socially and environmentally responsible practices.

Lastly, Jenkins (2006) recommends that despite the fact that resources might often be limited, the special characteristics of SMEs offer multiple benefits. For one thing, SME managers can take advantage of the closeness that exists in such small organizations and influence the values and culture of the company. Also, less hierarchical management structures make the involvement of all employees in CSR programmes easier. Lastly, for Jenkins (2006), the benefits of undertaking any action are felt more immediately, particularly those relating to personal satisfaction and motivation.

### **2.6.3 Transfer of socially responsible behavior along the supply chain**

For Jørgensen and Knudsen (2006), SMEs are not as likely to apply social and environmental requirements to their suppliers, as larger companies are. They attribute this fact to the lack of resources that SMEs might have. Also, they believe that it's less probable for Danish SMEs, in particular, to source from suppliers in low-age countries, where there are risks of non-conformance to sustainability standards. Therefore, it is less relevant for those companies to

pass on such requirements. Nevertheless, their study showed that, in general, SMEs were more likely to pass on environmental requirements than those related to health and safety, labour rights, human rights, and corruption.

Ciliberti, Pontrandolfo, and Scozzi (2008) took their study one step further and examined the challenges that five socially responsible Italian SMEs face when spreading the diffusion of CSR in suppliers in developing countries.

According to their study, the main obstacle for the diffusion of CSR in developing countries is the amount of cultural differences. For example, certain companies had trouble indicating non-compliance to their suppliers or even involving local employees in managerial issues, due to more strict hierarchical structures.

In the opinion of Ciliberti et al. (2008), another obstacle for the transfer of sustainable practices is corruption in developing countries. Many top managers experienced it firsthand, yet companies have no policy to deal with this issue.

In addition, as far as employment practices go, the work of Ciliberti et al. (2008) states that the companies experience problems in retrieving information on the working conditions of their suppliers. Due to different regulation, the companies often cannot submit to their overseas suppliers the same occupational health and safety checklist as with their local suppliers.

As a consequence of the above obstacles and despite the fact that the companies in Ciliberti et al.'s (2008) possessed bargaining power, they were still not able to transfer sustainable behaviour to suppliers.

On the other side of the argument, Ayuso, Roca, and Colomé (2013) surveyed approximately 400 Spanish SMEs and found that SMEs can be effective in transmitting CSR requirements, despite their relatively lower bargaining power and scarce resources. Furthermore, nothing in their study indicates that SMEs receive more social and environmental requirements from their buyers, than they pass on to their own suppliers.

For Ciliberti et al. (2008), as a means of passing on requirements throughout the supply chain, all companies draw attention to the importance of communicating CSR objectives and practices to external stakeholders. Some of the tools that the companies can utilize are social reports or codes of conduct (Ciliberti et al., 2008).

A code of conduct is an agreement on rules of behavior for a group or organization ("Code of Conduct Definition," n.d.). In this subject, Ciliberti, de Haan, de Groot, and Pontrandolfo (2011) are of the opinion that, especially when they involve third-party certification, codes of conduct enable the exchange of more relevant information in a supply chain between direct and indirect partners, alike. However, even with the implementation of codes of conduct, companies cannot eliminate opportunistic behavior, as they are sometimes, not able to identify violations. Therefore, companies need to depend on third parties such as local NGOs for additional

protection. Ciliberti et al. (2011) conclude that this is even more important when there is a big geographic, economic, and cultural difference between the company and the supplier.

According to Ciliberti et al. (2008), SMEs regularly monitor their suppliers' performance. Suppliers can submit self-assessment questionnaires and SMEs can also conduct direct or third-party audits. Ciliberti et al. (2008) state that SMEs can, also, make use of a *capacity building* approach as a strategy towards suppliers. Companies can build customers' capacity through, for example, information and communication activities, training initiatives, or invitation to factory plants. Ciliberti et al. (2008) underline that companies which rely more on the capacity building strategy have longer and closer relationships with their suppliers.

Likewise, Gimenez and Tachizawa (2012) believe that firms should implement both supplier assessment and collaboration in order to improve sustainable performance. More precisely, even though assessment is the first step towards identifying the necessary actions, companies need to participate in collaborative practices with the other companies in their supply chain. In conclusion, Gimenez and Tachizawa (2012) state that every company has *enablers*, meaning elements that can make the transfer of requirements much possible. Those enablers can be internal and/or external. As external enablers, the researchers mention objectives of trust and clarity in the buyer-supplier relationship. Lastly, the internal enables can be elements such as:

- 1) The firm's environmental commitment
- 2) Senior management support
- 3) Availability of resources

In summation, from a review of the relevant theory, it becomes apparent that academics appear to be hesitant on whether stakeholder theory applies to SMEs, as well. Literature on stakeholder theory focuses mainly on large corporations, while literature on SMEs focuses on CSR, in general. Nevertheless, the literature on CSR can offer valuable insights on how SMEs manage and communicate with their stakeholders.

First of all, SMEs are very different from MNEs, as they possess distinct characteristics. Factors such as low bargaining power and insufficient resources are some of the factors that influence SMEs' efforts towards their stakeholders. At the same time they are economically important and can have substantial impact on the environment. Age, size, location, strategy, and industry culture are some of the factors that weigh in when SMEs adopt CSR agendas. However, in my study, I give particular attention to the factor of CSR requirements and supply chain pressures, as this issue is most closely related to the case of Flonidan. Researchers draw different conclusions when it comes to CSR requirements. Many believe that CSR requirements do not lead to concrete change in the supply chain, unless they are contractual and subject to verification. Effective change depends on the nature of the requirements as well as on how the companies interact with their buyers, employees, senior management, and suppliers.

It appears that, in general, buyers need to offer concrete support, guidance, and resources in order for both parties to benefit from such requirements. At the same time, buyers need to engage with other parties in the sustainability area.

Furthermore, employee support seems to be the core element around which all CSR-related practices of SMEs should revolve. SMEs should take the time and effort to engage with and educate their employees.

Finally, the transfer of sustainable behavior throughout the supply chain is not an easy task. In particular, SMEs can face multiple obstacles ranging from cultural divides to incomplete information. However, according to theory, SMEs can take some steps to improve their standing in this area. SMEs can establish closer relationships with their suppliers, help the supplier improve, as well as highlight the benefits that might arise from a change in behavior. It is important that SMEs also have clear rules and frameworks in place, such as codes of conduct. Lastly, SMEs can receive assistance from third parties such as local NGOs.

The present section highlights the end of the literature review chapter. So far, I have given an account of the stakeholder model of organizations. Furthermore, I have analysed the characteristics of small and medium sized enterprises, the economic and environmental significance of SMEs, the factors that affect the implementation of CSR in SMEs, the role of the buyers and of the internal environment of the firm, as well as the transfer of sustainable practices along the supply chain.

In the following chapter I shall describe my research methodology, before continuing with the presentation of the study's results.

### **3 Methodology**

To study the CSR practices of small and medium-sized companies, I shall use methods of qualitative nature. More precisely, I shall combine three different research methodologies: use of archival data, observation, and individual interviews. A multi-method approach to data collection and data analysis is called *Triangulation* (Rothbauer, 2008).

#### **3.1 Individual Interviews**

For Eriksen (2013), interviews with employees or external stakeholders constitute one of the key ways of gathering data when conducting a research project in a firm.

For this particular study, I conducted four individual interviews with people inside Flonidan. The people I interviewed are: Flonidan's Chief Executive Officer (CEO), Flonidan's Chief Quality

Officer (CQO), Flonidan's Environmental, Health, Safety and Quality/ Information Security (HSE/IS) coordinator, and an employee from Internal Sales.

Each interview was conducted in Flonidan's offices in Horsens, Denmark. The interviewees received an interview guide (see Appendix G) that provided the following information: purpose of interview and of research, the general subject of the questions, and practical details concerning the interview process. I have recorded and transcribed in full all interviews. The transcriptions are attached in the Appendices (see Appendix C, D, E, and F).

All interviewees were called upon to state their position in the company and some of their main responsibilities. The questions varied depending on the interviewee. In general, some of the discussed topics were: reasons for the implementation of CSR by Flonidan, Flonidan's various stakeholders, the company's relationship with buyers and with suppliers, employee engagement in relation to CSR, specifically, and in relation to other company matters, and senior management involvement in CSR. Below, I present the reasons for choosing each of the interviewees, before analysing the other two methods of data collection.

First of all, I contacted the CEO because he is the person with the most senior position in the company. As such, he is responsible for three major activities. First of all, he takes care of the interests of the company's board of directors and owners. Secondly, he is driving the company so that it can achieve the contract requirements with the Dutch grid operators. Lastly, he is in charge of the organizational development of the company. Therefore, he possesses knowledge on some of the subjects of this thesis such as the company's stakeholders and its path concerning CSR.

Secondly, I contacted the CQO for an interview because he is the head of Flonidan's quality department. As such, he is in charge of quality, health, safety, and environment, and information security. Therefore, he has the appropriate acquaintance with the company's social and environmental practices.

Thirdly, I chose to contact the HSE/IS coordinator because she is responsible for information security and health, safety, and environment. As such, she is in control of building up the systems, implementing them, and conducting awareness training to spread them throughout the company. She is the CSR supervisor of the company and works inside Flonidan's quality department.

My last interview is with the Internal Sales employee. As such, her job entails order handling and follow-up regarding everything related to the company's customers. Therefore she is in no way associated to the company's CSR practices. In interviewing her, my purpose was to examine an employees' familiarity with the Fair project, as well as the company's interaction with the customers.

## 3.2 Archival Data & Observation

### Archival Data

The second source of information for this thesis is archival data from Flonidan's file system. Eriksen (2013) mentions that relevant documents can be: minutes of meetings, memos, decisions, plans and similar documents. For my research, I am going to make use of contract files between Flonidan and the grid operators, Flonidan's data on environmental aspects, and the company's supplier questionnaire.

### Observation

Rasmussen, Østergaard, and Beckmann (2006) consider field notes to be an inseparable part of methodological observation. In my study, the field notes come from one main source: my participation in a set of Flonidan's meetings (in person and over the phone) with its buyers, called workshops. More precisely, from December to May of 2016, Flonidan and Iskraemeco participated in workshops with the Dutch buyers. These workshops were part of what is called the *Fair Meter Pilot*. In the Fair Meter Pilot, the participants (FlonIskra, Alliander, and Stedin) are called to jointly investigate the possibility of implementation and development of a transparency tool (mainly a software tool) that will allow data gathering, data monitoring, and data dissemination along the supply chain of the gas and electricity meters. Also, during the workshops, the participants reviewed documents and, in general, discussed the progress of Flonidan and Iskraemeco in relation to Fair.

Wolfinger (2002) describes two strategies for writing field notes: 1) Salience Hierarchy and 2) Comprehensive Note-taking. According to the first strategy, researchers "can start by describing whatever observations struck them as the most noteworthy, the most interesting, or the most telling" (p. 89). A researcher may consider an occurrence note-worthy either because of influence from background knowledge, or because of an interaction's boundaries (or absence thereof) (Wolfinger, 2002).

On the other hand, comprehensive note-taking is concerned with the systematic and comprehensive description of everything that occurred during a particular period of time (Wolfinger, 2002).

In my study, I have chosen to analyze the observations that stand out, namely, the first of Wolfinger's strategies: salience hierarchy. The reason for this choice has to do with time and space concerns. Given the fact that the data originating in observation cover a period of approximately 6 months, it would be unsuitable and inefficient, from my side, to note down every single event that occurred during that time period. Furthermore, such a significant amount of data would nullify the aim of this thesis.

## 4 Results

The presentation of the results follows a particular order. First, I put forward some background information. The aim of the background information is to acquaint the reader with the numerous details that make up Flonidan's case.

Afterwards, I introduce the contract requirements that are the basis of Flonidan's entire Fair Meter agreement with SMM, before presenting the summaries of the individual interviews. Next, I present my field notes from three out four of Flonidan's meetings with its buyers, then I submit Flonidan's supplier-related documents, FlonIskra's environmental measurements and lastly, the field notes from the last workshop between FlonIskra and SMM.

I believe that all of the following data contributes to the achievement of the research's goals. The contracts between FlonIskra and SMM help understand the kinds of requirements that the buyers have set for Flonidan and its joint venture partner. Also, the Green Deal Fair Meter document (Appendix A) introduces the inspiration behind the buyers' requirements. The results from the four interviews provide more comprehensive knowledge of the inside workings of Flonidan, as well as the company's interactions with various stakeholders: employees, buyers, customers, suppliers, managers, and owners. The field notes from the workshops and the bi-weekly call give a view of the buyers' behaviour throughout the elapsed time of approximately 6 months. Furthermore, the field notes show how Flonidan and Iskraemeco organized the work between them. Mainly, how the two companies shared resources and knowledge in order to achieve the goals set by SMM. The field notes also exhibit other companies' and organizations' perceptions of CSR in the supply chain, thus increasing the parties' overall knowledge. The supplier questionnaire and the assessment on response show the resources that Flonidan possesses, as well as some of the difficulties that the company is facing during the process of acquiring more information from suppliers. Lastly, FlonIskra's environmental assessment gives a quantitative overview of how the companies have progressed so far, in relation to the buyers' requirements.

### 4.1 Background Information

In this section I provide information that is necessary for the reader to understand the content of the archival data, individual interviews, and observation data. Unless otherwise cited, this information is built up during my stay at Flonidan.

#### The company:

Flonidan is situated in Horsens, Denmark and employs 47 people. In 2015, the company changed CEOs. Figure 3 presents Flonidan's organizational chart, with the CEO and the two support functions: quality and finance.

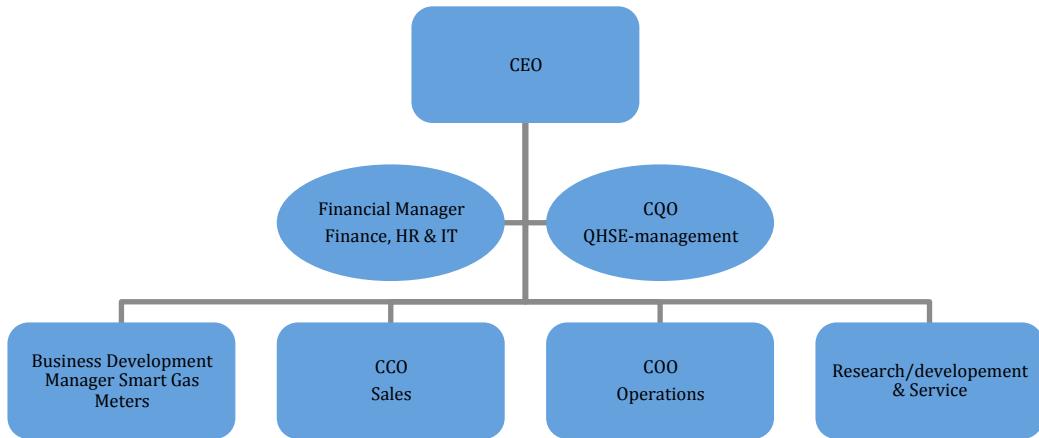
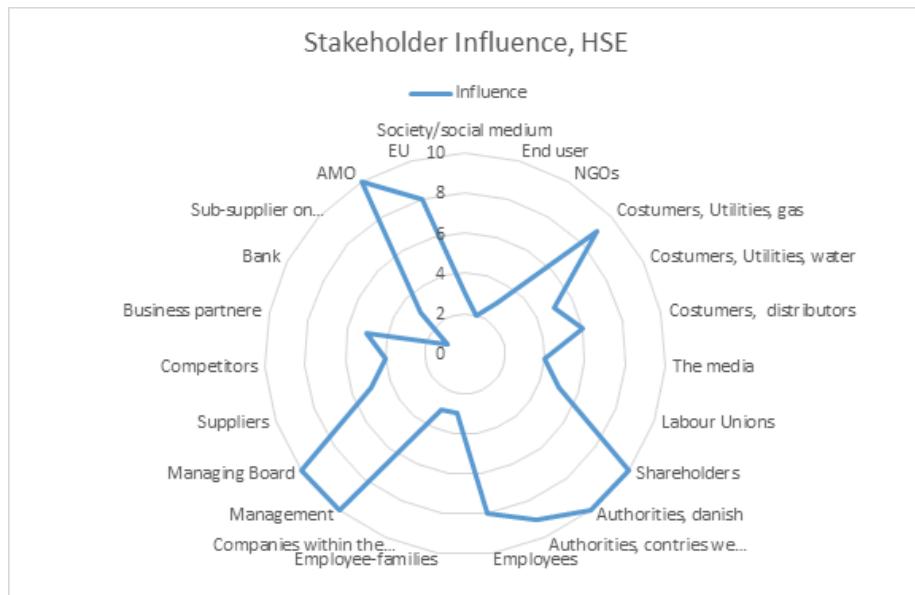


Figure 3. Flonidan's organizational chart. Adapted from internal Flonidan email - anonymized for confidential purposes.

Before the tender agreement, Flonidan was not intensely involved in CSR activities. The company only complied with Danish national legislation and the United Nation's Global Compact's ten principles. The *United Nations Global Compact* is a strategic policy initiative for businesses that are committed to aligning with ten universally accepted principles for human rights, labour, environment and anti-corruption ("United Nations Global Compact," n.d.). However, now Flonidan has found the opportunity to make CSR a part of the company's identity. For the purposes of its e4 certification, Flonidan did a stakeholder assessment. E4 is a type of certification provided by Green Network. Green Network is a Danish CSR consulting company that works with private companies in order to achieve greater sustainability in the fields of environment, social commitment, and occupational health and safety ("Green Network, Denmark," 2013). Figure 4 presents the stakeholder map from Flonidan's stakeholder assessment. Table 1 presents the list of Flonidan's stakeholders, ranked by their degree of influence on the company.

As one can see in table 1, Flonidan considers the following stakeholders to have the most influence on the company: customers (Utilities, gas), shareholders, Danish authorities, foreign authorities, employees, management, managing board, Danish Working Environment Authority, and the European Union. From a scale of 0 to 10, those stakeholders have a degree of influence of 8 or above.



\*Amo= Arbejdsmiljøorganisation (Occupational Health and Safety Organization)

Figure 4. Stakeholder Assessment of Flonidan: stakeholder map. Adapted from internal Flonidan email sent by HSE/IS coordinator - anonymized for confidential purposes

Table 1. Stakeholder Assessment of Flonidan: list of stakeholders ranked by degree of influence. Adapted from internal Flonidan email send by HSE/IS coordinator - anonymized for confidential purposes

| Stakeholder                                | Influence |
|--|-----------|
| Shareholders                               | 10        |
| Danish authorities                         | 10        |
| Management                                 | 10        |
| Managing Board                             | 10        |
| AMO  | 10        |
| Customers, Utilities, gas                  | 9         |
| Authorities (countries we deliver in)      | 9         |
| Employees                                  | 8         |
| EU   | 8         |
| Customers, Utilities, water                | 6         |
| Customers, distributors                    | 6         |
| Labor Unions                               | 5         |
| Suppliers                                  | 5         |
| Business partners                          | 5         |
| Media                                      | 4         |
| Competitors                                | 4         |
| Society/Social medium                      | 3         |
| NGOs                                       | 3         |
| Employee-families                          | 3         |
| Companies within the community             | 3         |
| Sub-suppliers on electronical raw material | 3         |
| End user                                   | 2         |
| Bank                                       | 1         |

### Buyers, Product, Suppliers:

Liander, Stedin, Delta, and Westland are the Dutch grid operators to whom Flonidan supplies smart gas meters. The four utilities have created a consortium, which all of the parties of the contract refer to as *SMM* (Samen Meters Maken). In this report, I use two terms (*customer* and *buyer*) to characterise SMM. This is because, internally, Flonidan refers to SMM as customers (as well as utilities). However, according to the theory, SMM is a buyer to Flonidan. Therefore, in order not to omit one of the two terms, I use both interchangeably.

The product that Flonidan supplies to SMM is shown in Figure 5. The meter consists of two main parts: the *base meter* and the *electronic index*. The electronic index is the part of the meter that contains the electronic components, the printed circuit board (PCB), the antenna, the display, and various plastic parts. The index transforms the mechanical meters of the base meter into an electronical output. Figure 6 shows the contents of the electronic index. In the centre of the picture, one can distinguish the green PCB with all of the electronic components. Gold and tin are two of the substances that are commonly present in PCBs (Szałatkiewicz, 2014). It is worth reminding that both gold and tin are among the four conflict minerals ("What Are Conflict Minerals," n.d.).

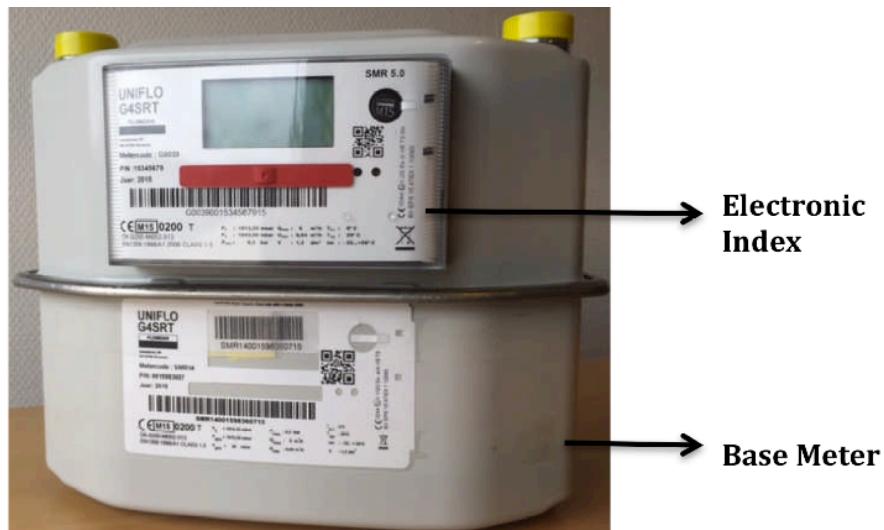
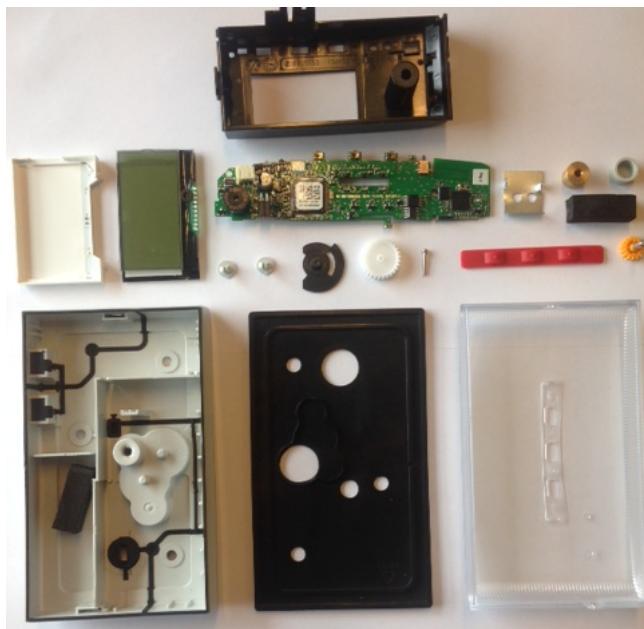


Figure 5. Flonidan's Smart Gas Meter. Adapted from Fair Meter Report 2016 – anonymized for confidential purposes.



*Figure 6. The contents of the Smart Gas Meter's electronic index. Adapted from internal Flonidan email sent by HSE/IS coordinator – anonymized for confidential purposes.*

Flonidan does not produce its products in Denmark. *Kimball Electronics* (hereinafter referred to as *Kimball*) produces the electronic index in Poland. Before the tender with the Dutch utilities GPV was the producer of the electronic index. However, Flonidan replaced GPV with Kimball in 2015. *Metrix* produces the base meter and assembles the final product in Poland. Metrix and Kimball constitute Flonidan's subcontractors or *tier one* suppliers on gas meters. A tier one supplier is a manufacturer who provides products directly to a company without dealing with a middleman or other manufacturers ("What is a Tier 1 Supplier in the Automotive Industry?," 2016). Kimball's and Metrix's suppliers of plastic parts, electronic components, and other metals are Flonidan's *tier two* suppliers. Tier two companies are the key suppliers to tier one suppliers ("Difference Between Tier 1 & Tier 2 Companies," 2016).

Figure 7 presents a simplified version of the gas meter's supply chain. The suppliers of electronic components, battery, display, and plastic parts provide the necessary parts to Kimball for the production of the electronic index. Some of Flonidan's biggest suppliers of electronics components are based, for example, in: USA, Japan, China, South Korea, the Netherlands, Taiwan, etc.

In its turn, Metrix receives various materials from its suppliers and manufactures Flonidan's base meter. Metrix also assembles the two main parts into the final product. The meter is then sent to the Netherlands, where the grid operators install it for final use from the end customers.

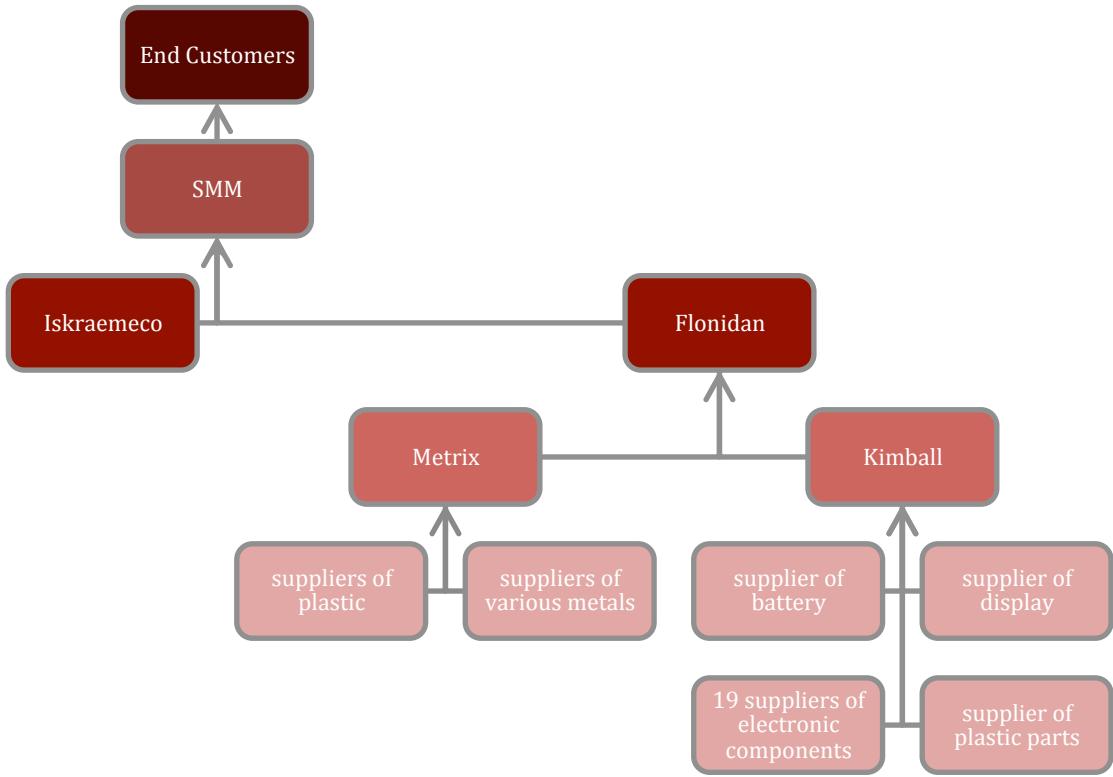


Figure 7. Visual representation of the gas meter's simplified supply chain; own work.

Table 2 presents the forecast of gas meters deliveries in Netherlands by the year 2023. There are two companies that will share the delivery of gas Meters to the Netherlands: Flonidan and Landis + Gyr. By dividing the total number of gas Meters in half, it becomes apparent that Flonidan is expected to deliver 1,787 million meters by 2023.

Table 2. The total number of Smart Meters expected during the agreement between SMM and FlonIskra. Adapted from email between Iskraemeco and Flonidan – anonymized for confidential purposes.

| Year        | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | Total |
|-------------|------|------|------|------|------|------|------|------|-------|
| Gas Meters* | 444  | 589  | 621  | 565  | 494  | 288  | 289  | 284  | 3,574 |

\*1,000 meters

## 4.2 Archival Data (Part A)

### 4.2.1 Contracts between buyers and FlonIskra

The agreement between FlonIskra and SMM consists of numerous contract files known as *Annexes*. Each Annex covers a particular aspect of the agreement. For instance, one Annex offers the definitions for the terms used throughout the contracts, another Annex is concerned with the

Fair Meter concept, while another discusses the technical requirements of the smart meter, and so on. In this section, I shall present the information from the Annex, related to the thesis's research question, mainly the Fair Meter concept (see Appendix B). It is worth noting that the documents refer to Flonidan and its joint venture partner, Iskraemeco, as the *Suppliers*. The term *Buyer* refers to SMM. Lastly, the contracts refer to electricity and gas meters as E and G meters respectively.

The Fair Meter Annex begins by describing the *Green Deal Fair Meter*, signed by the Buyer on the 12 November 2013. The Green Deal (see Appendix A) is an agreement between the Dutch government, the knowledge institutions, and the grid operators, for the development of a Fair Meter. The main objective of the Green Deal is the development, testing, production and delivery of smart electricity- and gas meters that meet Fair Meter requirements.

The Annex continues by describing the *Suppliers' vision*. The Suppliers' vision of Fair Meter is to design and manufacture Smart Meters, which:

- Are environmentally sustainable taking into account the overall life cycle of Components and materials
- Only draw on socially responsible and environmentally sustainable resource
- Are governed by a process, which over time will continuously improve the Fair Meter content of the Smart Meters and the Fair Meter knowledge of Suppliers work force
- Is increasing the transparency about the Fair Principles in order to increase all stakeholders' interests regarding environmental protection

This Suppliers' vision covers the entire supply chain: from raw materials to end customers. From the start of product delivery in 2016, the Suppliers shall work towards having full transparency concerning the status of the following elements: energy and emissions, resources and raw materials, labour, product's energy use, and product's software and data. Furthermore, the Suppliers are committed to, not only, improve each of those elements over time, but also, not use any conflict and hazardous materials and make use of responsible working conditions.

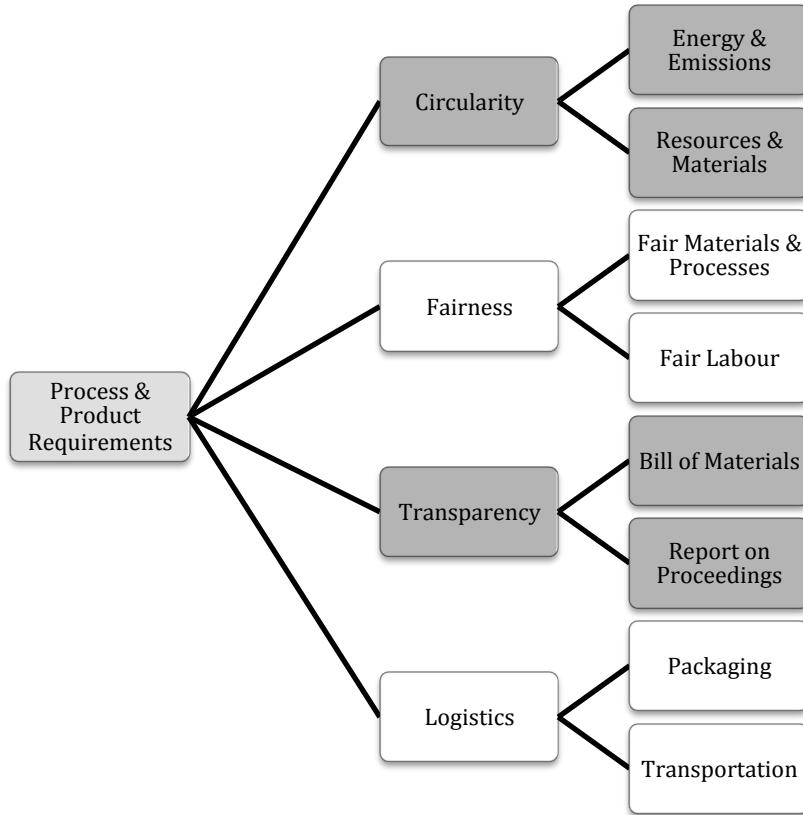
Furthermore, for the duration of the agreement, the Suppliers are called upon to use innovative capabilities in the complete supply chain, in terms of continuous improvement of waste management, energy use, reuse of components, and recycling.

In addition, the Suppliers will, continuously, work with specialists in the sustainability arena, such as the UN Global Compact, in order to educate the Suppliers' workforce, generate ideas, and execute specific Fair-related projects.

Before listing the requirements, the contract mentions that if the Supplier does not perform according to the committed requirements, then sanctions will be applicable.

Figure 8 depicts the product and process requirements that Flonidan and its joint venture partner are to implement. All of the requirements are parts of four main components:

Circularity, Fairness, Transparency, and Logistics. Subsequently, each component consists of different sub-components: a) energy and emissions and b) resources and materials for *Circularity*, c) fair materials and processes and d) fair labour for *Fairness*, e) bill of materials and f) report on proceedings for *Transparency*, g) packaging and h) transportation for *Logistics*.



*Figure 8. Product and Process Requirements for Flonidan and Iskraemeco. Own work based on contract files-anonymized for confidential purposes.*

First of all, under *Energy and Emissions*, Flonidan is required to reduce its energy use and carbon emissions per meter produced. More precisely, Suppliers and Buyers set a maximum starting point (baseline) of energy use and carbon dioxide emissions as the basis for comparison. After the first delivery of products, in 2016, the Supplier and its subcontractors are required to reduce energy use and emissions by 6%.

Secondly, Under *Resources and Materials*, Flonidan is required to develop a meter that is 30% lighter in weight, compared to the present meter. Furthermore, Flonidan is required to report on: the amount of recycled content inside the E and G meters, the amount of raw and virgin material inside the E and G meters, the amount of critical and scarce materials, reused components, and recycled and/or incinerated materials from returned products. Critical raw materials are materials that combine a high economic important to the European Union, with a high risk associated with their supply. Critical raw materials are important because they are linked to all industries across all supply chain stages and are irreplaceable in solar panels, wind turbines, electric vehicles, and energy efficient lighting ("Critical Raw Materials," 2016).

Additionally, Flonidan is committed to increase the percentage of recycled waste of the production by 10% and reduce the overall consumption of water by 10% as compared to the baseline.

Lastly, the contract entails Flonidan to comply with the WEEE directive. The *Waste Electrical & Electronic Equipment (WEEE)* directive (2012/19/EU on waste electrical and electronic equipment [2012] OJ L197/38) aims to prevent the creation of electrical and electronic waste by requiring European union countries to ensure the equipment is recovered, reused or recycled ("Summary of Legislation (WEEE)," 2014).

Thirdly, under *Fair Materials and Processes*, Flonidan is required to have and to show evidence of RoHS II and REACH compliance. RoHS II refers to directive 2011/65/EU of the European Parliament and of the Council of June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (EEE). This legislation updates Directive 2002/95/EC, by extending protection from dangerous chemicals, such as lead, mercury and cadmium, to more electrical appliances, cables, and spare parts ("Summary of Legislation (RoHS II)," 2014). REACH is a regulation of the European Union, adopted to improve the protection of human health and the environment from the risks that can be posed by chemicals, while enhancing the competitiveness of the EU chemicals industry ("REACH," n.d.). Except for RoHS II and REACH compliance, Flonidan is also required to adopt the OECD (Organization for Economic Cooperation and Development) call for due diligence on the supply chain with respect to minerals from conflict affected and high-risk areas, as well as determine and trace the origins of the meter's materials. The objective of the OECD Due Diligence Guidance is to help companies respect human rights and avoid contributing to conflict through their mineral sourcing practices. Furthermore, it is intended to cultivate transparent mineral supply chains and sustainable corporate engagement in the mineral sector (OECD, 2013).

Likewise, Flonidan has to adhere to the EICC Code of Conduct (version 5.0 of 2014) and present a copy of the signed EICC Code of Conduct as evidence to the Buyer. The EICC (Electronic Industry Citizenship Coalition) Code of Conduct is a set of standards on social, environmental and ethical issues in the electronics industry supply chain. The standards reference various international norms and standards, such as the Universal Declaration of Human rights, ILO (International Labour Organization) Standards, OECD Guidelines for Multinational Enterprises, ISO (International Organization for Standardization) and SA (Social Accountability International) standards, etc. ("Code of Conduct," n.d.).

Lastly, Flonidan is required to comply with the Fair Labour Association (FLA) Code of Conduct and validate whether its subcontractors abide by the FLA guiding principles. The Fair Labour Association Workplace Code of Conduct defines labour standards that aim to achieve decent and humane working conditions. The Code's standards are based on International Labour

Organization standards and internationally accepted good labour practices ("Code of Conduct," n.d.).

Under the sub-component of Fair Labour, Flonidan and its joint venture partner are to prepare fitness training and exercise for personnel and support employees' participation in sports competitions.

Under Bill of Materials (BOM), Flonidan and Iskraemeco are to provide the BOM of both types of meters. A bill of materials is a comprehensive list of raw materials, components and assemblies required to build or manufacture a product. It is presented usually in a hierarchical format, with the topmost level showing the end product and the bottom level displaying individual components and materials ("Bill of Materials - BOM," n.d.).

What is more, the Supplier shall have to report on results and proceedings with respect to the level of product composition and transparency in the supply chain.

Finally, as far as packaging and transportation are concerned, FlonIskra is required to make use of FSC, recyclable or biodegradable materials and have the EURO 5 as a standard in all means of transportation. Forest Stewardship Council (FSC) certification ensures that products come from responsibly managed forests that provide environmental, social, and economic benefits ("Certification," n.d.). The EURO 5 standard entered into force in 2009 and its main effect is to reduce the emission of particulate matter from diesel cars ("Transport & Environment - Road Vehicles," 2015).

As a last note, FlonIskra is required to prepare a report, hereinafter referred to as *Fair Meter Report*, which shall present the results and proceedings on Circularity, Fairness, and Transparency. FlonIskra should deliver the Fair Meter Report annually to the Buyer, no later than the 30<sup>th</sup> of April of every year, from 2016 until 2021.

### **4.3 Individual Interviews**

Below, I present the answers given by the four interviewees on specific subjects. In summarizing from interviews, I have chosen to combine two of Eriksen's (2013) proposed methods of summarizing from interviews: quotes and parallel summarization in tables. I have used the first method when the answers of the interviewees are not long or not spread out all over the document. However, some of the answers given by the interviewees were too long or dispersed throughout the document, to be included in quotes. Therefore, I have used the second of Eriksen's methods when that is the case. One of the advantages of the second way of presenting information is the fact that it contrasts different sources (Eriksen, 2013).

It is important to note that in this chapter, I present the answers exactly as the interviewees themselves gave them, without any interpretation from my side. In the Discussion section, I interpret the results in relation to the relevant theory.

**On the question of whether Flonidan has a big impact on the environment or on society.**

| Interviewee             | Key indicator   |
|-------------------------|---|
| CEO                     | <p>"Yeah. [...] in terms of us yeah I do believe that we make a change. I know we do but of course we could argue that there are things in the world that would have an impact bigger than what we do. But we have our small portion too."</p> <p>"You just don't see it when you walk around this place right? You don't see the meters flow through but it doesn't mean we're not responsible for it."</p>                                      |
| CQO                     | <p>Believes that Flonidan has an impact on the environment, but mainly on emissions, because of its supply chain. Flonidan does not produce in Denmark. The meter is produced and assembled in Poland. One of the main subcontractors, GPV, was situated in Thailand, but the company replaced GPV with Kimball, who is situated in Poland. Because of this change, Flonidan accomplished substantial savings in CO<sub>2</sub>. (Appendix D)</p> |
| HSE/IS coordinator      | <p>"We have an indirect impact on the environment. Ourselves it's very very small. We're working on decreasing air impact from this building and it's very very small what we can do. But we can do, not just to do it but to show our suppliers that something can be done easily."</p> <p>"We have a large, because we have the producers which produce parts and the whole meter."</p>   |
| Internal Sales employee | <p>"Not a big impact but we try to reduce our emissions, CO<sub>2</sub> and everything."</p> <p>"Yes we have transport that includes trucks and sometimes planes and stuff that would have caused... And we have a lot of shipments. Which of course causes something for the environment."</p>   |

### **On the reasons of implementation of CSR by Flonidan:**

| Interviewee             | Key indicator   |
|-------------------------|---|
| CEO                     | <p>"Yeah, I think, originally, it started or the trigger point was the SMM project [...] So that's what really took it to the next level. I think, so all the ISO, the fair metering, and all of that was literally project-driven by SMM to their sub-suppliers, [...] So contractually, don't be mistaken, we are obliged to deliver all that and that put a natural pressure on the company. So that was the trigger point. Had this company always been kind of Fair in its thinking? I would argue. But no doubt that the contract took it to another level."</p> <p>"[...] so before SMM so to speak... Um... I guess it was less structured I would say. So it's more like... Almost like a value thinking, doing the right thing. [...] So that was the driver for it. [...] No one in this company would ever say..."We want to use child workers" for instance, right? But did the (inaudible) go back to secure that it happened, I would argue maybe not. But today we are, right?"</p> |
| CQO                     | <p>"Basically we have been working with CSR for the last three to four years. Where they have made the CSR reports because of (inaudible)."</p> <p>"That's part of the legislation when we are reporting on economic stuff. That we have to have this CSR in some place. And we did it. I wouldn't say it was good but it was the start. And then we went into this tender work in Holland [...] So basically it was due to the Fair contract in Holland [...]. That's basically the reason or the trigger point to do it. But on the other hand when we are looking at it, it is very very good and strong marketing point [...]"</p>  |
| HSE/IS coordinator      | Not discussed in interview.   |
| Internal Sales employee | Not discussed in interview.   |

### **On the future plans of CSR for Flonidan:**

| Interviewee | Key indicator  |
|-------------|--|
| CEO         | "So the discussion we have with the management team now, we wanna go beyond that. We wanna have it in our DNA, this is the |

profile of the company, this is who we are.”

|                         |  |
|-------------------------|--|
| CQO                     | <p>“So it is coming from a demand in a tender and in a contract that we have and now it's going to be part of the DNA of Flonidan, but we are taking this very seriously and see it as an advantage for us. [...] So we see it as a business advantage in the long run and to have this multiple bottom line in our approach.”</p>   |
| HSE/IS coordinator      | <p>“We actually see the money in it. Of course it's nice to have it in our... The plan is to make CSR a part of our DNA. It should be in everything we do. It's growing...”</p> <p>“So we are planning to... It must be this part of our DNA and then we are to benefit from it economically because we want to be in front to show that we are in front, to give the customers what we are to give them, not what they just say they want. We want to give them even more, be greener, and they have to choose us because of that.”</p> |
| Internal Sales employee | Not discussed in interview.  |

### **On the identification of stakeholders:**

| Interviewee        | Key indicator  |
|--------------------|--|
| CEO                | Reports that a major stakeholder for Flonidan is its owners, AVK. Another stakeholder is the utilities of Europe, like the SMM group in Holland. He also states that the company does not have major stakeholders in Denmark as in other countries of Europe, apart from the Danish government and the ISO system. Another huge customer for Flonidan is the (end) customers who drive the utilities. Therefore, he says that the buyers have an enormous influence on the company. Lastly, he reports that the influence of the media is increasing. (Appendix C) |
| CQO                | “Right now I would say on the CSR we have the E4 certification, where “K” and “B” have done a very good job basically by making a stakeholder analysis and what's going on and what should the next steps be regarding CSR.”   |
| HSE/IS coordinator | States that Flonidan did a stakeholder assessment and an illustration of the stakeholders' influence, as part of certification on 14001 and 45001. Some of those stakeholders are: Danish government, foreign governments, employees, family of  |

employees, customers, suppliers, retailers, financial institute (bank), insurance company, board of management, partners, the community of Horsens. The foreign governments (such as the Dutch government) have more influence than the Danish government. The community of Horsens has a very low influence at this moment. (Appendix E)

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|                         |                             |
|-------------------------|-----------------------------|
| Internal Sales employee | Not discussed in interview. |
|-------------------------|-----------------------------|

#### **On the treatment of costumer complaints:**

| Interviewee        | Key indicator  |
|--------------------|--|
| CEO                | <p>Reports that the company could do a better job than it does today. Because of the fact that the customers are filtered through the utilities, the company has had some cases where there was an issue in the market and the company did not know. Some of the issues do not flow back to the company in the speed they would like to. In some cases, the problem ended at the utility and did not flow back to the company. He also reports that one of the areas he would like to improve is ensuring that the company has direct links with the customers on these things. (Appendix C)</p>   |
| CQO                | <p>"Yes we have a very strict system. External issue management. Based on the AD process, which is a Quality Tool. Where you have a predefined steps that you go to. First of all you have a description and you have a team that has to solve this. Next is what is the containment of the problem. Then you have to find the cause. Then you have to say okay what can I do to change it? And what do I need to do for this issue not to come up again? And then you're having an appreciation of the team who has done the work. Whenever we have a claim, it's within and the customer who is complaining will get a proper feedback on the solution. And then we solve the problem. It takes sometimes very fast and sometimes very slow."</p> <p>"We have an extremely standard procedure how to do it. And you can see it in <i>Improve</i>."</p> |
| HSE/IS coordinator | "For customers and suppliers, yes we have that in our quality  |

system actually. Quality management system."

"It's not finished, done, anything, but it's there and we are actually right now working on it, to make it better, to make it easier, to follow... to make it more simple."

|                         |   |
|-------------------------|---|
| Internal Sales employee | States that the company addresses customer complaints and there has been an update in the way that this is done. Now, the company treats customer complaints more efficiently, because, before, the employees did not have clear roles in this matter. Every time a customer reports an issue with one of Flonidan's products, they have to send the product back to the company. Afterwards, the product goes through the quality department, where the people in charge assess whether the customer has tampered with the product in any way. If the customer has not tampered with the product they receive a credit note, otherwise not. This procedure is standard and the company considers all complaints valid, unless proven otherwise. (Appendix F) |
|-------------------------|---|

#### **On personal interaction with customers:**

| Interviewee             | Key indicator  |
|-------------------------|--|
| CEO                     | Not discussed in interview.  |
| CQO                     | Not discussed in interview.  |
| HSE/IS coordinator      | Not discussed in interview.  |
| Internal Sales employee | Reports that during calls with disgruntled customers, she is patient and polite and tries to apologize a lot, even if it is the customer's fault. Also, when she talks to customers outside of Denmark, she tries to be even more polite and correct and take the cultural differences into consideration. In all instances, the customers should not feel that the company is not taking care of them. (Appendix F) |

#### **On the working environment and the interactions between employees:**

| Interviewee | Key indicator   |
|-------------|---|
| CEO         | "On a more personal note. I try to be as visible and talk to as many people I can in the company, but it is not... that I cannot rely |

on my leaders, to be the one really really trusted in this company. The reason for that is they do a better job. You know, you can't.... If you wanna make sure that your employees, have someone to go to. If they have an issue or whatever. It is difficult for anyone to have a personal relationship to 50 people."

"Right, so they play the important role in that. I'm very trusted by my own leaders, so I'm really making sure to interact with those, and then they have to, you know, take care of the employees."

|                         |   |
|-------------------------|---|
| CQO                     | <p>Believes that employees should have flexibility, empowerment, decision power, and information on company matters. Employees should be able to take decisions by themselves, with minimal help from their leaders. He understands that this way of working might bring stress to some, but, nevertheless, he stands firm behind this belief. As a leader, he expresses extremely high confidence in his employees, even if sometimes he might get disappointed.</p> <p>He believes that the company is in need of more employee empowerment and fewer leaders that act as bottlenecks. Employees should not have to consult the managers for every decision. (Appendix D)</p> |
| HSE/IS coordinator      | <p>Believes that the office climate is not perfect because cooperation between employees is not good enough. During the previous CEO's tenure, all of the decisions went through him and employees could go around their own leader. However, Flonidan is changing and employees have to take decisions in their respective areas and be more dynamic. In order for the company to make this transition, the employees need to improve their interactions and the ability to help each other. The fact that not everyone is ready for this transition creates some unhappiness in the office. (Appendix E)</p>  |
| Internal Sales employee | <p>Reports that this is an extremely busy and stressful time for the company, at the moment, and people handle the situation differently. Certain people cope well with the stress, but others are unable to prioritize or provide answers to immediate questions. Therefore, the latter get annoyed and irritated. She believes that everyone is trying to keep up, but there are not enough people to do the work that the company has taken up. (Appendix F)</p>   |

### **On senior management and employee engagement:**

| Interviewee             | Key indicator   |
|-------------------------|---|
| CEO                     | " [...] We have these monthly meetings, and there we bringing in... reality so to speak. If we have an issue or opportunity, we will literally share everything [...] We really do, is just, to give the right sense of urgency of the company on those meetings."  |
| CQO                     | Reports that one of the CEO's first initiatives was to install monthly information meetings, a change that was missing from the company. During those meetings, the employees discuss themes that range from the company's financial situation, opportunities, immediate actions, to new products, new employees, audits, information security, etc. (Appendix D)   |
| HSE/IS coordinator      | Not discussed in interview.   |
| Internal Sales employee | Believes that the information meetings are somewhat motivating and, at the same time, a good way for everyone to have the same information about what is happening around the company. She also believes that the company should establish weekly department meetings, like the ones that the quality department has. More precisely, the quality department holds meetings three times a week, where the members of the department discuss their daily work. The interviewee believes that the Sales department needs to also have something similar and discuss topics such as prices, new products, difficult clients, etc. (Appendix F) |

### **On senior management and CSR:**

| Interviewee        | Key indicator  |
|--------------------|--|
| CEO                | Reports that he and the HSE/IS coordinator try to symbolize that what the company is doing is important. Believes that if he doesn't show the example and do the right thing, then it will be horror. (Appendix C)   |
| CQO                | " [...] he is strongly supporting the CSR and Fair work. "   |
| HSE/IS coordinator | "When I started talking about CSR he was like "What is that?" And a week later there was a big article in Berlinske about CSR and how Novo Nordisk and other big Danish companies actually achieved a lot on this and he came down with this article: "Now I |

understand where you're going and we are going there!". So I had his full engagement. That's for sure. What I need from him is to make it as a visible part of our strategy. He wants it but he has to make the work as well."

"Oh I have that [support]. Every Monday the CEO has a meeting with all his "COs" and here they discuss different kinds of things and if I have a problem I would give it to H and he would take this to this meeting. If there's not support enough from one Department then they will handle it there"

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|-------------------------|-----------------------------|
| Internal Sales employee | Not discussed in interview. |
|-------------------------|-----------------------------|

### **On the communication of CSR efforts to employees and other stakeholders:**

| Interviewee        | Key indicator   |
|--------------------|---|
| CEO                | Believes that the employees should be informed about the Fair-related aspects and of the choices they make in their work.<br>(Appendix C)   |
| CQO                | Believes that Flonidan should take more advantage of the media as a marketing or sales force to promote its CSR work. More precisely, Flonidan can promote its certificates, its values, the way of work, etc. He admits that the company's homepage is "a bit offline" and "a bit difficult to update" as the company would like to. The new CEO is more public than the former one and sometimes promotes Flonidan's CSR work in the media.<br>(Appendix D)   |
| HSE/IS coordinator | Believes that it is important for Flonidan to communicate CSR efforts to stakeholders, but reports that the company has done nothing so far on this matter. The company plans to make its code of conduct and create its CSR report this year.<br>Reports that the new CEO has been more in contact with the media. Also, the HSE/IS coordinator has made interviews about the company's CSR work. Furthermore, the company uses LinkedIn to share its successes. To her opinion, if the company had a marketing department then it would be in a better place to advertise this area. However, the company is not big enough to have a marketing department. |

As far a communication to employees is concerned, she reports that this has not happened yet. The company plans on having an event, where the HSE/IS coordinator will divide the employees into groups and encourage them to fill in, in their own words, what "Fair" is to them. She points out that it is very important for the people of Flonidan to put their own words and understanding into it so that the company has a common base. She states that the company will find its own word to use, when talking about CSR. Furthermore, the company will hold awareness-training sessions that should address each person inside the company. The interviewee thinks that it's important for the employees to be engaged towards the CSR work. (Appendix E)

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|                         |   |
|-------------------------|---|
| Internal Sales employee | <p>Reports that she knows very little about the company's Fair meter project. She is aware that "Fair" is about CO2 emissions, slave labour and about suppliers' illegal components. She believes that the Fair project is necessary for the company but she does not think that she would be able to contribute to it through her function and area of work.</p> <p>She reports that she would like to know more about what the company is doing in the area of Fair, during the information meetings. However, she points out that this should be done without using difficult terms and language. People should present information plainly and in a language that everyone understands, not just the people involved in the relevant project. Lastly, she states that she would be very unhappy if she found out that the company supported child labour or something similar. (Appendix F)</p> |
|-------------------------|---|

#### **On Flonidan's relationship with SMM:**

##### CEO:

" [...] We have a close relationship with them. I have to. So we know them really well. Also because they put a lot of trust in us as a supplier. If we fail they fail to and will have a huge impact. You can also see when you look over the contract we do with those guys. The contract with SMM is like half a meter thick. No kidding."

“But if you take that aside they also have to have faith in that we actually as a supplier can deliver. Because we're only a small part of a bigger... A bigger machine so to speak right? The gas meter, the electronic meter, the water meter, the whole infrastructure and everything. So if we can't deliver then all of that will fail. So that's why the importance of us as a trusted supplier is enormous actually. So it takes personal interaction. for my own person I really enjoy doing that. Because one thing is the contract but if I cannot see and feel them, so to speak, I don't know where they are. So I spend a lot of time out there to meet up with them and make sure I get their feeling.”

CQO :

The Chief Quality Officer at Flonidan believes that the company put the pressure on itself, by promising substantial savings in gas, electricity, water, waste, etc. More specifically, during the tendering process, the participating Dutch utilities provided a list of environmental aspects (CO2 emissions, water, energy, waste) and asked FlonIskra to fill in the percentage of savings they could achieve over a certain period. Furthermore, SMM included a list of questions concerning the meter's and the supply chain's compliance with standards and regulations, such as RoHS, REACH, WEEE, FLA, EICC, etc. FlonIskra then simply answered yes or no to the given questions. He believes that Flonidan had the opportunity to influence SMM's decision on requirements by reminding the customers that the company has limited resources and being clear about what the company can or cannot do. In addition, after the tendering process and the awarding of the contract came a long clarification period, where the various parties discussed even more about what should remain in the Fair meter project.

On the other hand, apart from the Fair meter project, the CQO reports that at the time of the interview, SMM had still not ensured timely payment from their side. He points out that Flonidan has used a heavy amount of money in the past two years and that “it has been a tough period, with a lot of traveling and a lot of expenses to ensure that we are on the right track”. Regardless of this, he makes clear that this is a long-term project and that the payments will commence when Flonidan starts selling the first products to the utilities.

As a last point, he states that the relationship with the utilities has been good thus far and everything is on the right track. SMM are satisfied with Flonidan's achievements and are reporting that Flonidan is the best-performing supplier they have ever. This is due to the fact that the company is outperforming the other parties involved, in all parameters: product, quality, Fair, etc. (Appendix D)

HSE/IS coordinator:

The Health, Safety, and Environment coordinator at Flonidan believes that the company receives pressure from its customers, at this moment the Dutch utilities. She reports that the utilities do

not seem to understand that Flonidan is a company of approximately 40 people and that, currently, the CSR work at Flonidan is run by 2 people (her and the master thesis student, me). The company has established cooperation with SMM and Iskraemeco for the Fair Meter Pilot. As she states, despite contributing little in the beginning of the Pilot, SMM shifted position and have now assumed a more active role, a situation that she characterizes as "amazing". Also, as far as the interviewee knows, SMM have ensured payment of half of the expenses of the Pilot for both partners: Flonidan and Iskraemeco. The parties did not clear this out from the beginning of the project, but later on.

Furthermore, SMM have been trying to enlist the help of third parties but have been slow so far. However, they have been able to include Philips into the deal, a company that is also working on fair electronics. She reports that Stedin's side has been the most realistic during the process. However, the rest of SMM's representatives have been more idealistic and, therefore the contract, as a whole, is based on idealistic thoughts.

SMM have not provided help with awareness training on suppliers, but they have conducted audits also at Flonidan's two subcontractors: Kimball and Metrix, in cooperation with Flonidan. Additionally, at the beginning of the Pilot, she characterizes the utilities as not being very open for learning. Specifically, in the beginning, SMM was not just asking, but demanding things from Flonidan and its partner. However, as soon as they saw that FlonIskra was achieving results, they got inspired and come along to the project. To that point, she adds: "So now it's a cooperation I think. I feel it's a cooperation".

Furthermore, SMM have not demanded immediate compliance from Flonidan and Iskraemeco, but instead they have given time. However, she states that: "Their deadlines are very short and we have to fulfill them and again they did not take into consideration that we are very few here and that Iskraemeco, our partners, they are a little bit more employees. It seems like they are not thinking about this and of course they should not because we should be equal on this point, but it is harder when you are only one and a half person, to achieve the goals".

SMM have provided guidance on how Flonidan and its partner can transmit requirements to subsequent suppliers. Specifically, FlonIskra created a supplier questionnaire in cooperation with SMM, which the former shall send to suppliers in order to get more data. However, the HSE/IS coordinator believes that the questionnaire is not good and that suppliers are having a hard time filling in. Nonetheless, SMM understand and accept that getting responses from suppliers will take time. (Appendix E)

### **On Flonidan's relationship with subcontractors and tier two suppliers:**

CEO:

Believes that Flonidan has the power to influence Metrix and Kimball and does use this power. Reports that Flonidan chose Kimball on the basis of environmental and social criteria. States that

if Flonidan wanted do things cheaply, then it would not have chosen Kimball and would have gone to countries, which do not have the same standards as Kimball does. Reports that Kimball is a new subcontractor for Flonidan, while Metrix has been with the company for approximately 5 to 6 years. States that Metrix, as well, has undergone a huge development as a subcontractor, during that time. (Appendix C)

CQO:

The Chief Executive Officer believes that Flonidan has influence over its subcontractors in terms of transmitting buyer requirements. As an example, he mentions the fact that Kimball is going to achieve ISO 45001 certification, something that the company did not intend to do before the contract with Flonidan. He adds that both subcontractors are reporting progress and both have achieved the savings that they are entitled to.

As far as requirements in the rest of the supply chain are concerned, the interviewee believes that it is a matter of personal relationships. Further, he adds that visits and audits are the most effective way of monitoring supplier compliance. What is more, an increasing number of customers, besides Flonidan, bring forth such questions and pressure and suppliers have no choice but to comply with those issues.

The CQO reports that Flonidan visits its main suppliers several times a year. Tier one suppliers are also obliged to report on *green measurements* at least quarterly. As far as second tier suppliers go, Flonidan visits those maximum once a year and monitors their performance during those visits or audits.

The interviewee reports that CSR is not and will not be the first criterion upon which supplier choices are made, however he admits that it will be considered after quality and price have been taken into account. For tier one suppliers (Kimball and Metrix), Flonidan prioritizes quality and price. The chosen suppliers must also be able to withstand the fluctuations that come with this specific type of industry. With new suppliers, the interviewee mentions that Flonidan is also assessing: adherence to EICC, compliance with FLA standards, ISO 14001, and 18001. New suppliers should also be able to provide information on other Fair metrics. Finally, when the company chooses tier two suppliers itself, it treats the decision as if they are tier one suppliers. (Appendix D)

HSE/IS coordinator:

The HSE/IS coordinator is of the opinion that, when it comes to Flonidan's two main subcontractors: Kimball and Metrix, the company has a very high bargaining power. This is due to the fact that both companies receive big orders from Flonidan over the course of this contract with SMM. However, as far as tier two suppliers are concerned, Flonidan is having trouble. For instance, at the time of the interview, the manufacturers of the meter's display had not

responded satisfactorily to Flonidan's supplier questionnaire. This, according to the HSE/IS coordinator, is due to the fact that when Flonidan leaves a small order to suppliers, then it has no bargaining power because it is too small.

Flonidan has tried to tackle this issue by calling on Kimball (the biggest of the two subcontractors) to contact the suppliers and persuade them to fill in the supplier questionnaire. Admittedly, the HSE/IS coordinator reports that Flonidan has yet to gain something from this move, due to the fact that Kimball is not pressuring the suppliers as much as Flonidan would like them to. To this, she adds: "[...] it's not their project. They sent it out and now it's done".

So far, the quality of the returned supplier questionnaires differs. Some suppliers provide good information, while others not. The interviewee reports that labour is one of the most difficult subjects to get information on. A lot of suppliers often refer to their own legislation as the one they comply to, and this makes matters harder. She states further: "And it would be nice if everyone said: *Oh we are into FLA, we are into the EICC*, and so on. Of course they comply with it. They have to. To be suppliers. But do they really do it? That's the question".

What is more, she reports that, often, it is difficult to maintain close relationships with suppliers because Flonidan's contacts with one supplier might only be through another supplier. By way of contrast, she believes that communicating with Danish suppliers is much easier and simpler. In relation to this, she reports that her work would be accommodated if all of the company's suppliers were situated in the EU. Therefore, Flonidan could monitor its suppliers through EU legislations and regulations, as it does with Kimball and Metrix.

Apart from the supplier questionnaire, Flonidan uses other monitoring techniques for its suppliers. Namely, when the company makes a deal new with a new supplier, it sends out a self-assessment scheme, where suppliers provide information on exact composition of components or score themselves in terms of information security, and so on. Lastly, with bigger suppliers, Flonidan does on-the-spot audits in terms of quality, information security, environment, health and safety, etc. The HSE/IS coordinator believes that audits are the most important instrument for supplier monitoring and brings to attention the fact that many audited organizations "[...] if they know you come they can change a lot in the surface. The children can be left at home not going to work that day and you hear a lot of stories about that. We haven't experienced that ourselves but that's the kind of stuff you are looking for". (Appendix E)

#### **4.4 Observation (Part A)**

In this section, I have presented the relevant information from my field notes. Those field notes are applicable to the present thesis and come from:

- The first workshop in Horsens, Denmark on December 16, 2015
- The bi-weekly call on January 7, 2016.
- The second workshop in Kranj, Slovenia on February 10-11, 2016.

In the case of the workshops, I present the location, date, and duration of each workshop. Afterwards, I provide the list of participants in each workshop. In the interest of confidentiality, I have omitted the names of each participant. However, for the sake of clarity, I have included the occupation of each participant, as well as the company they represent. Lastly, it is worth noting that I took part in all of the workshops as a master thesis student at Flonidan.

The results of the fourth workshop are presented on the chapter: Observation (Part B).

#### 4.4.1 Workshop 1

|                   | <b>Location</b>  | <b>Date</b>      | <b>Duration</b> |
|-------------------|------------------|------------------|-----------------|
| <b>Workshop 1</b> | Horsens, Denmark | 16 December 2015 | 1 working day   |

Participants: CQO (Flonidan), HSE/IS Coordinator (Flonidan), Master Thesis Student (Flonidan), R&D manager (Iskraemeco), Fair Meter Project Manager (Iskraemeco), Project Manager 1 (Alliander), CSR Consultant (Alliander), Sustainability Manager (Stedin).

From a first glance of the field notes, it appears that the primary topic of discussion during Workshop 1 was the transparency tool. In the first paragraph, I have noted down the shared vision that emerged during the meeting. The vision of a transparency tool includes a world map that will include pinpoints of locations that are included in the supply chain of the meters. In the tool, users can search specific sites, materials, and components all over the world. Furthermore, it shall contain information on the source of a particular product, component, material and data on labour issues and emissions. As a note to this vision on transparency, the participants mention, firstly, that the result does not have to be perfect and, secondly, to share even their first attempts to transparency – however incomplete - with the public.

As noted down during Workshop 1, the aim of the tool is to:

- Inform the public on the origin of materials and the production process of the meter, and
- Help make informed decision on the fairness of product design improvements in subsequent versions of the meter.

As far as the tool's design is concerned, the basis will be a website for consumers and other interested parties, such as non-governmental organizations (NGO) and other companies in the electronic sector. The focus will be on Dutch customers, as they will be able to see the environmental and societal impact that of their meter.

In addition, there will also be a secure member-only version for FlonIskra, the Dutch utilities and other supply chain partners. FlonIskra is responsible for updating the information and its accurateness. Concerning this, FlonIskra mentioned that second-tier suppliers should also be responsible for the input of data, but only after validation from FlonIskra. Furthermore, through the tool, designers should also be able to see the impact of current and future components.

In the end of the document there seems to be a plan of approach covering the period from December to April. In the end of the field notes, there appears to be a first point from a, seemingly, unfinished list of actions.

Mainly, it appears that the participants decide to set up bi-weekly calls every second Thursday in order to monitor the progress of the Fair Meter Pilot, review and discuss documents. During the calls, the participants will agree on a list of issues for which to ask information and evidence from suppliers, as well as a list of system requirements concerning the software tool.

#### **4.4.2 Bi-weekly call**

January 7, 2016

##### Bi-weekly call between SMM and FlonIskra:

Iskraemeco has started acquiring information on its suppliers and on its meters' components.

The type of information has to do with:

- RoHS & REACH directives
- Conflict Minerals Reporting Template (CMRT)
- Suppliers' membership of EICC
- 4 types of meter
- 55% of components

All of the information comes from Silicon Expert, to which Iskraemeco has access.

Silicon Expert is database with information on electronics components. Through Silicon Expert businesses and individuals can collect RoHS/REACH data, gain access to Conflict Minerals data, and identify multiple sourcing options. An annual contract with Silicon Expert with unlimited access to the available part data costs \$499 or 3.310,98 DKK per month ("Silicon Expert," 2016).

At the bottom right part of the field notes I have stated my intention to discuss with "M" about the kind of data that Flonidan can extract from Silicon Expert. "M" is the Fair Meter Project Manager of Iskraemeco. I have omitted her name due to confidentiality purposes. She is the CSR supervisor of Iskraemeco and is implementing the same process at Iskraemeco as the HSE/IS coordinator is at Flonidan.

#### **4.4.3 Workshop 2**

|                   | <b>Location</b> | <b>Date</b>         | <b>Duration</b> |
|-------------------|-----------------|---------------------|-----------------|
| <b>Workshop 2</b> | Kranj, Slovenia | 10-11 February 2016 | 2 working days  |

Participants: CQO (Flonidan), HSE/IS Coordinator (Flonidan), Master Thesis Student (Flonidan), Fair Meter Project Manager (Iskraemeco), R&D Manager (Iskraemeco), CSR Consultant (Alliander), CSR Advisor & CSR Reporting (Alliander), Sustainability Manager (Stedin).

The participants are still discussing about the Fair Meter Pilot budget, as it has not been approved yet. Furthermore, the March meeting (3<sup>rd</sup> workshop) might not take place unless the parties agree on the budget.

Iskraemeco presented the E Meter's material composition assessment. The information inside the assessment comes from:

- Open sources (Google, suppliers' websites)
- Silicon Expert
- Iskraemeco's chemical laboratory

Flonidan has to prepare the same material composition assessment for the G Meter, for the March meeting.

Iskraemeco will search G Meter's parts as well. The arrows connecting the different points suggest that Iskraemeco will make use of SiliconExpert and Iskraemeco's chemical laboratory in order to acquire information on Flonidan's components and therefore, assist Flonidan with its material composition assessment.

The field notes give the impression that Flonidan shall distribute the questionnaire to the suppliers after the final version is ready.

In the list of decisions, the participants state their wish to involve other parties to the Fair Meter Pilot and the preparation for the Transparency software tool. Some of these companies and organizations are: Fairphone, UN Global Compact, Max Havelaar, Philips, Sourcemap, Metabolic, Intel, etc. From a simple Internet research, it becomes evident that the Dutch grid operators are looking to work with companies that can provide knowledge and experience in sustainability.

Fairphone is a company that manufactures ethically responsible smartphones (Rigg, 2015). The Max Havelaar foundation is a non-profit organization that "licenses use of the Fairtrade Certification Mark on products in the Netherlands in accordance with internationally agreed Fairtrade standards" ("Max Havelaar," 2015). Sourcemap is a crowd-sourced directory that provides map visualization of products' supply chains and environmental footprints. Enterprises can make use of Sourcemap in order to manage supply chain risks ("About Sourcemap," 2014). Metabolic is a systems consulting and clean-tech development firm based in Amsterdam. Among other things, the firm advises governments, industries and the non-profit sector on how to transition towards a circular and sustainable economy ("Metabolic," n.d.).

Last but not least, as the last points of the field notes show, the participants discussed the Fair Meter Report's terminology and reporting requirements. More precisely, the participants from Alliander and Stedin accepted more simplified definition of various terms (such as the critical materials) and provided help on how FlonIskra's figures on waste can be presented.

## 4.5 Archival Data (Part B)

### 4.5.1 Supplier Questionnaire and assessment on response

#### Supplier Questionnaire

With the help of SMM, FlonIskra developed a supplier questionnaire, in order to acquire more data from its suppliers. The template of the supplier questionnaire is included in Appendix L.

The questionnaire includes an *Introduction* section, a section offering explanations of the various terms and their importance, and a section where the suppliers can input data on their organization and management, statement on sustainability, and contact information.

In *sheet B*, FlonIskra asks questions about conflict minerals, labour, and other comments of initiatives.

In *sheet C*, FlonIskra asks for the following information: description of component in question, Flonidan's or Iskraemeco's part number, manufacturer part number, producer name and location of component, total weight of component measured in milligrams (mg), compliance with RoHS II directive, compliance with REACH directive, conflict minerals in component, applicability of CFSi, raw material composition, weight of each substance measured in mg, sourcing country of raw material, percentage of virgin material within the raw materials, and percentage of recycled material within the raw materials.

#### Flonidan's assessment on questionnaire response

As one can infer from the Observation (February 10 & 11, 2016), Flonidan planned to send the questionnaire to its suppliers, after the second workshop.

In Flonidan's archives, the returned supplier questionnaires are accompanied by a qualitative assessment on suppliers' responses to the questionnaire. In it, the HSE/IS coordinator describes the process of sending out the supplier questionnaires, as well as the types of responses of the suppliers, so far.

According to the assessment, on March 3<sup>rd</sup> 2016, Flonidan sent the questionnaire to its two subcontractors Metrix and Kimball, as well as the producer of the meter's battery, the producer of the meter's display, and four producers of plastic parts. Kimball in its turn forwarded the questionnaire to 19 suppliers, who mostly provide electronic components. Summed up, 27 suppliers received the questionnaire.

However, as of March 22<sup>nd</sup> 2016, only a handful of suppliers had sent back the completed questionnaires. Furthermore, the returned questionnaires presented insufficient information in various ways, mostly in terms of amounts of raw material and exact material composition.

In conclusion, the assessment states that the questionnaire is not obvious on how to fill the information correctly. Furthermore, there should have been more information about how suppliers can fill in the data "the right way". Finally, the document reports that Flonidan

received most of its chemical composition data from the analysis that Iskraemeco made on the G Meter's electronical parts, than from suppliers' questionnaire responses.

#### 4.5.2 Environmental Assessment of FlonIskra

Every year, Flonidan keeps track of its energy consumption, CO<sub>2</sub> emissions, water use, and waste. Kimball and Metrix are responsible to report data for energy, CO<sub>2</sub> emissions, water, and waste concerning the production of the G Meter. Iskraemeco is required to do the same for the production of the E Meter.

In the beginning of each year, Flonidan requests the relevant data from the three companies and then prepares FlonIskra's *Carbon Footprint* document. The collection of this information is necessary, because FlonIskra is required to report its environmental savings to the buyers every year (on the last working day of April) in the Fair Meter Report, as mentioned in the Fair Meter Annex. FlonIskra's environmental assessment is included in Appendix N.

Figure 9 shows the energy use per unit by FlonIskra on the years 2013 and 2015, as well as the targets that the buyers set. FlonIskra achieved a reduction of 66% in energy consumption per unit, in comparison to the baseline. This is in line with the buyer requirements of 6% reduction of energy consumption (Appendix B).

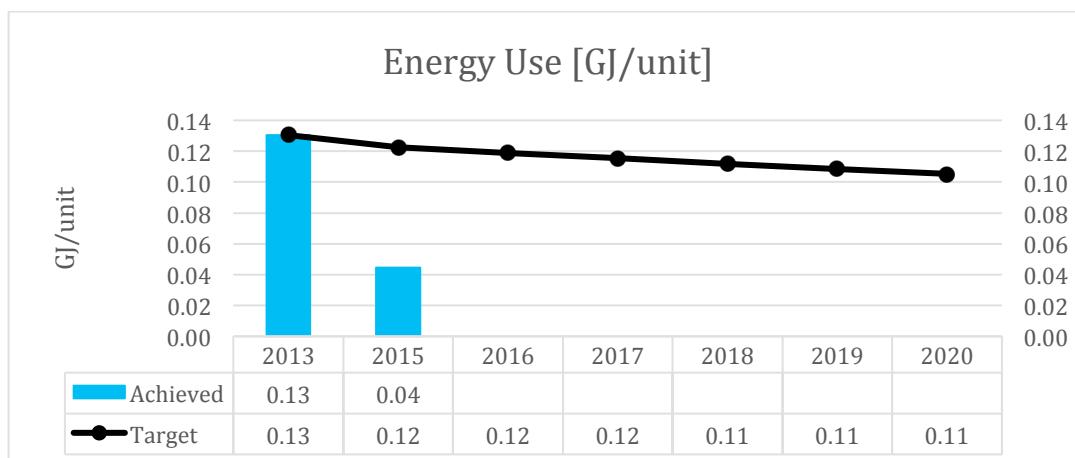


Figure 9. FlonIskra's energy use (measured in GJ per unit) for 2013 and 2015. Adapted from Carbon Footprint – anonymized for confidential purposes.

Figure 10 shows the amount of CO<sub>2</sub> per unit that FlonIskra emitted on the years 2013 and 2015, as well as the targets that the buyers set. FlonIskra achieved a 78% reduction in CO<sub>2</sub> emissions per unit, as compared to the baseline. This is also in line with the buyer requirements which requested reduction of 6% in emitted CO<sub>2</sub> (Appendix B).

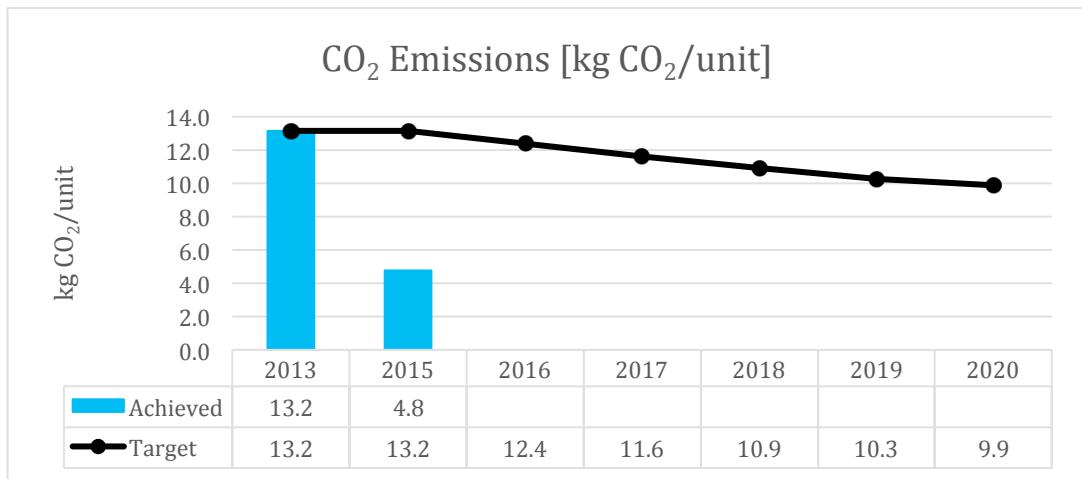


Figure 10. FlonIskra's CO<sub>2</sub> emissions (measured in kg CO<sub>2</sub> per unit) for 2013 and 2015. Retrieved from Carbon Footprint - anonymized for confidential purposes.

Figure 11 depicts the water per unit that FlonIskra used for the production of the E- and G Meters on the years 2013 and 2015. FlonIskra managed to reduce its water consumption per unit by 6%, as compared to the baseline. This is not in line with the contract that required reduction of water consumption by 10%. (Appendix B).

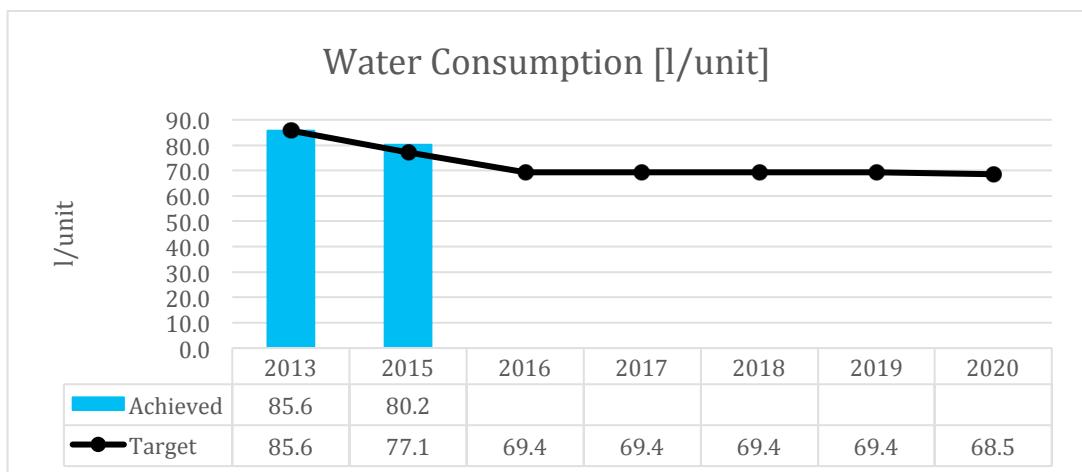
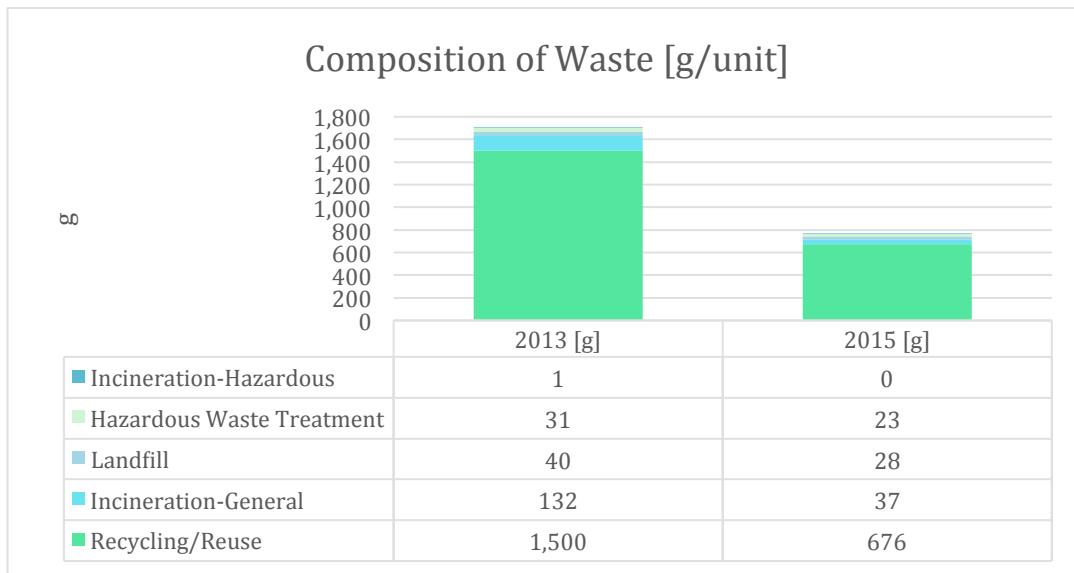


Figure 11. FlonIskra's water consumption (measured in litres per unit) for 2013 and 2015. Retrieved from Carbon Footprint - anonymized for confidential purposes.

Figure 12 depicts the composition of waste per unit of FlonIskra for 2013 and 2015. FlonIskra managed to reduce the amount of landfill waste per unit by 29% and decrease the amount of recycled waste per unit by approximately 55%. This comes in contradiction with SMM's requirements. The Fair Meter Annex stated that FlonIskra should increase the percentage of recycled waste by 10% (Appendix B).



*Figure 12. FlonIskra's composition of waste (measured in g per unit) for 2013 and 2015. Retrieved from Carbon Footprint - anonymized for confidential purposes.*

In summation, it is worth mentioning that the savings are accomplished due to that fact that the aspects are calculated per unit of product sold. Flonidan has sold considerably more units in 2015 compared to 2013, thus resulting in savings that are considerably better than what was expected of FlonIskra at the time of signing the contracts. However, FlonIskra did not manage to achieve the goals that concerned reduction of water usage and increase of recycled waste.

Lastly, Figure 13 shows the distribution of CO<sub>2</sub> emissions for the year 2015, measured in kg CO<sub>2</sub>, between Flonidan and its subcontractors: Kimball and Metrix. As one can see, Kimball is the company that is responsible for most of the CO<sub>2</sub> emissions in 2015, amounting to 74% of the three companies' CO<sub>2</sub> emissions.

### Distribution of CO<sub>2</sub> Emissions for Flonidan and its subcontractors [kg CO<sub>2</sub>]

■ Kimball ■ Metrix ■ Flonidan

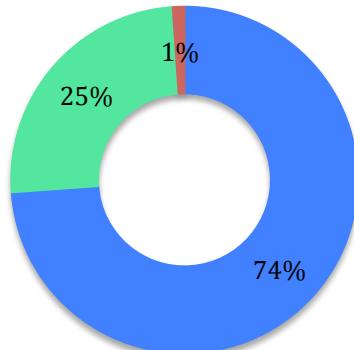


Figure 13. Distribution of CO<sub>2</sub> emissions (measured in kg CO<sub>2</sub>) for Flonidan, Kimball, and Metrix for 2015; own work.

## 4.6 Observation (Part B)

In this section I present the field notes from FlonIskra's fourth workshop in Rotterdam, the Netherlands on May 12, 2016. This workshop is the last one that FlonIskra and SMM organized. The archival data, interview data, and observation data that has been presented so far is important for the reader to comprehend the events of the fourth workshop.

### 4.6.1 Workshop 4

|                   | <b>Location</b>        | <b>Date</b> | <b>Duration</b> |
|-------------------|------------------------|-------------|-----------------|
| <b>Workshop 4</b> | Rotterdam, Netherlands | 12 May 2016 | 1 working day   |

Participants: HSE/IS Coordinator (Flonidan), Master Thesis Student (Flonidan), Fair Meter Project Manager (Iskraemeco), Project Manager 2 (Alliander), CSR Consultant (Alliander), Sustainability Manager (Stedin), Consultant (Copper 8), Senior Product Manager (Landis+Gyr). Other participants include: Director of Supplier Sustainability (Philips), Director (Electronics Watch), Value Chain Director (Fairphone), Project Manager (Fairphone).

The workshop in Rotterdam consisted of three main parts:

- 1) Skype/Phone meetings with Fairphone, Philips, and Electronics Watch
- 2) Review of the submitted Fair Meter Report 2016
- 3) Green Deal Event (event that celebrated the Green Deal Fair Meter)

Below, I shall present the relevant points from the Skype/Phone meetings and from the review of the Fair Meter Report 2016.

**Meeting with Fairphone and Philips:**

The representatives from both companies shared insights from the experiences in their respective areas, however, in my opinion, the director of Supplier Sustainability from Philips appeared to be more open to disclosing information. During the discussions, the details were many, but I attempted to note down those that were the most note-worthy, in line with Wolfinger (2002).

The representatives from Fairphone state that their company shares its list of suppliers on its website and wants to be transparent on the challenges it faces. Indeed, the company has published a list of phone parts and items, supplier names, supplier locations, and website of suppliers on its website ("List of suppliers for First Edition Fairphone (FPI & FPIU)," 2014). Lastly, as far as they know, sustainability matters constitute an administrative burden for the suppliers.

The representative from Philips discussed the difficulties that occur with CSR in the supply chain. First of all, he has the general impression that suppliers do not want to be transparent. The company is having difficulty collecting supplier information even though it uses 3-4 different software platforms. Concerning audits, Philips's Director of Supplier Sustainability reports that they do not improve supplier conditions, as the suppliers often do *quick-fixing*. The focus should be on improvement of suppliers, not just on compliance.

Overall, the Supplier Sustainability Director reports that Philips is a *peanut* in the whole supply chain, even though it is considered a large company. I believe this to be quite an impressive statement, especially if one considers the company's significant scope of business activities. More precisely, Philips is a company of approximately 37.000 employees in 100 countries and € 21,4 billion in revenue on 2014. Philips produces a wide range of products in sectors such as healthcare, consumer lifestyle, and lighting (Koninklijke Philips N.V., 2014). Therefore, one would expect the company to be able to easily affect suppliers.

Lastly, the representative from Philips proposes some points that can help companies handle sustainability in the supply chain.

First of all, he reports that it is important to show the suppliers the benefit they receive from such a process. In the field notes, this is indicated by the question: "What is in this for the suppliers?"

Further, he states that the aim is to increase transparency without insulting the involved partners and that companies should focus on a multi-stakeholder dialogue.

Lastly, he advises the other parties to have consistent, clear, and simple message when they contact the suppliers. He calls this message the *deployment pack*. One department has to *sell* this

pack to the suppliers and another department consists of people who pressure and *chase* the suppliers.

#### Meeting with Electronics Watch:

SMM invited the Director of Electronics Watch for a Skype meeting in order for Alliander, Stedin, FlonIskra and Landis+Gyr to discuss a possible cooperation with the organization. Electronics Watch is an independent monitoring organization that assists public sector buyers to meet their responsibility to protect the labour rights of workers in global electronics supply chains ("Electronics Watch: Our Story," n.d.).

The Director started with a presentation of his organization. He analyses the organization's model, which is based on worker-driven monitoring. Mainly, Electronics Watch monitors for compliance through local civil society organizations, and uses the workers' voices to monitor and report on labour rights- or safety breaches in factories ("Electronics Watch: The Model," n.d.).

At the end of the presentation, the Senior Product Manager of Landis+Gyr did not seem to be very convinced by the presentation, as he believes that labour is not an issue that Landis+Gyr is concerned of. Both Flonidan's HSE/IS coordinator and Iskraemeco's Fair Meter Project Manager seemed hesitant as to whether to proceed with cooperation. However, Stedin's Sustainability manager seemed to insist that the parties have a trial run with Electronics Watch.

#### Review of Fair Meter Report 2016

In the review of the Fair Meter Report, the various parties discussed the Fair Meter Report that FlonIskra submitted on the end of April. The Fair Meter Report is not included in the Appendix of the present thesis, because it contains numerous details that are out of scope of this study. However, Appendix N and the archival data present FlonIskra's 2015 results concerning energy, CO<sub>2</sub> emissions, water, and waste. Those were the primary topics of conversation during the review of the Fair Meter Report.

The people from SMM who discussed the report with FlonIskra were Alliander's CSR Consultant and Copper8's consultant.

Overall, SMM was satisfied with the submitted report. They reported that the decreases in CO<sub>2</sub> emissions were drastic (figure 10) and that FlonIskra showed reduction in water usage (figure 11) and production of waste (figure 12).

As far as water is concerned, FlonIskra explained that there were three main factors that affected the usage in 2015: warm summer in Slovenia, Kimball's new testing system, and Kimball's hiring of more employees. The Fair Meter project manager from Iskraemeco explained to SMM that water reduction did not reach the desired goal because of the particularly warm summer in Slovenia. To address this, Iskraemeco plans on installing a new air conditioning

system. Flonidan also explained that Kimball hired more employees on 2015 and implemented a new testing system that required heavy amounts of water.

As far as waste is concerned, FlonIskra explained to SMM that the goal (increase of recycled waste) was not something that Flonidan and Iskraemeco could accomplish. Instead, FlonIskra focused on another goal: lowering the overall waste. In my opinion, SMM seemed to be open to the possibility of altering some of the requirements if the parties saw that the goals were impossible to achieve.

Lastly, SMM had two main comments to be considered for the next report. First of all, SMM wishes to see from which actions the reduction in CO<sub>2</sub>, energy, water, and waste come from. Secondly, SMM wishes for more overall transparency on what FlonIskra has already done and what it will do in the future.

## 5 Discussion

So far, I have presented the results from the chosen qualitative methods. In this chapter, I interpret the results with the help of the theory provided in chapter 2.

### 5.1 Stakeholder Theory applied to Flonidan

In this section I shall apply Donaldson and Preston's (1995) insights of stakeholder theory to the case of Flonidan. More precisely, I shall examine which of the two models: input-output or stakeholder suits Flonidan's position.

Donaldson and Preston (1995) refer to the conventional input-output model as being one where investors, employees, and suppliers contribute time and resources (inputs), which the firm turns into outputs for the customers.

Figure 14 presents the conventional input-output model applied to Flonidan. Taking into consideration that Flonidan has owners rather than investors, I have replaced the word *investors* with *owners*. It is also worth noting that in this analysis I use the word *customers* to refer to the utilities/buyers, for ease of understanding.

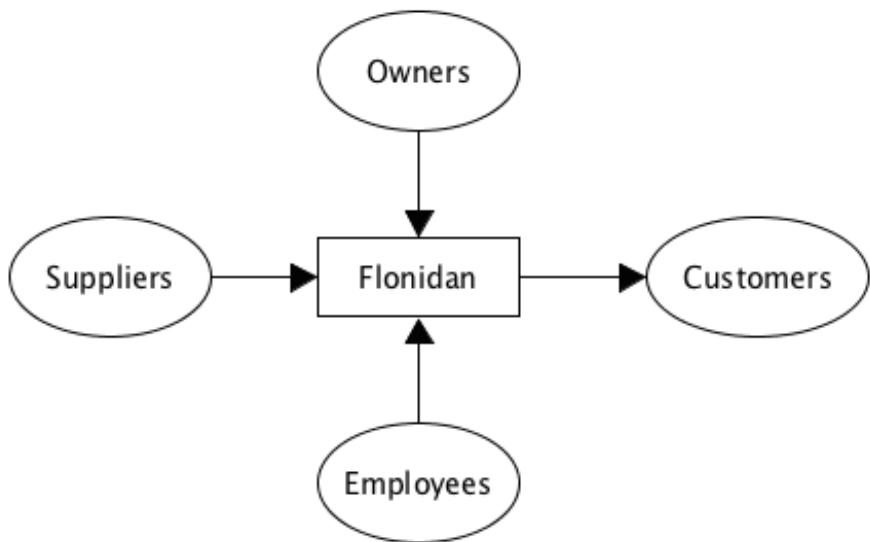


Figure 14. The Input-Output Model, as applied to Flonidan; own work.

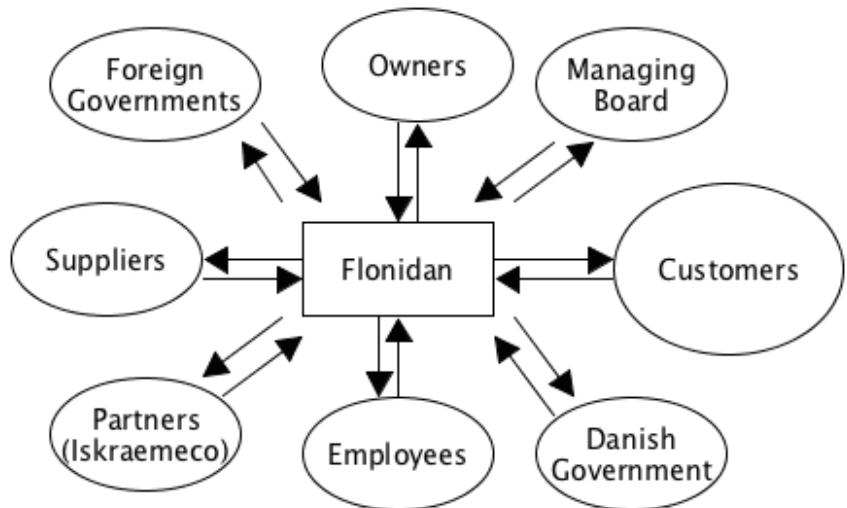
The conventional input-output perspective indicates that Flonidan's owners, employees, and suppliers contribute time and resources to the firm. In turn, the firm then transforms those inputs into outputs for the benefit of the customers, in this case the utilities. The bulk of benefits shall, then, go to the utilities, as a result of competition.

This perspective has a logical basis because, first of all, it is correct that Kimball and Metrix, Flonidan's subcontractors, provide time and resources towards producing Flonidan's meters. Also, the company's employees dedicate their time and talent and the owners provide resources for the sake of the company. In the end, most of the benefits end up with the utilities. Those benefits might be tangible or intangible. Tangible in the form of smart meters for the end customers or intangible in the form of environmental and social fairness of meters.

Overall, however, the conventional model is not suitable for Flonidan's case as it is oversimplified and does not take into account multiple variables. More precisely, Flonidan's corporate activities involve more parties than those mentioned at the input-output model, while the transactions between those parties are more complex and intricate. Furthermore, the managers of the company do not act solely in the interests of the organization's shareholders or owners.

In contrast, the stakeholder model is more suitable in explaining the relationships that occur in relation to the company. In the next paragraph I will analyse my argument further.

Figure 15 presents the stakeholder model applied to Flonidan. The figure depicts some of Flonidan's main stakeholders: owners, employees, suppliers, customers (in the form of the gas utilities), partners, the managing board, the Occupational Health and Safety Organization (AMO), Iskraemeco, and the foreign governments. This list of stakeholders originates from Flonidan's own stakeholder assessment, as well as insights from the individual interviews. It is worth noting that the *media* is beginning to constitute one of Flonidan's influencers, however, not a major one at this point. Lack of space did not permit the addition of further stakeholders.



*Figure 15. The Stakeholder Model, as applied to Flonidan; own work.*

As far as Philips's (2003) stakeholder distinction is concerned, Flonidan only has normative stakeholders. This is because Flonidan's managers have distinct ethical obligations to owners, employees, suppliers, customers, managing board, Danish government, the foreign government, and partners; therefore all of those stakeholders are normative.

One could argue that the Danish and foreign governments are not considered to be normative stakeholders, but derivative ones for Flonidan, because they have the ability only to affect the firm and the normative stakeholders and not the other way around. However, the governments have the ability to affect the firm, but at the same time the firm has responsibilities to each of the two groups. For example the Danish government has the ability to affect Flonidan in the sense that it can formulate legislations that affect the firm. At the same time, however, the firm itself has legal responsibilities towards the Danish government. This element is in line with Carroll (1979, p. 500), who mentions: "society expects business to fulfil its economic mission within the framework of legal requirements".

Furthermore, on the one hand, the Dutch government has the ability to affect Flonidan through Flonidan's customers, the utilities. Yet, at the same time, Flonidan has ethical obligations to the Dutch government due to its connection to the Green Deal Fair Meter, which is an agreement between the Dutch government and Flonidan's customers (Appendix A).

As can be seen in the figure, all arrows between the various stakeholders and the company run in both directions. All of Flonidan's stakeholders participate in the company's activities and all of them obtain benefits in the end. The findings from the interviews portray the fact that Flonidan acts in the interests of the organization's stakeholders in order to create value for the company, a fact that is in line with Freeman's (1984) statement on the essence of stakeholder theory.

In the following paragraphs I will explore how stakeholder theory can explain Flonidan's relationships with three of Flonidan's stakeholder groups. I have chosen Flonidan's suppliers,

employees, and customers (both gas utilities and end customers). The three groups turned out to be the main topic of discussion during the interviews, and therefore, more information exists for them than for any other group of stakeholders.

For instance, at the moment Flonidan transfers buyer requirements to its two main subcontractors. More specifically, Kimball (one of Flonidan's subcontractors) is about to achieve ISO 45001 certification (CQO, personal communication April 13, 2016). ISO 45001 (Occupational Health and Safety) certification helps organizations by providing a framework to improve employee safety, reduce workplace risks and create safer working conditions ("ISO 45001 - Occupational health and safety," n.d.).

If it were not for Kimball's contract with Flonidan, the firm might not have pursued this kind of certification. Therefore, in the sphere of stakeholder theory, Flonidan has not provided Kimball with an added burden. Instead, Flonidan has given the latter the chance to increase the safety of its employees and improve its corporate activities.

Furthermore, by performing audits at supplier factories or by requiring adherence to the Fair Labor Association's standards, Flonidan acts in the interests of the workers that produce Flonidan's components. Furthermore, through pressure, the company can assist suppliers in conforming to industry standards.

Similarly, Flonidan is in the process of enhancing the benefits that the employees obtain through the company. For example, through the CEO's newly installed monthly meetings, the employees are more motivated and more involved in company matters. Also, the CEO states that a healthy life-work balance is a vital element to have in the company (CEO, personal communication, April 25, 2016). This signifies that senior management bears in mind the employees and their families. Also, Flonidan's intention to receive ISO 45001 certification (HSE/IS coordinator, personal communication, April 27, 2016) exhibits the firm's regard of employee safety and protection.

Another example of how the stakeholder model is starting to manifest in Flonidan is the way that the latter treats its customers: both the utilities and the end customers. First of all, as far as end customers are concerned, the findings of the study indicate that Flonidan has put in place a system by which it can treat customer complaints: External Issue Management (CQO, personal communication, April 13, 2016). Some of the interviewees mentioned that this system is not perfect yet (CEO, personal communication, April 25, 2016), but the company is working towards improving it (HSE/IS coordinator, personal communication, April 27, 2016). Nevertheless, the existence of this type of system shows some indication that the company does not dismiss customers' complaints and tries to provide correct feedback to customers' problems.

Secondly, the company tries to maintain close relationships with the gas utilities as well. Indicatively, the CEO mentions that he spends a lot of time with SMM in order to "get their feeling" (CEO, personal communication, April 25, 2016). Close personal communication with and

dedication of time to various groups of stakeholders can be a sign that the organization is stakeholder-oriented.

All in all, I believe that stakeholder theory is in line with the case of Flonidan. The company shows signs of acting in the interests of its stakeholders as a means of creating value for the organization.

Be that as it may, there is one point in Flonidan's case, where stakeholder theory, as presented by Donaldson and Preston (1995), does not apply. More precisely, Donaldson and Preston (1995) indicate that in the stakeholder model, there is no *prima facie* priority of one set of interests and benefits over another. This means that, in the sphere of stakeholder theory, firms do not treat certain stakeholders more preferentially than others.

In contrast to this, the findings suggest that Flonidan prioritizes one set of stakeholder claims against others. I believe this group of stakeholders to be the gas utilities. As the CEO mentioned during the interview, "[...] a huge stakeholder is actually in customers. [...] they drive the utilities, which drive us so... So the buyer [...] has an enormous influence on us" (CEO, personal communication, April 25, 2016). This quote suggests that the end customers influence Flonidan indirectly through the utilities, who themselves influence Flonidan directly. So, in this case, the Dutch utilities hold more power and legitimacy than the rest of Flonidan's stakeholders. Their power comes from the fact that they represent millions of Dutch customers, to whom Flonidan will supply gas meters. Their legitimacy is uncontested as well. For example the Fair requirements of the contract are legitimate claims because they are related to agreements between the utilities and the Dutch government. As Dutch organizations, the gas utilities are required to conform to the wishes of the Dutch government. Therefore, in Figure 15, I have not depicted all stakeholder relationships in the same shape and size, because in the case of Flonidan, they are not. The customers' circle is bigger when compared to the rest of the stakeholders.

At this point, it is worth pointing out that Flonidan's preferential attention to its customers is not necessarily negative, because their interests are in line with other stakeholders' interests. As far as the Fair requirements go, the utilities' interests align with the employees' interest. For example, the utilities wish for Flonidan to adopt ISO 45001 (Occupational Health and Safety) certification. Common sense would dictate that the employees are in favor of the company having a comprehensive framework on safety in the workplace, as ISO 45001 dictates.

Taking into account the limitations that stakeholder theory has in terms of small and medium sized enterprises, I will now move on to analyze corporate social responsibility exclusively in SMEs.

## 5.2 Flonidan: small firm characteristics

In this section I shall examine whether Flonidan shares the same characteristics of the other SMEs of the literature, in terms of size, annual turnover, resources, and organizational characteristics.

By the European Union's definition of SMEs, Flonidan is a small-sized company. It employs approximately 50 people and has an annual turnover or balance sheet total, less or equal to 50 or 43 million euros respectively (CEO, personal communication, April 25, 2016).

In terms of resources, Flonidan is in line with the literature. Put simply, the company does not possess ample resources. For example, the HSE/IS coordinator is the main person who is responsible for the realization of the CSR work (HSE/IS coordinator, personal communication, April 27, 2016) on a full-time capacity. I, as a master thesis student, have been assisting Flonidan with its CSR work, but that has been on a part-time capacity and for a limited period of time. Also, as one can see from the observation of workshop 1 (Observation, December 16, 2015) and observation of workshop 2 (February 10-11, 2016), the CQO participated in half of the meetings with the buyers, but not in all of them. Similarly, the Internal Sales employee observes that, in general, there are not enough people to do the job that the company has taken up (Internal Sales employee, personal communication, April 20, 2016).

What is more, according to the results of the observation (Observation, January 7, 2016, and February 10-11, 2016), in contrast to its joint venture party, Iskraemeco, Flonidan does not have the resources to gain access to electronic databases or the help of a chemical laboratory. Instead, the company must rely on close personal relationships with partners and suppliers to obtain important information. Also, due to its size, the company does not have a marketing department (HSE/IS coordinator, personal communication, April 27, 2016). Thus, it is much more difficult for the firm to visualize its progress and communicate it to the public.

The theory states that small firms tend to be independent and owner-managed (Spence, 1991). Still, this is not the case for Flonidan, as AVK Group owns 100% of the company (CEO, personal communication, April 25, 2016). Hence, Flonidan is very distinct from other small companies. The company has a board of directors and the CEO is responsible for driving the company forward and for promoting the interests of the board and of the owning company (CEO, personal communication, April 25, 2016).

Admittedly, Flonidan resembles other small companies in the way they operate. Spence (1999) reports that small companies are stretched by multi-tasking. In the same way, Flonidan's employees are currently responsible for numerous tasks and decisions. One example is the HSE/IS coordinator of Flonidan. She is responsible for building up, implementing, and getting three certifications on information security, occupational health and safety, and environmental management of the company. In addition, she is in the process of continuously communicating with suppliers and partners in order to gather diverse information. Furthermore, she is in

regular communication with the buyers and reports the progress of the Fair Meter Pilot to them, both in person and through telephone calls. At the same time, she is in charge of preparing Flonidan's CSR and Fair Meter Report on a yearly basis as well as composing the company's Code of Conduct. She is conducting fitness training for the employees and plans the attendance of the employees on running competitions. Last but not least, she has carried out employee awareness training on Information Security and is planning to do the same for the company's environmental and social responsibility issues.

Unfortunately, some parts of Flonidan are exhibiting inflexibility and difficulty in adapting to change. For example, the interviews showed that not everyone is ready for the transition that Flonidan is currently undergoing and this situation creates unhappiness in the office (HSE/IS coordinator, personal communication, April 27, 2016). This is quite unlike what theory expects of SMEs. This appears to be a result of the former CEO's form of operation. Previously, all decisions passed through the CEO and employees could bypass their own leaders (HSE/IS coordinator, personal communication, April 27, 2016). However, it looks as if Flonidan cannot afford to operate this way, now that the pace of business has increased.

### **5.3 Flonidan: impact on the environment and society**

According to the literature, despite certain efforts of some researchers, the total environmental impact of SMEs remains largely unknown.

At Flonidan, most of the interviewees stated that the company has an impact on the environment, but mainly on its supply chain emissions. This is in fact true, as one can see, for instance, in Figure 13. To be more precise, between Flonidan, Metrix, and Kimball, Flonidan is the one who emits the least carbon emissions. That is to say, when measuring, for example, CO<sub>2</sub> emissions, Flonidan has a negligible impact compared to its producers. Namely, Flonidan is responsible for 1% of the total CO<sub>2</sub> that the three companies emit together.

However, one has to remember that Kimball and Metrix's CO<sub>2</sub> emissions are, to some degree, the consequence of Flonidan's business activities. The production the G meter's parts and the assembly of the meter require electricity, heating, water, etc. The production creates waste and the trucks that transport Flonidan's products pollute.

It becomes apparent that, when measuring small businesses' environmental impact, it is also important to look at it from the perspective of the entire supply chain. In my opinion, Flonidan's case shows that when it comes to quantification of environmental impact, it not only the size of the company that matters, but also the range of business activities.

## **5.4 Flonidan: factors that affect the implementation of CSR**

Factors, such as size, seem to have had an effect on the company and its social and environmental responsibility prospects.

For the most part, Flonidan has had certain difficulties in relation to its size. This is because the HSE/IS coordinator is the one person who runs the social and environmental responsibility tasks on a full-time basis and that the buyers' demands have sometimes been considerable for one person to carry out. However, this does not necessarily mean that Flonidan has not lived up to the buyers' demands. Flonidan's managers state that the company satisfies the buyers with its achievements and is the best-performing supplier so far (CQO, personal communication, April 13, 2016).

Yet, findings from the study of Flonidan show that the primary driver behind the company's implementation of CSR is the supply chain pressure brought about by larger organizations. Specifically, the Dutch grid operators (buyers) contractually require Flonidan to implement deeper environmental and social responsible practices and that is why Flonidan initiated stronger social and environmental responsibility practices. This becomes clear not only from the Fair Meter Annex (Appendix B), but also from the individual interviews. In particular, the CEO (personal communication, April 25, 2016) mentions that the company is contractually obliged to deliver on the Fair Meter project commitments.

That being the case, it would be wrong to assume that Flonidan is involved in CSR solely because of the buyers' requirements. More precisely, in my view, the interviewees did not give the impression of "blindly" following the buyers' demands. The findings support my assumption in two ways. First of all, the company recognizes the potential of CSR and plans to take commercial advantage of it, in the long run. For instance, the CQO declares: "We see it as a business advantage in the long run and to have this multiple bottom line in our approach" (CQO, personal communication, April 13, 2016). In a like manner, on the subject of "Fair" the CEO states: "We wanna have it in our DNA, this is the profile of the company, this is who we are" (CEO, personal communication, April 25, 2016). Secondly, some of the interviewees also put forward moral and ethical arguments for the advantage of CSR at Flonidan. For example, in the subject of CSR the CEO alludes to the fact that the company should first do "the right thing", no matter the cost (CEO, personal communication, April 25, 2016).

However, it becomes evident that the extent of CSR work increased dramatically after the agreement with the Dutch grid operators. Before the agreement with SMM, the CEO indicated that the company had certain values already in place, but all in all, it was less structured. Also, Flonidan reported on CSR-related issues because of Danish regulation, but the work was not entirely satisfactory to the CQO (CQO, personal communication, April 13, 2016). Therefore, in Flonidan's case, supply chain pressure is proving to be a more intense source of change than the company's values or governmental regulation.

Unlike the case of Danish SMEs in the literature review, Flonidan has received requirements that are both contractual and subject to verification. More precisely, the contract mentions that certain sanctions will be put in place, unless Flonidan conforms to the requirements. Furthermore, the company must produce a yearly report so that the buyers can have knowledge of Flonidan's progress. As a consequence, it is more likely that Flonidan will put a greater effort in living up to the requirements. Furthermore, it is not in the company's interest to avoid compliance, as this would have serious consequences to the company's relationship with an important customer.

Lastly, the literature also examines the extent to which SMEs apply the requirements to their own suppliers (for example Jørgensen & Knudsen, 2006). Unlike the SMEs in the literature, Flonidan does make an effort to pass down requirements along its supply chain. Admittedly, this task has been successful mostly with the two main subcontractors and not along the whole supply chain. However, as the HSE/IS coordinator indicated, Flonidan communicates with its subcontractors and tries to verify the extent to which they themselves pass on the requirements to the rest of their suppliers (HSE/IS coordinator, personal communication, April 27, 2016). In the following section I shall provide further details on how the company interacts with its stakeholders and compare it to what the theory states.

## 5.5 Stakeholder Management at Flonidan

### 5.5.1 Buyers

Flonidan's buyers specified both environmental and social criteria, something that is in line with Jørgensen and Knudsen (2006). Based on the contracts between FlonIskra and the buyers, the environmental criteria concern reduction in energy, CO<sub>2</sub> emissions, water, and waste. The social criteria concern labour rights (such as FLA), health and safety (training for employees), and human rights (OECD), amongst others.

From a first glance of SMM's contract requirements, it seems like the Dutch grid operators provided a list of hard requirements, to most of which, FlonIskra has to comply with from the first year of the contract, which is quite unlike what the European Commission (2006) considers an *ideal* buyer should do. Furthermore, to someone who was not present during the tendering process, those requirements resemble demands that are strict and idealistic. On this subject, the findings contrast each other. On the one hand, it seems that the environmental requirements (energy, emissions, water, waste) were a result of a joint dialogue between FlonIskra and the buyers. On the other hand, when it comes to Fair Materials & Processes, Fair Labour, the buyers had predefined the requirements. To this subject, the CQO states: "So this was actually done beforehand from their side in the tendering work and we said yes, yes, no, no, etc." (CQO, personal communication, April 13, 2016).

The buyers assisted FlonIskra with the development of the supplier questionnaire. The supplier questionnaire's aim is to make the collection of relevant information much easier. Therefore, the buyers seem to have provided resources such as time and knowledge in order to help FlonIskra get information from the suppliers. This is in line with what theory recommends that buyers do, if they want to achieve effective change (for example Jørgensen & Knudsen, 2006).

Furthermore, Flonidan's buyers seem to recognize the difficulty of implementing CSR along the supply chain and try to provide solutions. This hypothesis is based on two main facts.

First of all, they have been trying to enlist the help of third parties such as Electronics Watch (Observation, May 12, 2016). Electronics Watch can use its network of NGOs to monitor suppliers. Secondly, the development of the Transparency Tool constitutes a solution for the tracking of sustainability-related risks in the company's supply chain.

Those two elements point to the fact that the buyers are making efforts to assist Flonidan with the policing of suppliers. If the parties become successful in enlisting third parties and developing a functional software tool, the obtaining of information and the extension of standards along the entire supply chain might become much easier. Regardless of the result, the buyers are showing their intention to assist their smaller partners, something that is in line with Jørgensen and Knudsen's (2006) recommendations for the effective pervasiveness of standards in global value chains.

However, so far, they have not helped provide adequate awareness raising and training on CSR in SME suppliers, as the European Commission (2006) indicates. Lastly, so far, they do not seem to have organized any activities through which the suppliers and their customers can network and bond. This contradicts Starcher (2005), who recommends that buyers of SMEs should initiate supplier fairs in order to educate the suppliers on company goals, policy, etc.

### **5.5.2 Suppliers**

Flonidan's success in implementing CSR practices will depend, on a large degree, by whether the company is effective in cascading responsibility down its supply chain. This is due to the fact that many of the buyers' requirements require Flonidan to cascade responsibility throughout the supply chain, as one can see in the Fair Meter Annex (Appendix A).

As far as environmental requirements are concerned, most of the interviewees were of the opinion that Flonidan is able to affect the behaviour of its subcontractors. Indeed, the data from FlonIskra's environmental assessment suggest that Flonidan is in some position to affect the behaviour of its tier one suppliers, as the interviewees reported.

In 2016 FlonIskra managed to achieve substantial savings in CO<sub>2</sub> emissions and energy consumption. FlonIskra's savings are considerably above the requirements of the buyers. To be more precise, in 2016 FlonIskra managed to reduce energy consumption per unit by 66%, while the buyer requirements were set at 6%, compared to the baseline. Likewise, as far as carbon emissions go, FlonIskra presented savings well above the buyer requirements.

However, with water consumption and waste, FlonIskra did not manage to comply with the buyer requirements. More precisely, water consumption per unit was reduced by 6%, while the buyer requirements were set at 10% as compared to the baseline. Likewise, FlonIskra did not manage to increase the amount of recycled waste by 10%. Instead, FlonIskra decreased recycled waste per unit by 55%.

As one can see from FlonIskra's environmental assessment and observation on May 12, 2016, FlonIskra reported the true numbers of water and waste to SMM, despite the fact that they were not in line with the contract requirements. This contrasts the European Commission's (2006) report that states that SMEs often say they meet the buyer requirements in order not to lose out on deals. Therefore, instead of lying, FlonIskra discussed how it plans to address the discrepancy of the water usage numbers next year. Also, FlonIskra indicated to the buyers that the requirements are unrealistic to FlonIskra's case and shared its new goals to the buyers, who seemed open to changes and comments (Observation, May 12, 2016.)

Flonidan has also been successful in transferring social requirements to its subcontractors. This contradicts the assumption made by Jørgensen and Knudsen (2006), that SMEs are more likely to only pass environmental rather than social requirements. One piece of evidence for this hypothesis is the fact that Kimball is implementing occupational health and safety certification, as a result of Flonidan and the SMM requirements (CQO, personal communication, April 13, 2016). Flonidan's CEO reports that Metrix has also come a long way when it comes to Fair and CSR (CEO, personal communication, April 25, 2016).

Flonidan's ability to influence both Kimball's and Metrix's sustainability practices might originate from Flonidan's high bargaining power and close relationships with the firms. Kimball and Metrix receive big orders from Flonidan (HSE/IS coordinator, personal communication, April 27, 2016) and in its turn, Flonidan visits its two subcontractors several times a year and remains in contact on environmental measurements every 3 months (CQO, personal communication, April 13, 2016).

By way of contrast, the situation is entirely different with rest of Flonidan's suppliers. The company does not leave big orders with second tier suppliers (HSE/IS coordinator, April 27, 2016) and it does not have as close relationships with them as with Metrix and Kimball (CQO, personal communication, April 13, 2016).

Unlike the firms in the theory, Flonidan does not monitor the rest of its suppliers regularly. The company visits and audits its second tier suppliers maximum once a year (CQO, personal communication, April 13, 2016). In line with the theory, the company also uses self-assessment questionnaires (HSE/IS coordinator, personal communication, April 27, 2016) and incorporates certain CSR criteria when it selects suppliers (CQO, personal communication, April 13, 2016).

What is more, as with most companies in the theory, Flonidan is unable to retrieve information concerning the labour conditions of its suppliers. Specifically, the HSE/IS coordinator states that

labour is the most difficult subject to get information on (HSE/IS coordinator, personal communication, April 27, 2016). This seems to be a negative implication, considering the dire labour conditions that have been spotted in the electronics industry, as mentioned in the introduction.

Lastly, Flonidan's interaction with overseas suppliers has been affected by differences in culture and language, something that is in line with the theory. What points to this assumption is the fact that the HSE/IS coordinator finds the communication with Danish suppliers easier and would prefer it if the suppliers were situated in Europe (HSE/IS coordinator, personal communication, April 27, 2016).

### **5.5.3 Employees and Senior Management**

The findings suggest that Flonidan is working or planning to work towards assuring that CSR is driven internally. So far, the company has developed an understanding of CSR, mainly with help from the contract requirements, not through stakeholder engagement as theory indicates. That is to say, it is the list of SMM's requirements that has provided Flonidan with some guidance concerning the paths the company should take in order to be more environmentally and socially responsible. This became apparent from the fact that most of the interviewees use the word "Fair" to refer to CSR-related aspects. Due to this, Flonidan must tackle a wide range of problems and not just those that are the most relevant to its stakeholders.

The findings suggest that the new senior management of Flonidan has taken paths towards further motivating the employees and educating them in general company matters, through the initiation of the monthly meetings. However, the company has not done the same when it comes to CSR-related matters. For example, the Internal Sales employee reported that she knows very little about what kinds of requirements the company has, in relation to Fair. Yet, she regards the company's CSR *path* as necessary (Internal Sales employee, personal communication, April 20, 2016). Even though one employee does not speak for all of Flonidan, common sense dictates that most of the employees might be in favour of increased social and environmental accountability for the company.

In their turn, Flonidan's CEO and CQO believe that employee support is necessary for CSR implementation to be successful. For example, the company's CEO states that the company should inform the employees about the Fair-related aspects. As a consequence, Fair can also impact the daily decisions that the employees take in their respective areas (CEO, personal communication, April 25, 2016).

However, even though the people responsible for CSR understand the term *CSR*, this is not the case for the rest of the employees, at the moment. This comes in contradiction with Jenkins (2006), who believes that simple understanding and wording of the concept of CSR is vital for SMEs. In company meetings and internal emails, the CSR supervisor(s) do not define it in an

informal way and do not use terms of every day life. Because of this, the Internal Sales employee states that people should speak plainly and in a manner that everyone understands (Internal Sales employee, personal communication, April 20, 2016).

In addition, senior management at Flonidan is has the potential to play a significant role in the implementation of CSR. The company's CEO is an advocate of the concept of CSR and tries to represent the good example to the employees (CEO, personal communication, April 25, 2016).

Last but not least, despite the fact that the CEO is an advocate of the CSR work, he has not managed yet to set the company's vision and principles in alignment with the company's understanding of CSR, unlike what Jenkins (2006) believes the owner-manager of the SME should do. This becomes apparent from the fact that the HSE/IS coordinator believes that the CEO should make CSR a visible part of the company's strategy. (HSE/IS coordinator, personal communication, April 27, 2016).

## 6 Recommendations for improvement

At this point, I shall propose certain recommendations for improvement. Those recommendations originate from the analysis of the theory and the comparison with Flonidan's actions so far. Through these recommendations, my intention is to provide some guidance on how Flonidan can enhance its social and environmental profile. I am aware that some of the following points are part of Flonidan's future plans; I have, nevertheless, decided to provide a comprehensive list of what I consider the company should improve on. I believe that those improvements can be achieved with the resources that the company already possesses.

I have divided my recommendations into four different categories: Senior management and Strategy, Employees, Buyers, and Suppliers. In Figure 16, I have provided a visualization and summary of the proposed recommendations.

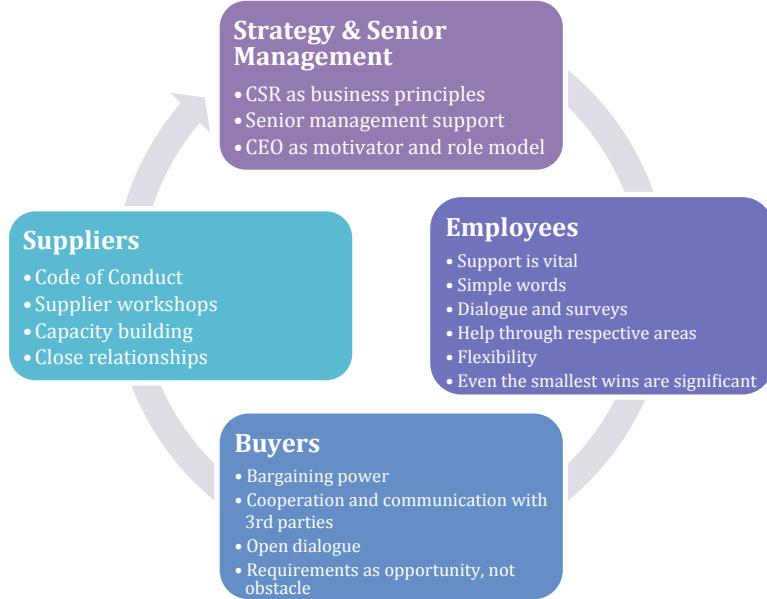


Figure 16. Summary of the four areas of improvement; own work

### Strategy & Senior Management

First of all, Flonidan has to make sure that CSR takes roots internally. For this to happen, Flonidan should not equate CSR with the buyers' requirements. Put simply, the company's internal motto should not be: "We are doing this because of the buyers", but rather: "We are doing this because we want to do it". This does not necessarily mean that the company should completely disregard the buyers' demands, but rather incorporate the requirements into its own business principles and strategy.

The role of Flonidan's senior manager should be more central, as well. While the HSE/IS coordinator is the supervisor of all the sustainability-related work, the CEO can assist in this effort, not only through implementing CSR in the company's strategy, but also by being the person who will inspire and motivate the employees towards this direction.

### Employees

The most important element for the successful implementation of CSR is the support of the employees. Flonidan should educate its employees on what it has done and on what it has yet to do, with the use of simple and easily understandable words. Then, all employees can discuss with each other, what social and environmental responsibility means for them. The employees can describe the concept in their own words. With the help of this, the company can, then, use words other than "Fair" or "CSR" to describe its actions in the future.

The company can also carry out annual employee surveys or open dialogue in order to examine what the employees consider the most important aspects. For example, from a short interview with the Internal Sales employer, it became apparent that she would not like the company's

supply chain to involve child labourers. Similar discussions with all of the employees might provide further insights.

Flonidan can also give more attention to the communication of progress in CSR-related aspects. For example, the company can share the completion of important milestones in the monthly meetings or via internal emails, in order to increase the employees' motivation and gratification in relation to the company's work. The company might experience many obstacles during this process, so the employees should find any opportunity to celebrate even the smallest wins.

Additionally, the company can make it clear to the employees that their support is vital and that all of them can help through their respective areas. However, it is important that the employees do not regard CSR as an added burden to their daily tasks.

Lastly, the organization should not condemn multi-tasking. Independent decision-making and flexibility are special characteristics of SMEs that the company should take advantage of.

### Buyers

As far as the buyers are concerned, Flonidan can encourage them to provide more resources. This can take multiple forms. For example, the buyers can help the transfer of CSR requirements by providing support with their own bargaining power. Flonidan can also drive the buyers towards cooperating more closely with other large buyers as well as NGOs. With the help of local NGOs, Flonidan can have insider knowledge of suppliers' working conditions. However, at the same time, the company has to make sure that it does not compromise its relationships with the suppliers, when third parties intervene.

Overall, however, Flonidan should continue to be open and honest with the buyers. More precisely, the company has to keep an open dialogue with them concerning the difficulties it encounters along the process. So far, the buyers have shown willingness to cooperate and provide assistance. There is no reason to believe that they will not continue to do so.

As a last note, if Flonidan wishes to incorporate CSR to its DNA, then it should not consider the buyers' verification of the requirements as a burden. Through verification and reporting, the company ensures that it will complete the requirements as fully as it can.

### Suppliers

In terms of transferring CSR requirements along the supply chain, the task is going to be difficult, but not impossible. Flonidan should have in place a clear code of conduct that will make known to the suppliers the framework in which the company operates. For instance, the collection of information on labour conditions has been difficult, so far. To counter this, the company can attach stricter rules for labour conditions to its code of conduct. As a consequence current and potential supplier can be aware of what the company's stance is.

What is more, the company can take advantage of its close relationship with one of its tier one suppliers, Kimball, in order to improve its relationship with tier two suppliers. For example, the company can organize supplier engagement workshops with the participation of SMM and with Kimball acting as a mediator. During the workshops, Flonidan, with the help of SMM, can provide awareness training to the suppliers and discuss the mutual benefits that might arise from a deeper implementation of sustainable practices. The workshops can act as capacity building approach and as a starting point for the establishment of more personal relationships with overseas suppliers.

## 7 Conclusion

In this chapter, I summarize the study's goals, key findings, limitations, and generalizations. The purpose of this study was to examine the Corporate Social Responsibility (CSR) practices of small- and medium sized enterprises (SMEs) in the electronics industry, by studying the case of Flonidan, a Danish developer of smart gas meters.

A study of this kind is important, considering the impact that the electronics industry has on people and on the environment. Topics such as conflict minerals, excessive electronic waste, and dire working conditions are most closely associated with this type of industry. Such issues necessitate corporate accountability and call for businesses to act in the benefit of their stakeholders, and not just their shareholders'. Furthermore, the relevant literature has taken little account of this subject in relation to SMEs.

For the achievement of the study's goal, I conducted four individual interviews, collected data from Flonidan's archives, and gathered field notes from my observation of the company's interactions with its stakeholders. There is not one coherent sentence that can summarize the research's findings and, at the same time, answer the research question: "What is the role of CSR for SMEs in the electronics industry?" Therefore, I give a synopsis of the study's key findings below.

First of all, I have shown how stakeholder theory can explain the way Flonidan interacts with its stakeholders. Flonidan's current business activities aim to create benefits for multiple stakeholders and the interactions between the stakeholders are intricate and bilateral. However, at the moment, Flonidan seems to prioritize the customers' needs over the needs of other stakeholder groups.

Further, after taking into consideration some of the limitations of stakeholder theory in SMEs, I explored how Flonidan implements CSR and interacts with different groups of stakeholders.

This study has shown that, as a small company, scarcity of resources defines Flonidan's relationships with its stakeholders, to a large extent. The company is not independent or owner-managed and its supply chain does not have a negligible environmental impact. Multi-tasking

characterizes the daily duties of the employees, and the company makes efforts to become more flexible in order to adjust to its increased business activities.

In Flonidan's case, buyer requirements were the driver for involvement in CSR. However, the company recognizes the potential in the CSR concept. In the company's efforts for deeper social and environmental responsibility, size has been a constraining factor. The buyers laid down a long list of environmental and social requirements that are contractual and subject to verification. However, the buyers were also the source of support and open dialogue for Flonidan.

The subject of the suppliers is a difficult one in Flonidan's case. Flonidan has been successful in transferring both environmental and social requirements to its subcontractors. High bargaining power and close relationships with the subcontractors resulted in positive results. However, the situation is hazier when it comes to tier two suppliers. Quite like the theory, suppliers do not share basic information, let alone express willingness to adhere to requirements. But even so, assistance from third parties, capacity building, and insistence might be factors that can accommodate this process.

Flonidan's case confirms that senior management support can act as a catalyst for change. More importantly, however, in the resource-constrained setting that Flonidan is in, employee support and involvement has the potential to play a significant role, despite the fact that the company has not oriented CSR efforts to its employees, yet.

Despite the fact that the research has accomplished its aims, it is important to address some of its unavoidable limitations. For a start, the study is confined to only one organization in one particular region. Limited resources did not permit the study of more cases in different geographical regions. Another limitation is the restriction on the type of the study's participants. More precisely, due to time constraints, the study did not include interviews from the other stakeholders that interact with Flonidan, such as the company's joint venture partners, suppliers, or buyers. The research was conducted solely from the point of view of Flonidan. Perhaps contribution from other parties might have revealed details not covered in the present study.

Due to the study's limitations, it is unknown if the study's findings can be transferred to a wider number of companies. On the subject of transferability of findings, Shenton (2004) mentions that in order to determine whether the same findings are valid in other situations as well, one needs to take into account issues such as the particular characteristics of the organization or the geographical context of the study. Therefore, the findings from Flonidan's study might be applied to other small Danish companies that are in the first steps of a similar process or that encompass the same characteristics.

Future research should take into consideration a larger amount of SMEs from different geographical regions. Likewise, further studies could examine SMEs' CSR involvement by also taking into account other stakeholders.

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# **Appendices**

Appendix A  
Green Deal Fair Meter  
(pdf file on next page)

**Framework Agreement Annex F, Green Deal  
Fair Meter  
2016 - 2020 SMR5 Meters  
Identification number: 2014/S117-208313**

**Stedin Netbeheer B.V.  
and  
FlonIskra vof**



# **Green Deal Fair Meter**

## **Parties**

1. The Minister of Economic Affairs, Mr H.G.J. Kamp, and the secretary of state for Infrastructure and the Environment, Ms W.J. Mansveld, both acting in their administrative capacity, hereinafter together referred to as: the National Government;
2. Liander NV; legally represented by its director for Infostroom, Mr M.J.W. Kempkes, hereinafter referred to as: Liander;
3. Stedin Netbeheer BV; legally represented by its purchase manager, Mr F. Kemper, hereinafter referred to as Stedin;
4. Waag Society foundation, legally represented by its general director, Ms M. Stikker, hereinafter referred to as: Waag Society;

Hereinafter together referred to as: The Parties

## **General considerations:**

1. In order to retain our prosperity for future generations, it is necessary to enhance the competitiveness of our economy and at the same time reduce the impact on the environment and our dependence on fossil fuels and scarce raw materials.
2. Creativity, entrepreneurship and innovation are essential to make this shift to green growth possible. Companies, citizens and civil society organisations are taking concrete initiatives at full speed towards greening the economy and society as a whole. By means of the Green Deal Approach, the cabinet intends to make full use of this impulse in society towards green growth.
3. Green Deals offer companies, individuals and organisations a low-threshold opportunity to work for green growth together with the government. Initiatives based on the community form the basis for this. In cases where they run into obstacles that the initiators believe can be tackled by the national authorities, the cabinet intends to act to remove or resolve these obstacles with a view to facilitating and accelerating these initiatives. In a Green Deal the parties set down concrete agreements in writing.
4. The results of a Green Deal may be used for other comparable projects, so that follow up can take place and the scope of a Green Deal can be enlarged, without specific support from the National Government being needed.

## **Specific considerations for the Green Deal Fair Meter:**

1. The Green Deal Fair Meter has the aim of developing all aspects of the Fair Meter concept into a business case in which this concept is made operational and showcased in such a way that the envisaged roll out of Fair Meters can take place in good time. Over the course of the project there will be increasing clarity over the extent to which the Fair Meter fits into the envisaged implementation of the smart meter. Any negative impact on the implementation will be prevented.

2. The 1998 Electricity Act and the Gas Act lay down that the smart meter will be offered in a phased way to consumers and small business users. With the smart meter, consumption and meter readings will be able to be read off remotely by energy suppliers and made available individually per customer. The smart meter is one of the improvements towards a more efficient and sustainable energy supply where energy saving becomes more important and decentralised generation of energy by customers will increase sharply. Offering the smart meter links up with the third European energy package that conditionally lays down that by 2020 at least 80% of consumers and small business users will have a smart meter. The plan is to go over to large scale provision of smart meters by distribution network operators in the Netherlands in the middle of 2014, with the aim of offering 100% of households a smart meter by 2020.
3. The distribution network operators and the National Government have set out the role of the distribution network operators in accelerating energy sustainability in the Green Deal of Energy Netherlands with the National Government. In it agreements on investment have been struck, centring on smart grids, energy saving (including smart meters), raw gas/biogas and charge points for electric vehicles.
4. The arrival of the smart meter marks a technological leap forward for the energy system in Europe. Simultaneously it will generate new challenges concerning the electronic equipment needed and the accompanying production processes. At the moment there is no adequate answer to how social problems (working conditions, use of conflict minerals) and ecological problems (waste flows, overuse of scarce resources) will be prevented as a result of our technological progress.
5. On the assumption of a sound knowledge base and innovative capacity, opportunities may be discerned posing new questions and for arriving at new solutions to the social and ecological problems mentioned, in co-creation with consumers, suppliers and the government.
6. There is increasing transparency in the chain across various sectors. In the construction sector, new buildings are increasingly *tagged* to make construction materials traceable and recyclable in the future. In the aviation and automotive industries, material and production transparency has been general practice for years in the interest of safety, liability and recyclability. The electronics sector is still in the early stages of this development. Rapid digitalisation of our society in combination with a level of social awareness that is still low indicates the need for change. The Parties to this Green Deal envisage linking up with social developments, such as the ban on the use of 'conflict resources' in the United States and the initiatives concerning Fair tin, FairPhone and Phoneblock.
7. The Netbeheer Nederland sector association has in the name of the Dutch distribution network operators committed itself in writing to supporting the implementation of this Green Deal. Distribution network operator Enexis has in addition confirmed in writing that it is open to discussions with the aim of possible participation.

## **Agree to the following:**

### *Article 1 definitions*

- Fair Meter: product made of used materials and materials derived from socially responsible sources in a process of socially responsible production; use and introduction of the smart meter in collaboration between purchasers (distribution network operators), suppliers, consumers en small business users with maximum transparency in product manufacture and data management;
- Resources label: indication on the product detailing the materials that have been used and their origin;
- Circularity: method of production and consumption with no or scarcely any residual waste. Used materials and resources form the basis for a new production cycle. Circularity comprises the sequence of re-use, upcycling (greater purity of raw material on re-use), recycling and finally downcycling.
- Data management: the architecture of data exchange and storage.

### **Input and action by Parties**

#### *Article 2. The Green Deal Initiative Fair Meter*

1. The Parties subscribe to the aim that the advent of the Fair Meter will contribute *globally* to a better society from a social and ecological point of view. Producers and consumers of this technology will minimise the social and ecological damage over the production chain and where possible restructure in the direction of social and ecological yields.
2. The Parties will to this end draw up a joint plan of execution, in which the main elements for developing the Fair Meter will be made more precise and in which in any event attention will be paid to the greater detailing of:
  - co-creation: innovation within tendering law,
  - transparency: transparency across the chain by means of the resources label,
  - circularity: minimal claim on resources,
  - social responsibility and reciprocity: dealing with working conditions in the chain and the reciprocal relationship with consumers concerning the exchange of data,
  - communication regarding the Fair Meter,
  - mutual division of responsibilities,

This plan of execution will be ready at the latest four months after the signing of this Green Deal.

#### *Article 3. Co-creation*

1. The Parties subscribe to the idea that the aim referred to can only be achieved through close cooperation along the chain between consumers, suppliers and producers, knowledge institutions, and the government.
2. The Parties shall each contribute on the basis of their own position to space for co-creation and innovation within the rules in force under tendering law.

#### *Article 4. Transparency*

The Parties shall each contribute on the basis of their own position to the initial principle that from 2015 onwards each smart meter will be provided with a ‘resources label’.

### **Input and action by Liander, Stedin and Waag Society**

#### *Article 5. Circularity*

1. Liander, Stedin and Waag Society each stand guarantee on the basis of their own position to the effect that with every subsequent (cost-based) product development of the smart meter in the chain, circularity will be adhered to as a design principle to the maximum.
2. Liander, Stedin and Waag Society guarantee that the claim on newly exploited resources in new smart meters supplied in 2020 will be minimal. The aim is that by 2020 every new smart meter supplied will be made to more than 98% of used resources and/or materials (designed for re-use).
3. Liander, Stedin and Waag Society will participate in a controlled experiment involving at least 1,000 Fair Meters, in which the circular principle will be worked through. The experiment will showcase the Fair Meter and also serve as foundation and practical interpretation of the plan of execution referred to in Article 1. Liander is taking the initiative on the experiment.

#### *Article 6. Social responsibility and reciprocity*

1. Liander, Stedin and Waag Society, together with partners in the chain, will ensure with all work in the chain that agreements regarding the Universal Declaration of Human Rights and the international terms of employment and working conditions treaties, as drawn up by the International Labour Organisation (ILO), are taken into account.
2. Waag Society will take the initiative in making recommendations for improvements in this area, by means of an experiment designed around data management seen from the perspective of consumers and small business users.

### **Input and action from the National Government;**

#### *Article 7. National Government*

1. The National Government will facilitate the cooperative process between the Parties.
2. The National Government will strive to remove any regulatory bottlenecks, where necessary and possible, and will seek solutions to remaining bottlenecks within its area of authority.
3. The National Government will ensure link ups to the relevant policy areas, both nationally and internationally, including EU Horizon 2020 and EU Resource Efficiency. The National Government will propagate the concept of a fair meter in relevant forums nationally and internationally, in particular in relation to the experiment mentioned in Article 5.
4. With its experience of public participation, the National Government will facilitate, where necessary and possible, in the still to be elaborated dialogue sessions with stakeholders.
5. The National Government will make its expertise available in working through the details for the Fair Meter tender.

6. The National Government will take the initiative in a process leading to the formulation of a resources label for the Fair Meter. Current developments around giving shape to resources labels will be taken into account as much as possible.

## **Concluding provisions**

### *Article 8. Implementation in harmony with EU law*

The agreements reached in this Green Deal will be implemented in harmony with the law of the European Union, in particular insofar as these agreements fall under the operation of EU rules regarding tendering, competition, state support and technical standards and regulations.

### *Article 9. Amendments*

1. Any Party may in writing request the other Parties to amend the Green Deal. The amendment requires the written assent of all the Parties.
2. The Parties will enter into consultation within six weeks of a Party communicating in writing to the other Parties a desire to do so.
3. The amendment and the declaration of assent will be attached in transcript as annexes to the Green Deal.

### *Article 10. Workgroup*

A workgroup tasked with implementing this Green Deal will be set up within one month of the signing of the Green Deal.

### *Article 11. Evaluation*

1. The Parties will evaluate the implementation and operation of this Green Deal before the end of 2014.
2. More detailed agreements will be arrived at regarding the way in which the evaluation will be carried out in the plan of execution referred to in Article 2.

### *Article 12. Accession of new parties*

1. New parties may accede to this Green Deal.
2. A new party shall make its request known to the Parties in writing. Once all the Parties have assented in writing to the request for accession, the acceding party will receive the status of Party to the Green Deal and the rights and obligations deriving from the Green Deal will apply to this Party where applicable.
3. The request for accession and the declaration of assent will be attached to the Green Deal as annex.

### *Article 13. Termination*

Any Party may terminate this Green Deal in writing (at any time), taking into consideration the period of termination of three months. The Green Deal will in any case be terminated by the Parties if:

- the Fair Meter does not contribute to the putting out to tender, cost efficiency and roll out of the smart meter in the Netherlands,

- insurmountable complications arise in determining the circularity of the Fair Meter,
- a delay arises in the broad scale tendering process and roll out of the smart meter.

*Article 14. Compliance*

The Parties agree that compliance with the agreements contained in the Green Deal is not legally enforceable.

*Article 15. Commencement*

1. This Green Deal goes into effect from the day following signature by all the Parties and runs up to the end of 2015.
2. The Parties shall effect the execution of all the agreements mentioned in this Green Deal as soon as possible.
3. At the latest three months before the term of this Green Deal expires, the Parties will look more closely into the modalities of extending the agreements where possible and necessary.

*Article 16. Publication*

This Green Deal will be made public along with other Green Deals concluded in the Government Gazette and elsewhere, so that others will be made aware of the Green Deals concluded, with the intention of promoting follow up to them.

**Thus agreed and signed in duplicate at Amsterdam on 12 November 2013. One original copy of this Green Deal will be kept in the National Archive (Rijksarchief).**

**Minister of Economic Affairs,**

H.G.J. Kamp

**Secretary of State for Infrastructure and the Environment,**

W.J. Mansveld

**Liander NV,**

M.J.W. Kempkes (Director Infostroom)

**Stedin Netbeheer BV,**

F. Kemper (Purchase Manager)

**Stichting Waag Society,**

M. Stikker (General Director)

Appendix B  
Fair Meter Annex  
(pdf file on next page)

**Framework Agreement Annex L, Fair Meter  
2016 - 2020 SMR5 Meters  
Identification number: 2014/S117-208313**

**Stedin Netbeheer B.V.  
and  
FlonIskra vof**



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## Section 1. Introduction

### 1. Definitions

All definitions from '**Annex A - Definitions**' shall apply to this Annex.

### 2. Purpose and scope

- 2.1. On 12 November 2013, Buyer signed the Green Deal Fair Meter (see **Appendix A.12 - Green Deal Fair Meter**). The Green Deal is an agreement between the Dutch government and knowledge institutions and grid operators for the development of a Fair Meter. The "Fair Meter" concept was therefore one of the leading principles in the Tendering Procedure (see paragraph 2.2).
- 2.2. The main objective of this Order is the development, testing, Production and Delivery of smart electricity and gas meters that meet Fair Meter requirements (as the fourth objective described in paragraph 2.2 of the Tendering Guideline).
- 2.3. In order to further define the concept of 'Fair Meter', a performance ladder was developed by Buyer. The performance ladder describes which Components (of the Product and processes of Supplier) are part of the concept of 'Fair Meter'. The Components are applicable to the Smart Metering Supply Chain (incl. the Smart Meter) and the Smart Metering Process. Buyer has drawn up an ambition for each of the identified Components. The aim is to achieve a 100% Fair Meter over time.

- 2.4. Buyer applies at least the following ambitions with regard to the concept of 'Fair':

|   | <b>Component</b>          | <b>Description</b>   | <b>Ambition for a 100% Fair meter</b>   |
|---|---------------------------|--|---|
| 1 | Proces                    |  |   |
| A | Energy & Emission         | Chain emissions and energy consumption over the entire chain.  | Full energy and CO2 neutral meter chain, with a limited amount of CO2 compensation.   |
| B | Resources & Raw materials | Responsible use of (sustainable) Raw Materials, minimising waste flows, approaching the chain as a circular process. | Entirely circular meter. In other words, the meter is constructed of secondary raw materials, minimising use of already depleted raw materials, reusable where possible, maximising potential for upcycling, recycling and/or down cycling (in that order). |
| C | Fair materials            | Use of conflict-free metals and Raw Materials.   | The meter is produced without the use of conflict metals or raw materials. Materials whose origin cannot be determined with certainty are also avoided in the Production process.   |
| D | Labour                    | Responsible working conditions for employees in the entire chain.  | All chain parties ensure responsible working conditions for their employees and can demonstrate this. Insofar as possible, these are assessed against international labour Conventions.   |

## Section 1 Introduction

|   |                           |   |   |
|---|---------------------------|---|---|
| E | Transparency              | Refers to the degree of transparency with regard to the value chain and fair performance (status quo) of                  | For each Component, the status quo (transparency throughout value chain and fair performance) is made entirely clear by the relevant party at all times.  |
| 2 | Product                   |   |   |
| A | Energy use                | Relates to the energy consumption of the meter during its life expectancy.  | The Fair Meter is energy neutral in use.  |
| B | Resources / Raw materials | Relates to the use of hazardous substances in the meter   | Hazardous substances are not used in the meter. This concerns both the composition of parts of the product, and additives in Production. Where this cannot be avoided, these materials are obtained from a secondary source. A protocol is developed for safe removal of hazardous substances from the meter after lifetime to prevent uncontrolled spilling of such substances into the environment. |
| C | Software & Data           | Concerns the extent to which the end user has insight into the software, its functionality and the use (by third parties) | All extra services on the meter are opt-in for the end user. The end user fully understands the extent and type of data that is communicated.   |

2.5. Suppliers vision of Fair Meter is to design and manufacture Smart Meters, which:

- Are environmentally sustainable taking into account the overall life cycle of Components and materials.
- Only draw on socially responsible and environmentally sustainable resources, and
- Simultaneously optimise sustainability, performance, quality and cost.
- Are governed by a process, which over time will continuously improve the Fair Meter content of our Smart Meters and the Fair Meter knowledge of Suppliers work force.
- Is increasing the transparency about the Fair Principles in order to increase all stake holders interests regarding environment protection.

Suppliers vision covers the complete supply chain from raw materials to end customers. When Supplier starts delivering products in 2016, it is Suppliers aim to have full transparency for the Fair status with respect to all elements listed in the Fair Performance Ladder. Supplier is committed to improve each element over time. Suppliers Products will not use any conflict materials and hazardous materials and will be manufactured under responsible working conditions.

During the duration of the Framework Agreement the Supplier will use the innovative capabilities in the complete supply chain, as well as the Services, to improve Suppliers Fair performance and Fair Products in terms of continuous improvement of waste management, energy use, reuse of Components and recycling.

Supplier is working and will continue to work with specialists in the sustainability arena, such as UN Global Compact, to educate Suppliers work force, generate ideas and execute specific Fair related projects. Supplier will contribute to enlarge the Fair thinking across Europe.

Initials Buyer

Confidentially

Initials Supplier

All requirements marked with a “C” are committed Process and Product Requirements. Should Supplier not perform according to these requirements the Most Economic Advantageous Tender (MEAT) sanction as mentioned in paragraph 31.4 of the Framework Agreement will be applicable.

## Section 2. Product and Process Requirements

### 3. Circularity

#### 3.1. Energy and Emissions

| 3.1.1 C <sup>1</sup> <b>Reduction target for energy use in Production at the outset of Delivery in 2016.</b> |   |
|--|---|
| Situation  | Supplier manages, monitors and reduces energy use at its sites and considers energy use at Subcontractors sites as well. Energy reduction will contribute to lowering the energy footprint of the process and the Product of the E and G Meter  |
| Requirement:   | The Production site of the E and G Meter including Subcontractors sites shall accumulatively use at least 6% less energy in comparison with the baseline as set per 1-1-2014;<br><b>Baseline</b><br>Flonidan: 323 GJ<br>Metrix: 9.407 GJ<br>GPV: 16.376 GJ<br>Iskraemeco: 17.573 GJ                             |
| Comment:   | Yearly energy use of the Production site shall be measured as follows: energy consumed at the Production including Subcontractor sites divided by the number of Meters produced at the respective Production including Subcontractor sites. For G Meter index the calculation will be based on Component level. |
| Planning:  | At the outset of Delivery in 2016.  |

| 3.1.2 C <b>Annual reduction target for energy use in the Production.</b> |   |
|--|---|
| Situation:   | Supplier manages, monitors and reduces energy use at its sites and energy use at Subcontractors sites as well. Energy reduction contributes to lowering the energy footprint of the process and the Product of the E and G Meter  |
| Requirement:   | Supplier shall accumulatively reduce the energy use needed for Production of E and G Meters including Subcontractors sites with at least 3% per year.   |
| Comment:   | Yearly energy use of the Production site shall be measured as follows: energy consumed at the Production site including Subcontractor sites divided by the number of meters produced at the respective Production site including Subcontractor sites. For the G Meter index, the calculation will be based on Component level and is for EMS: Total consumption divided by total number of products produced. |
| Planning:  | Annually during the Framework Agreement.  |

| 3.1.3 C <b>Reduction target for energy use in the Production of the G Meter.</b> |  |
|--|--|
| Situation:   | Supplier manages, monitors and reduces energy use at its sites and energy use at Subcontractors sites as well. |

|              |   |
|--------------|---|
| Requirement: | The Production of the ultrasonic G Meter, including Subcontractors sites, shall use at least 20% less energy in comparison with the baseline as set per 1-1-2014 for the SMR5 G-Meters at first Delivery;<br><b>Baseline</b><br>Flonidan: 323 GJ<br>Metrix: 9.407 GJ<br>GPV: 16.376 GJ                          |
| Comment:     | Yearly energy use of the Production shall be measured as follows: energy consumed at the Production of the G Meter including Subcontractors sites divided by the number of G Meters produced at the Production including Subcontractors sites. For G Meter index the calculation will be based on Product level |
| Planning:    | 1 January 2017  |

| <b>3.1.4 C Reduction target for 2017 with respect to carbon emissions in Production of the E and G Meter.</b> |   |
|---|---|
| Situation:  | Supplier manages, monitors and reduces its CO2-emissions in the Production of the E and G Meter via methodology set out in the most recent Green House Gas Protocol.  |
| Requirement:  | The Production of the E and G Meter including Subcontractors sites shall accumulatively count for at least 6% less carbon emissions compared to the baseline as set per 1-1-2014.<br><b>Baseline</b><br>Flonidan: 137.674 kg CO2<br>Matrix: 2.844.682 kg CO2<br>GPV: 2.619.997 kg CO2<br>Iskraemeco: 18.826.274 kg CO2<br>Total: 24.429 ton CO2 |
| Comment:  | Yearly carbon emission of the Production site shall be measured as follows: carbon emissions including Subcontractors sites divided by the number of Meters produced including Subcontractors sites.  |
| Planning:   | 1 January 2017  |

| <b>3.1.5 C Reduction target for 2020 with respect to carbon emissions in Production of the E and G Meter.</b> |   |
|---|---|
| Situation:  | Supplier manages, monitors and reduces its carbon-emissions.  |
| Requirement:  | The Production of the E and G Meter including Subcontractors sites shall accumulatively count for at least 25% less carbon emissions compared to the baseline as set per 1-1-2014 (Supplier will provide the baseline before the signing of the Framework Agreement). |
| Comment:  | Yearly carbon emission of the Production shall be measured as follows: carbon emissions including Subcontractors sites divided by the number of Meters produced including on Subcontractors sites.  |
| Planning:   | Before 01 January2021.  |

| <b>3.1.6 Methodology for calculation and providing insight in carbon emissions.</b> |  |
|---|--|
| Situation:  | Supplier has decided to start monitoring and providing for insight into considerable emissions related to the Production of the E and G Meter via methodology set out in the most recent Green House Gas Protocol. |
| Requirement:  | Supplier and Buyer will jointly decide upon a comprehensive methodology to calculate and give insight in emissions.  |
| Comment:  | Supplier will take initiative. Buyer will support Supplier with knowledge and guiding to achieve the best possible results.  |
| Planning:   | Decision on calculation method will be ready before 1 January 2016.  |

| <b>3.1.7 Co-develop means to calculate CO2 footprint</b> |   |
|--|---|
| Situation:   | Supplier and Buyer will start a monitoring and calculating means for CO2-emissions This will be an underlying means for transparency on CO2 and CO2 equivalent emissions                          |
| Requirement:   | Supplier and Buyer will co-develop means to calculate CO2 footprint over Life Cycle of the Meter.   |
| Comment:   | Supplier will take initiative in a way that Supplier will prepare initial CO2 footprint calculation. Buyer will support Supplier with knowledge and guiding to achieve the best possible results. |
| Planning:  | First draft of calculation will be provided by Supplier to Buyer before 1-1-2016.<br>The means to calculate CO2 footprint (tool) will be jointly approved per 1-3-2016                            |

### 3.2. Resources and Materials

| <b>3.2.1 C Reduction target weight of the G4/G6 Meter.</b> |  |
|--|--|
| Situation:   | The design of the next stage G4/G6 Meter with ultrasonic measurement principles enables a considerable weight reduction which contributes to a lower materials impact. |
| Requirement:   | Supplier offers a G4/G6 Meter which shall be at least 30% less of weight compared to the initial SMR5 G4/G6 Meter.   |
| Comment:   | Measured as follows: weight of the G4/G6 Meter in gram per unit.   |
| Planning:  | Before 01 January2018.   |

| <b>3.2.2 Report on Recycled Materials in applied materials.</b> |  |
|---|--|
| Situation:  | At time of signing of the Framework Agreement, it is unknown if and what levels of Recycled Materials might be used in the E and G Meter |
| Requirement:  | Supplier will report which materials used within the E and G Meter consist of Recycled Content.  |
| Comment:  | Supplier will list the Recycled Materials  |
| Planning:   | At the outset of Delivery in 2016 and annually during the Framework Agreement  |

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| <b>3.2.3 Report on amount of Recycled Content within applied materials.</b> |   |
|---|---|
| Situation:  | At the time of signing the Framework Agreement, it is unknown if and what levels of recycled content might be used in the E and G Meter         |
| Requirement:  | Supplier will report on the amount of Recycled Content within the applied materials within the E and G Meter.                                   |
| Comment:  | Measured as follows: Recycled Content volume of the considered material in weight divided by total volume of the considered material in weight. |
| Planning:   | At the outset of Delivery in 2016 and annually during the Framework Agreement   |

| <b>3.2.4 Report which Components consist of Renewable Content.</b> |  |
|--|--|
| Requirement:   | Supplier will report which applied Components within the E and G Meter consist of Renewable Content. |
| Comment:   | Supplier will list the applied Renewable Content within the applied Components                       |
| Planning:  | At the outset of Delivery in 2016 and annually during the Framework Agreement                        |

| <b>3.2.5 Report which applied materials consist of Raw and Virgin Material</b> |   |
|--|---|
| Situation:   | At the time of signing the Framework Agreement, it is unknown if and what applied materials in the E and G Meter may consist of Raw Material and Virgin Material.                   |
| Requirement:   | Supplier will report which applied materials within the E and G Meter consist of Raw Material and Virgin Material.  |
| Comment:   | After implementation of a transparency tool ( <b>see Annex M – Fair Meter Pilot</b> ), Supplier will report on which applied materials consist of Raw Material and Virgin Material. |
| Planning:  | planned in <b>Annex M – Fair Meter Pilot</b> .  |

| <b>3.2.6 Report on the amount of Raw and Virgin Content</b> |   |
|---|---|
| Situation:  | At the time of undersigning the Framework Agreement, it is unknown what amount of Raw and Virgin Content are applied within the E and G Meter         |
| Requirement:  | Supplier will report on the amount of Raw and Virgin Content within the applied materials within the E and G Meter.                                   |
| Comment:  | Measured as follows: total volume of the considered material in weight divided by Raw and Virgin content volume of the considered material in weight. |
| Planning:   | At the outset of Delivery in 2016 and annually during the Framework Agreement   |

| <b>3.2.7 Report on Critical and Scarce Materials</b> |  |
|--|--|
| Situation:   | At time of undersigning of the Framework Agreement, it is unknown if and what applied materials in the E and G Meter may consist of Critical and Scarce Materials. |
| Requirement:   | Supplier will report if and which Critical and Scarce Materials are part of the E and G Meter  |
| Comment:   | After implementation of transparency tool ( <b>see Annex M – Fair Meter Pilot</b> ), Supplier will report on Critical and Scarce Materials                         |
| Planning:  | as planned in <b>Annex M – Fair Meter Pilot</b> .  |

| <b>3.2.8 Report what Components are being reused.</b> |   |
|---|---|
| Situation:  | At time of undersigning of the Framework Agreement, it is unknown if and what Components in the E and G Meter are being reused. |
| Requirement:  | Supplier shall report what components of the E and G Meter are being reused.  |
| Format:   | Via the Fair Meter report   |
| Planning:   | At the outset of Delivery in 2016 and annually during the Framework Agreement   |

| <b>3.2.9 Report on Recycled and/or incinerated materials from returned Products</b> |  |
|---|--|
| Situation:  | At time of undersigning of the Framework Agreement, it is unknown if and what materials in the returned E and G Meter are being Recycled and/or incinerated. |
| Requirement:  | Supplier shall report what materials have been recycled or have been incinerated with respect to the E and G Meters returned by the Buyer                    |
| Format:   | Via the Fair Meter report  |
| Planning:   | At the outset of Delivery in 2016 and annually during the Framework Agreement  |

| <b>3.2.10 C WEEE compliancy</b> |  |
|---------------------------------|--|
| Situation:                      | E and G Meters (Production) comply with the European Directive 2012/19/EU on Waste of Electrical and Electronic Equipment (WEEE) |
| Requirement:                    | Supplier shall be WEEE compliant.  |
| Planning:                       | At the outset of Delivery in 2016  |

| <b>3.2.11 C Supplier is obliged to take back for recycling the E and G Meter in accordance with the WEEE Directive.</b> |  |
|---|--|
| Situation:  | Supplier complies with the European directive 2012/19/EU on Waste of Electrical and Electronic Equipment (WEEE) and is willing to take back E and G Meters |
| Requirement:  | Supplier shall be recipient to take back E and G Meters for processing in accordance with the WEEE Directive.  |
| Planning:   | At the outset of Delivery in 2016  |

| <b>3.2.12 C Fill in requirements as set in the WEEE directive</b> |   |
|---|---|
| Situation:  | Supplier complies with the WEEE Directive and is willing to taking back E and G Meters                          |
| Requirement:  | Supplier and the Buyer shall co-develop a master plan to fill in all requirements as set in the WEEE Directive. |
| Planning:   | The master plan regarding WEEE Directive will be ready and jointly approved before 31 December 2016.            |

| <b>3.2.13 C Target 2016 for increasing Recycled Materials of the Production</b> |  |
|---|--|
| Situation:  | As part of its waste management process Supplier increases the percentage of Recyclable Materials from its waste stream of the Production. |

|              |  |
|--------------|--|
| Requirement: | Supplier shall increase the percentage of recycled waste by 10% compared to the recycling percentage baseline as set per 1-1-2014<br><b>Baseline</b><br>Flonidan: 13.900 kg<br>Matrix: 444.721 kg<br>GPV: 24.080 kg<br>Iskraemeco: 301.279 kg<br>Total: 1.002.380 kg |
| Planning:    | At the outset of Delivery in 2016.   |

| 3.2.14 C Target 2020 for increasing Recycled Materials of the Production |   |
|--|---|
| Situation:   | As part of its waste management process, Supplier increases the recyclable part of the waste stream in accordance with a waste hierarchy method for example the steps at Lansink's Ladder of waste management   |
| Requirement:   | Supplier shall increase the percentage of recycled waste by 20% compared to the recycling percentage baseline as set per 1-1-2014.<br><b>Baseline</b><br>Flonidan: 13.900 kg<br>Matrix: 444.721 kg<br>GPV: 24.080 kg<br>Iskraemeco: 301.279 kg<br>Total: 1.002.380 kg |
| Planning:  | Increase of recycled waste will be analysed annually and shall be 3% per year of total amount.  |

| 3.2.15 C Reduction target for 2016 with respect to water consumption |   |
|--|---|
| Situation:   | As part of its environmental management process Supplier reduces the water consumption of its processes.  |
| Requirement:   | Supplier shall reduce the overall water consumption of the Production facilities with at least 10% compared to the baseline as set per 1-1-2014<br><b>Baseline</b><br>Flonidan: 238 m3<br>Matrix: 5.391 m3<br>GPV: 33.141 m3<br>Iskraemeco: 119.218 m3<br>Total: 157.988 m3   |
| Comment:   | Yearly water use of the Production site shall be measured as follows: water consumed at the Production site including Subcontractor sites divided by the number of meters produced at the respective Production facilities including Subcontractor sites. For G Meter index the calculation will be based on Product level. |
| Planning:  | At the outset of delivery in 2016   |

| 3.2.16 C Reduction target for 2020 with respect to water consumption |   |
|--|---|
| Situation:   | As part of its environmental management process, Supplier reduces the water consumption of its processes  |
| Requirement:   | <p>Supplier shall reduce the overall water consumption of the Production facilities with at least 20% compared to the baseline as set per 1-1-2014.</p> <p><b>Baseline</b></p> <p>Flonian: 238 m3</p> <p>Matrix: 5.391 m3</p> <p>GPV: 33.141 m3</p> <p>Iskraemeco: 119.218 m3</p> <p>Total: 157.988 m3</p>                  |
| Comment:   | Yearly water use of the Production facilities shall be measured as follows: water consumed at the Production site including Subcontractor sites divided by the number of meters produced at the respective Production site including Subcontractor sites. For G Meter index the calculation will be based on Product level. |
| Planning:  | Before 01 January 2021  |

| 3.2.17 C Benchmark Fair aspects against approved solution |  |
|---|--|
| Situation:  | As this Annex foresees in improvements on Fair during the term of the Framework Agreement it's necessary to have a clear and shared (approved) representation on the current configuration (DSMR 2.2 specification). Changes need therefore be benchmarked with this baseline. |
| Requirement:  | Supplier shall benchmark all related Fair aspects as mentioned in the annual Fair Meter Report to the then current approved solution (DSMR 2.2 specification).   |
| Planning:   | During the term of the Framework Agreement when a change request is initiated in accordance with <b>Annex R – Change Management Procedure</b> .  |

3.3. With regard to article 3.1.1., 3.1.2., 3.1.3., 3.1.4., 3.1.5., 3.2.15. and 3.2.16., of this Annex the following applies. In case changes are made in the production facility as a result of a request of Buyer, these changes made will not impact the baseline information given in this Annex. Nevertheless, calculations of the fulfilment of the KPI's will be made as if no change has taken place. Supplier will notify Buyer in writing in case Supplier considers that the situation as set out above occurs.

## 4. Fairness

### 4.1. Fair Materials and processes

| 4.1.1 C RoHS II compliancy of E and G Meters |   |
|--|---|
| Situation:                                   | Supplier is preparing for the E and G Meter to comply with European Directive 2011/65/EU on hazardous substances in electrical and electronic equipment RoHS II |
| Requirement:                                 | The E and G Meters shall be RoHS II compliant.  |

|           |  |
|-----------|--|
| Comment:  | E and G Meters shall have a RoHS II certificate of compliance. Supplier shall hand over copies of the certificates of compliance to the Buyer. If deemed relevant and/or necessary, additional compliancy tests will be performed by Supplier on specifically selected components as part of the annual audit process. |
| Planning: | At the outset of Delivery in 2016  |

| <b>4.1.2 C REACH compliancy of E and G Meters</b> |  |
|---|--|
| Situation:  | Products from Supplier and its subcontractors comply with REACH  |
| Requirement:                                      | The E and G Meters shall be REACH compliant.   |
| Comment:  | E and G Meters shall have a REACH certificate. Supplier shall hand over copies of the certificates to Buyer. If deemed relevant and/or necessary, additional compliancy tests will be performed by Supplier on specifically selected components as part of the annual audit process. |
| Planning:   | At the outset of Delivery in 2016  |

| <b>4.1.3 C Subcontractors OECD requirement</b> |  |
|--|--|
| Situation:                                     | Supplier adopts the OECD call for due diligence on the supply chain with respect to minerals from conflict affected and high risk areas                              |
| Requirement:                                   | Supplier shall require Subcontractors to adhere to OECD Due Diligence Guidance on responsible supply chains of minerals from conflict- affected and high risk areas. |
| Planning:                                      | At the outset of Delivery in 2016.   |

| <b>4.1.4 C OECD and E and G Meters</b> |   |
|--|---|
| Situation:                             | Supplier adopts the OECD call for due diligence on the supply chain with respect to minerals from conflict affected and high risk areas |
| Requirement:                           | The E and G Meter shall not contain any conflict minerals as defined under the OECD Due Diligence Guidance 2013.                        |
| Planning:                              | At the outset of Delivery in 2016.  |

| <b>4.1.5 C OECD adherence in supply chain</b> |  |
|---|--|
| Situation:                                    | Supplier will implement the OECD guidance in its supply chain management with the effect that responsibility regarding the use of conflict minerals will be cascaded down the supply chain.                    |
| Requirement:                                  | Supplier shall cascade responsibility down the supply chain requiring suppliers to adhere to OECD due diligence guidance on responsible supply chains of minerals from conflict- affected and high risk areas. |
| Planning:                                     | The status and progress will be reported by Supplier to Buyer on an annual frequency during the term of the Framework Agreement. Supplier will fully fulfil the abovementioned requirement before 01-01-2020.  |

| <b>4.1.6 C Materials without origin</b> |  |
|---|--|
| Situation:                              | Supply chain management of Supplier shall monitor cascading responsibility down the supply chain in case of determining and tracing the origins of materials |

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|--------------|---|
| Requirement: | The E and G Meter shall not contain materials with unknown origin. Materials without origin are not used. FlonIskra will change suppliers if they are not compliant with OECD Due Diligence Guidance 2013 or if their origins cannot be traced. |
| Planning:    | At the outset of Delivery in 2016   |

| <b>4.1.7 C      OECD Subcontractor compliancy</b> |   |
|---|---|
| Situation:  | At time of signing the Framework Agreement, Supplier is preparing a policy to require transparency of its suppliers on the OECD due diligence guidance on responsible supply chains of minerals from conflict- affected and high risk areas |
| Requirement:                                      | Supplier shall change Subcontractors if they are not compliant with OECD Due Diligence Guidance 2013 or if the origins of their supplied materials cannot be traced.  |
| Planning:   | At the outset of Delivery in 2016.  |

| <b>4.1.8      Evidence OECD compliancy</b> |  |
|--|--|
| Requirement:                               | Supplier shall provide evidence that Supplier complies with OECD related requirements as stated in this Annex.                 |
| Comment:                                   | Conclusions with respect to self-evaluation, supplier audits and actions taken will be reported within the annual Fair report. |
| Planning:                                  | At the outset of Delivery in 2016 and annually during the Framework Agreement  |

| <b>4.1.9 C      Adherence to EICC</b> |   |
|---------------------------------------|---|
| Situation:                            | At the time of signing of the Framework Agreement, Supplier does not yet adhere the EICC Code of Conduct. |
| Requirement:                          | Supplier shall adhere to EICC Code of Conduct version 5.0 (2014).   |
| Planning:                             | At the outset of Delivery in 2016.  |

| <b>4.1.10 C      Use of electronic CEM's</b> |  |
|--|--|
| Situation:                                   | Supplier only uses electronic CEM's for the E and G Meter that are EICC compliant.   |
| Requirement:                                 | During the term of the Framework Agreement, Supplier shall only use electronic CEM's for the E and G Meter that are complying with EICC. |
| Planning:                                    | At the outset of Delivery in 2016.   |

| <b>4.1.11      Evidence EICC</b> |  |
|----------------------------------|--|
| Requirement:                     | Supplier shall provide evidence that Supplier adheres to EICC.   |
| Comment:                         | Supplier will sent a copy of the signed EICC Code of Conduct to Buyer.<br>Conclusions with respect to self-evaluation, supplier audits and actions taken will be reported within the annual Fair report. |
| Planning:                        | At the outset of Delivery in 2016 and annually during the Framework Agreement  |

| <b>4.1.12 C      FLA (Fair Labor Association) compliancy</b> |   |
|--|---|
| Situation:   | Supplier is positive to the FLA code and Supplier has the intention to comply with the FLA code |

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|--------------|--|
| Requirement: | Supplier and Subcontractors shall be compliant to FLA code of conduct. |
| Planning:    | At the outset of Delivery in 2016.                                     |

| <b>4.1.13 FLA compliancy evidence</b> |  |
|---------------------------------------|--|
| Situation:                            | The working conditions at Supplier's Subcontractors (first tier) will be validated yearly by auditing (performed by Supplier) these Subcontractors against the FLA guiding principles. |
| Requirement:                          | Supplier shall provide evidence with respect FLA code compliancy of Supplier and Subcontractors.   |
| Rationale:                            | Evidences will be based on Subcontractor audits performed by Supplier.   |
| Planning:                             | At the outset of Delivery in 2016 and annually during the Framework Agreement  |

| <b>4.1.14 FLA compliancy evidence of second tier suppliers</b> |  |
|--|--|
| Situation:   | The working conditions at Subcontractors (second tier) will be validated yearly by auditing these suppliers against the FLA guiding principles.  |
| Requirement:   | Supplier will audit the Subcontractors for FLA compliance.   |
| Planning:  | The status and progress will be reported by Supplier to Buyer on an annual frequency during the term of the Framework Agreement. Supplier will fully fulfil the abovementioned requirement before 01 January 2020. |

## 4.2. Fair Labour

| <b>4.2.1 C Training and exercise for personnel</b> |   |
|--|---|
| Situation:   | Good labour conditions also mean attention to physical well-being at work. Supplier has an exercise program in place.           |
| Requirement:                                       | Supplier shall prepare physical trainings for operators and clerks to exercise during breaks.                                   |
| Rationale:   | Promote healthy way of living within the organization   |
| Planning:  | The status and progress will be reported by Supplier to Buyer on an annual frequency during the term of the Framework Agreement |

| <b>4.2.2 C Attendance of competitions</b> |   |
|---|---|
| Situation:                                | Good labour and well-being are important to Supplier which also means that employee involvement with specific sports competitions are supported |
| Requirement:                              | Supplier shall support employees to participate in sports competitions such as running events (sponsoring) (yearly basis).                      |
| Rationale:                                | Promote healthy way of living within organization   |
| Planning:                                 | The status and progress will be reported by Supplier to Buyer on an annual frequency during the term of the Framework Agreement                 |

## 5. Transparency

| <b>5.1 C Bill Of Materials (BOM)</b> |   |
|--------------------------------------|---|
| Situation:                           | During the Framework Agreement Supplier shall provide the BOM of the E and G Meter. |

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|              |  |
|--------------|--|
| Requirement: | Supplier shall give an overview on BOM level, relating E and G Meters, for all Components and Subcontractors . |
| Planning:    | As from the outset of Delivery in 2016 and annually during the Framework Agreement                             |

| <b>5.2 C Report on proceedings of transparency</b> |   |
|--|---|
| Situation:   | A yearly report will address results and proceedings with respect to agreed Fair. The report is an element of yearly evaluation of Supplier by Buyer. |
| Requirement:                                       | Supplier shall report on results and proceedings with respect to the level of product composition and transparency in the supply chain.               |
| Format:  | Via the Fair Meter Report   |
| Planning:  | As from the outset of Delivery in 2016 and annually during the Framework Agreement  |

## 6. Logistics

| <b>6.1.1 Packaging of the Product</b> |  |
|---------------------------------------|--|
| Situation:                            | The Supplier and Buyer are committed to further improve the modes, methods and materials used in the transportation and Packaging of Product from the Supplier to the Buyer. |
| Requirement:                          | The cardboard box used for Packaging of the Product is made of FSC material and is recyclable..  |
| Rationale:                            | N.a.   |
| Planning:                             | As from first Delivery throughout the term of the Framework Agreement.   |

| <b>6.1.2 Packaging of the Product</b> |  |
|---------------------------------------|--|
| Situation:                            | The Supplier and Buyer are committed to further improve the modes, methods and materials used in the transportation and Packaging of Product from the Supplier to the Buyer. |
| Requirement:                          | Packaging must, where possible, consist of recyclable or biodegradable materials.  |
| Rationale:                            | N.a.   |
| Planning:                             | As from first Delivery throughout the term of the Framework Agreement.   |

| <b>6.1.3 Transportation of the Product</b> |  |
|--|--|
| Situation:                                 | The Supplier and Buyer are committed to further improve the modes, methods and materials used in the transportation and Packaging of Product from the Supplier to the Buyer. |
| Requirement:                               | Means of transport used by Supplier meet at least the EURO 5 standard. Further improvements in use of engines and/or fuels will be implemented.                              |
| Rationale:                                 | N.a.   |
| Planning:                                  | The EURO 5 standard is applicable as from first Delivery.  |

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### **Section 3. Service Level Agreement**

#### **7. Reporting**

- 7.1. Supplier shall report annually on status, progress and results with respect to agreed requirements on Circularity, Fairness and Transparency via the Fair Meter Report. The Fair Meter report will be sent annually by Supplier to Buyer no later than April 30th of every year, covering the preceding calendar year. The first Fair Meter report shall be sent to Buyer in 2016.

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## 8. Circularity Reporting

| SLA 1        | Report on results and proceedings on Circularity  |
|--------------|---|
| Format       | Yearly Fair Meter report  |
| Requirement: | <p>Supplier shall deliver a Fair Meter Report which contains the results and proceedings with respect to the following elements on E and G Meters, n tier suppliers and processes as agreed in the previous sections of the Annex.</p> <p>For the year 2016 this reports shall address at least the following topics:</p> <ul style="list-style-type: none"><li>• Reduction targets at the outset of Delivery in 2016, for:<ul style="list-style-type: none"><li>◦ Energy use in the Production</li><li>◦ Recycled waste in the Production</li><li>◦ Water consumption in the Production</li></ul></li><li>• Report on used materials within the Meters at the outset of Delivery:<ul style="list-style-type: none"><li>◦ Recycled Materials</li><li>◦ Renewable Content</li><li>◦ Raw and Virgin Content</li><li>◦ Critical and Scarce Materials</li><li>◦ Which Components has been reused in E and G Meters</li><li>◦ Recycled and incinerated materials in E and G Meters</li></ul></li></ul> <p>For the year 2017 and afterwards the Yearly Fair Meter Report shall address at least the following topics:</p> <ul style="list-style-type: none"><li>• Reduction targets for:<ul style="list-style-type: none"><li>◦ Energy use in the Production</li><li>◦ Energy use of E and G Meter</li><li>◦ Recycled waste in the Production</li><li>◦ Water consumption in the Production</li><li>◦ Weight reduction of New G Meter</li><li>◦ Carbon emission of Production</li></ul></li><li>• Report on used materials within the Meters:<ul style="list-style-type: none"><li>◦ Recycled Materials</li><li>◦ Renewable Content</li><li>◦ Raw and Virgin Content</li><li>◦ Scarce And Critical Materials</li><li>◦ Which Components has been reused in E and G Meters</li><li>◦ Recycled and incinerated materials in E and G Meters</li><li>◦ WEEE result as agreed in Master Plan for WEEE with Buyer</li></ul></li></ul> |
| Format:      | Via the Fair Meter Report.  |

## 9. Fairness Reporting

| SLA 2        | <b>Report on results and proceedings on Fairness</b>   |
|--------------|--|
| Format       | Yearly Fair Meter Report   |
| Requirement: | <p>Supplier shall deliver a Fair Meter Report which contains the results and proceedings with respect to the following elements on E and G Meters, n tier suppliers and processes as agreed in the previous sections of the Annex.</p> <p>For the year 2016 and afterwards the Yearly Fair Meter Report shall address at least the following topics</p> <ul style="list-style-type: none"><li>○ RoHS II compliance and evidence</li><li>○ REACH compliance and evidence</li><li>○ OECD compliance and evidence in Supply Chain</li><li>○ FLA compliance and evidence in Supply Chain</li><li>○ EICC compliance and evidence in Supply Chain</li><li>○ Fair Labour activities</li></ul> |
| Format:      | Via the Fair Meter Report.   |

## 10. Transparency Reporting

| SLA 3        | <b>Report on results and proceedings on Transparency</b>  |
|--------------|---|
| Format       | Yearly Fair Meter Report  |
| Requirement: | <p>Supplier shall deliver a Fair Meter Report which contains the results and proceedings with respect to the following elements on E and G Meters, n tier suppliers and processes as agreed in the previous sections of the Annex.</p> <p>For the year 2016 and afterwards the Yearly Fair Meter Report shall address at least the following topics.</p> <ul style="list-style-type: none"><li>○ The level of product composition.</li><li>○ Transparency in the supply chain.</li><li>○ Bill of Material</li></ul> |
| Format:      | Via the Fair Meter Report.  |

## Section 4. Addendum 1, Baseline information

| Baseline, 2013   |                       |                       |        |                              |                               |      |                                      |
|--|-----------------------|-----------------------|--------|------------------------------|-------------------------------|------|--------------------------------------|
| Flonian  |                       |                       |        |                              |                               |      |                                      |
| SCOPE 1. Direct emissions, controlled by company         | 2013                  | Consumption<br>Amount | Unit   | Conversion, GJ<br>Conversion | Amount                        | Unit | CO <sub>2</sub> conversion<br>Factor |
| # Ressource  |                       |                       |        |                              |                               |      | Unit                                 |
| 1.1.1 Natural gas, heating the building                  | 17.343 m <sup>3</sup> | 0,03517               | 610 GJ | 56,95 kg CO <sub>2</sub> /GJ | 34.737 kg CO <sub>2</sub>     |      | 35                                   |
| 1.1.2 Natural gas, in production process, powder coating | 0 m <sup>3</sup>      | 0,03517               | 0 GJ   | 56,95 kg CO <sub>2</sub> /GJ | 0 kg CO <sub>2</sub>          |      | 0                                    |
| 1.2.1 Diesel, company cars                               | 12.188 l              | 0,0358                | 436 GJ | 3,14 kg CO <sub>2</sub> /l   | 38.270 kg CO <sub>2</sub>     |      | 38                                   |
| 1.2.2 Diesel, forklifts                                  | 0 l                   | 0,0358                | 0 GJ   | 3,14 kg CO <sub>2</sub> /l   | 0 kg CO <sub>2</sub>          |      | 0                                    |
| 1.2.3 Petrol   | 7.530 l               | 0,0324                | 244 GJ | 2,78 kg CO <sub>2</sub> /l   | 20.933 kg CO <sub>2</sub>     |      | 21                                   |
| SCOPE 2. Electricity                                     | 2013                  |                       |        |                              |                               |      |                                      |
| 2.1 Electricity  | 89.618 kWh            | 0,0036                | 323 GJ | 488 kg CO <sub>2</sub> /MWh  | 43.734 kg CO <sub>2</sub>     |      | 44                                   |
|  |                       |                       |        |                              |                               |      | 138                                  |
| SCOPE 3. Indirect emissions, not controlled by company   | 2013                  |                       |        |                              |                               |      | SUM, Ton                             |
| No input   |                       |                       |        |                              |                               |      |                                      |
| SUM, emission  |                       |                       |        |                              | Amount                        | Unit |                                      |
| CO <sub>2</sub> -emission, year 2013                     |                       |                       |        |                              | 137.674 kg CO <sub>2</sub>    |      |                                      |
| Sold units, 2013, smart meters and converters            |                       |                       |        |                              | 21.760 pcs                    |      |                                      |
| CO <sub>2</sub> -emission, year 2013, pr pcs             |                       |                       |        |                              | 6,33 kg CO <sub>2</sub> /unit |      |                                      |
| Waste (4)  | 2013                  |                       |        |                              |                               |      |                                      |
| 4.1 Recycling/reuse [kg]                                 |                       |                       |        |                              |                               |      |                                      |
| 4.1.1 Batteries  |                       |                       |        |                              | 0 kg                          |      |                                      |
| 4.1.2 Leads  |                       |                       |        |                              | 108 kg                        |      |                                      |
| 4.1.3 Electronics, mixed                                 |                       |                       |        |                              | 0 kg                          |      |                                      |
| 4.1.4 Cardboard/paper                                    |                       |                       |        |                              | 3.000 kg                      |      |                                      |
| 4.1.5 Plastic  |                       |                       |        |                              | 0 kg                          |      |                                      |
| 4.1.6 Iron/metal   |                       |                       |        |                              | 10.480 kg                     |      |                                      |
| 4.1.7 Circuit board                                      |                       |                       |        |                              | 312 kg                        |      |                                      |
| 4.1.8 Building material (demolition)                     |                       |                       |        |                              | 0 kg                          |      |                                      |
| 4.1.9 Wood packaging, used over and over again           |                       |                       |        |                              | 0 kg                          |      |                                      |
| 4.1.10 Solder (dross)                                    |                       |                       |        |                              | 0 kg                          |      |                                      |
| 4.1 SUM  |                       |                       |        |                              | 13.900 kg                     |      |                                      |
| Incineration [kg]  |                       |                       |        |                              |                               |      |                                      |
| 4.2.1 General waste                                      |                       |                       |        |                              | 2.820 kg                      |      |                                      |
| 4.2.2 Hazardous waste                                    |                       |                       |        |                              | 0 kg                          |      |                                      |
| Landfill [kg]  |                       |                       |        |                              |                               |      |                                      |
| 4.3.1 Anything   |                       |                       |        |                              | 0 kg                          |      |                                      |
| Hazardous waste [kg]                                     |                       |                       |        |                              |                               |      |                                      |
| 4.4 Treatment  |                       |                       |        |                              | 0 kg                          |      |                                      |
| Water (5)  |                       |                       |        |                              |                               |      |                                      |
| 5.1.1 Industrial water                                   | 0                     |                       |        |                              |                               |      |                                      |
| 5.1.2 Drinking water                                     | 238 m <sup>3</sup>    |                       |        |                              |                               |      |                                      |
| 5.1 Water - total  | 238 m <sup>3</sup>    |                       |        |                              |                               |      |                                      |

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| Baseline, 2013   |  |                    |                      |                            |        |           |   |
|--|--|--------------------|----------------------|----------------------------|--------|-----------|---|
| Matrix   |  |                    |                      |                            |        |           |   |
| SCOPE 1. Direct emissions, controlled by company       |  | 2013               |                      |                            |        |           |   |
| #  | Ressource  | Consumption Amount | Unit                 | Consumption, GJ Conversion | Amount | Unit      | CO <sub>2</sub> conversion Factor Unit      |
| 1.1.1  | Natural gas, heating the building                  | 249.192            | m <sup>3</sup>       | 0,03517                    | 8.764  | GJ        | 2000 kg CO <sub>2</sub> /tys m <sup>3</sup> |
| 1.1.2  | Natural gas, in production process, powder coating | 43.975             | m <sup>3</sup>       | 0,03517                    | 1.547  | GJ        | 2000 kg CO <sub>2</sub> /GJ                 |
| 1.2.1  | Diesel, company cars                               | 32.601             | l                    | 0,0358                     | 1.167  | GJ        | 3,14 kg CO <sub>2</sub> /l                  |
| 1.2.2  | Diesel, forklifts                                  |                    | l                    | 0,0358                     | 0      | GJ        | 3,14 kg CO <sub>2</sub> /l                  |
| 1.2.3  | Petrol   | 12.311             | l                    | 0,0324                     | 399    | GJ        | 2,78 kg CO <sub>2</sub> /l                  |
| SCOPE 2. Electricity                                   |  | 2013               |                      |                            |        |           |   |
| 2.1  | Electricity  | 2.613.000          | kWh                  | 0,0036                     | 9.407  | GJ        | 812 kg CO <sub>2</sub> /MWh                 |
| SCOPE 3. Indirect emissions, not controlled by company |  | 2013               |                      |                            |        |           |   |
| No input   |  |                    |                      |                            |        |           |   |
| SUM, emission  |  |                    |                      |                            |        | Amount    | Unit  |
| CO <sub>2</sub> -emission, year 2013                   |  |                    |                      |                            |        | 2.844.682 | kg CO <sub>2</sub>                          |
| Sold units, 2013, smart meters and converters          |  |                    |                      |                            |        | 661.350   | pcs   |
| CO <sub>2</sub> -emission, year 2013, pr pcs           |  |                    |                      |                            |        | 4,30      | kg CO <sub>2</sub> /unit                    |
| Waste (4)  |  | 2013               |                      |                            |        |           |   |
| 4.1  | <b>Recycling/reuse [kg]</b>                        |                    |                      |                            |        |           |   |
| 4.1.1  | Batteries  |                    |                      |                            |        |           | 58 kg                                       |
| 4.1.2  | Leads  |                    |                      |                            |        |           | 115 kg                                      |
| 4.1.3  | Electronics, mixed                                 |                    |                      |                            |        |           | 335 kg                                      |
| 4.1.4  | Cardboard/paper                                    |                    |                      |                            |        |           | 34.953 kg                                   |
| 4.1.5  | Plastic  |                    |                      |                            |        |           | 8.706 kg                                    |
| 4.1.6  | Iron/metal   |                    |                      |                            |        |           | 400.554 kg                                  |
| 4.1.7  | Circuit board                                      |                    |                      |                            |        |           | 0 kg  |
| 4.1.8  | Building material (demolition)                     |                    |                      |                            |        |           | 0 kg  |
| 4.1.9  | Wood packaging, used over and over again           |                    |                      |                            |        |           | 0 kg  |
| 4.1.10   | Solder (dross)                                     |                    |                      |                            |        |           | 0 kg  |
| 4.1  | <b>SUM</b>   |                    |                      |                            |        |           | 444.721 kg                                  |
| 4.2.1  | <b>Incineration [kg]</b>                           |                    |                      |                            |        |           |   |
| 4.2.2  | General waste                                      |                    |                      |                            |        |           | 0 kg  |
| 4.2.2  | Hazardous waste                                    |                    |                      |                            |        |           | 286 kg                                      |
| 4.3.1  | <b>Landfill [kg]</b>                               |                    |                      |                            |        |           |   |
| 4.3.1  | Anything   |                    |                      |                            |        |           | 2.159 kg                                    |
| 4.4  | <b>Hazardous waste [kg]</b>                        |                    |                      |                            |        |           |   |
| 4.4  | Treatment  |                    |                      |                            |        |           | 20.251 kg                                   |
| Water (5)  |  |                    |                      |                            |        |           |   |
| 5.1.1  | Industrial water                                   |                    | 0                    |                            |        |           |   |
| 5.1.2  | Drinking water                                     |                    | 0 m <sup>3</sup>     |                            |        |           |   |
| 5.1  | <b>Water - total</b>                               |                    | 5.391 m <sup>3</sup> |                            |        |           |   |

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| Baseline, 2013   |  |                    |                |                 |        |                            |                            |                          |                               |      |                     |
|--|--|--------------------|----------------|-----------------|--------|----------------------------|----------------------------|--------------------------|-------------------------------|------|---------------------|
| Flonian  |  |                    |                |                 |        |                            |                            |                          |                               |      |                     |
| SCOPE 1. Direct emissions, controlled by company       |  | 2013               |                | Consumption, GJ |        | CO <sub>2</sub> conversion |                            | CO <sub>2</sub> emission |                               |      |                     |
| #  | Ressource  | Consumption Amount | Unit           | Conversion      | Amount | Unit                       | Factor                     | Unit                     | Amount                        | Unit | Ton CO <sub>2</sub> |
| 1.1.1  | Natural gas, heating the building                  | 0 m <sup>3</sup>   |                | 0,03517         | 0      | GJ                         | kg CO <sub>2</sub> /GJ     |                          | 0 kg CO <sub>2</sub>          |      | 0                   |
| 1.1.2  | Natural gas, in production process, powder coating | 0 m <sup>3</sup>   |                | 0,03517         | 0      | GJ                         | kg CO <sub>2</sub> /GJ     |                          | 0 kg CO <sub>2</sub>          |      | 0                   |
| 1.2.1  | Diesel, company cars                               | 12.359 l           |                | 0,0358          | 442    | GJ                         | 3,14 kg CO <sub>2</sub> /l |                          | 38.806 kg CO <sub>2</sub>     |      | 39                  |
| 1.2.2  | Diesel, forklifts                                  | 9.300 l            |                | 0,0358          | 333    | GJ                         | 3,14 kg CO <sub>2</sub> /l |                          | 29.202 kg CO <sub>2</sub>     |      | 29                  |
| 1.2.3  | Petrol   | 0 l                |                | 0,0324          | 0      | GJ                         | 2,78 kg CO <sub>2</sub> /l |                          | 0 kg CO <sub>2</sub>          |      | 0                   |
| SCOPE 2. Electricity                                   |  | 2013               |                |                 |        |                            |                            |                          |                               |      |                     |
| 2.1  | Electricity  | 4.549.000          | kWh            | 0,0036          | 16.376 | GJ                         | 561                        | kg CO <sub>2</sub> /MWh  | 2.551.989 kg CO <sub>2</sub>  |      | 2.552               |
|  |  |                    |                |                 |        |                            |                            |                          |                               |      | 2.620               |
| SCOPE 3. Indirect emissions, not controlled by company |  | 2013               |                |                 |        |                            |                            |                          |                               |      | SUM, Ton            |
|  | No input   |                    |                |                 |        |                            |                            |                          |                               |      |                     |
| SUM, emission  |  |                    |                |                 |        |                            |                            |                          | Amount                        | Unit |                     |
| CO <sub>2</sub> -emission, year 2013                   |  |                    |                |                 |        |                            |                            |                          | 2.619.997 kg CO <sub>2</sub>  |      |                     |
| Sold units, 2013, smart meters and converters          |  |                    |                |                 |        |                            |                            |                          | 4.239.196 pcs                 |      |                     |
| CO <sub>2</sub> -emission, year 2013, pr pcs           |  |                    |                |                 |        |                            |                            |                          | 0,62 kg CO <sub>2</sub> /unit |      |                     |
| Waste (4)  |  | 2013               |                |                 |        |                            |                            |                          |                               |      |                     |
| 4.1 Recycling/reuse [kg]                               |  |                    |                |                 |        |                            |                            |                          |                               |      |                     |
| 4.1.1  | Batteries  |                    |                |                 |        |                            |                            |                          | 60 kg                         |      |                     |
| 4.1.2  | Leads  |                    |                |                 |        |                            |                            |                          | 0 kg                          |      |                     |
| 4.1.3  | Electronics, mixed                                 |                    |                |                 |        |                            |                            |                          | 150 kg                        |      |                     |
| 4.1.4  | Cardboard/paper                                    |                    |                |                 |        |                            |                            |                          | 11.225 kg                     |      |                     |
| 4.1.5  | Plastic  |                    |                |                 |        |                            |                            |                          | 5.437 kg                      |      |                     |
| 4.1.6  | Iron/metal   |                    |                |                 |        |                            |                            |                          | 671 kg                        |      |                     |
| 4.1.7  | Circuit board                                      |                    |                |                 |        |                            |                            |                          | 1.537 kg                      |      |                     |
| 4.1.8  | Building material (demolition)                     |                    |                |                 |        |                            |                            |                          | 0 kg                          |      |                     |
| 4.1.9  | Wood packaging, used over and over again           |                    |                |                 |        |                            |                            |                          | 3.000 kg                      |      |                     |
| 4.1.10   | Solder (dross)                                     |                    |                |                 |        |                            |                            |                          | 2.000 kg                      |      |                     |
| 4.1  | SUM  |                    |                |                 |        |                            |                            |                          | 24.080 kg                     |      |                     |
| 4.2 Incineration [kg]                                  |  |                    |                |                 |        |                            |                            |                          |                               |      |                     |
| 4.2.1  | General waste                                      |                    |                |                 |        |                            |                            |                          | 0 kg                          |      |                     |
| 4.2.2  | Hazardous waste                                    |                    |                |                 |        |                            |                            |                          | 20.130 kg                     |      |                     |
| 4.3 Landfill [kg]                                      |  |                    |                |                 |        |                            |                            |                          |                               |      |                     |
| 4.3.1  | Anything   |                    |                |                 |        |                            |                            |                          | 108.300 kg                    |      |                     |
| 4.4 Hazardous waste [kg]                               |  |                    |                |                 |        |                            |                            |                          | 0 kg                          |      |                     |
| Water (5)  |  |                    |                |                 |        |                            |                            |                          |                               |      |                     |
| 5.1.1  | Industrial water                                   | 0                  |                |                 |        |                            |                            |                          |                               |      |                     |
| 5.1.2  | Drinking water                                     |                    | m <sup>3</sup> |                 |        |                            |                            |                          |                               |      |                     |
| 5.1  | Water - total                                      | 33.141             | m <sup>3</sup> |                 |        |                            |                            |                          |                               |      |                     |

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| Baseline, 2013   |  |                    |                |                                   |                          |  |
|--|--|--------------------|----------------|-----------------------------------|--------------------------|--|
| Iskraemeco   |  |                    |                |                                   |                          |  |
| SCOPE 1. Direct emissions, controlled by company       |  | 2013               |                |                                   |                          |  |
| #  | Ressource  | Consumption Amount | Unit           | Consumption, GJ Conversion Amount | Unit                     | CO <sub>2</sub> conversion Factor Unit |
| 1.1.1  | Natural gas, heating the building                  | 627.372            | m <sup>3</sup> | 0,03517                           | 22.065 GJ                | 727,2 kg CO <sub>2</sub> /GJ           |
| 1.1.2  | Natural gas, in production process, powder coating | 0                  | m <sup>3</sup> | 0,03517                           | 0 GJ                     | 727,2 kg CO <sub>2</sub> /GJ           |
| 1.2.1  | Diesel, company cars                               | 19.653             | l              | 0,0358                            | 704 GJ                   | 3,14 kg CO <sub>2</sub> /l             |
| 1.2.2  | Diesel, forklifts                                  | 84                 | l              | 0,0358                            | 3 GJ                     | 3,14 kg CO <sub>2</sub> /l             |
| 1.2.3  | Petrol   | 0                  | l              | 0,0324                            | 0 GJ                     | 2,78 kg CO <sub>2</sub> /l             |
| SCOPE 2. Electricity                                   |  | 2013               |                |                                   |                          |  |
| 2.1  | Electricity  | 4.881.273          | kWh            | 0,0036                            | 17.573 GJ                | 557 kg CO <sub>2</sub> /MWh            |
| SCOPE 3. Indirect emissions, not controlled by company |  | 2013               |                |                                   |                          |  |
|  | No input   |                    |                |                                   |                          |  |
| SUM, emission  |  |                    |                | Amount                            | Unit                     |  |
| CO <sub>2</sub> -emission, year 2013                   |  |                    |                | 18.826.274                        | kg CO <sub>2</sub>       |  |
| Sold units, 2013, smart meters and converters          |  |                    |                | 1.799.500                         | pcs                      |  |
| CO <sub>2</sub> -emission, year 2013, pr pcs           |  |                    |                | 10,46                             | kg CO <sub>2</sub> /unit |  |
| Waste (4)  |  |                    |                | 2013                              |                          |  |
| 4.1 Recycling/reuse [kg]                               |  |                    |                |                                   |                          |  |
| 4.1.1  | Batteries  |                    |                |                                   | 820                      | kg                                     |
| 4.1.2  | Leads  |                    |                |                                   | 0                        | kg                                     |
| 4.1.3  | Electronics, mixed                                 |                    |                |                                   | 6.768                    | kg                                     |
| 4.1.4  | Cardboard/paper                                    |                    |                |                                   | 64.610                   | kg                                     |
| 4.1.5  | Plastic  |                    |                |                                   | 90.766                   | kg                                     |
| 4.1.6  | Iron/metal   |                    |                |                                   | 91.815                   | kg                                     |
| 4.1.7  | Circuit board                                      |                    |                |                                   | 0                        | kg                                     |
| 4.1.8  | Building material (demolition)                     |                    |                |                                   | 0                        | kg                                     |
| 4.1.9  | Wood packaging, used over and over again           |                    |                |                                   | 46.500                   | kg                                     |
| 4.1.10   | Solder (dross)                                     |                    |                |                                   | 0                        | kg                                     |
| 4.1  | SUM  |                    |                |                                   | 301.279                  | kg                                     |
| Incineration [kg]                                      |  |                    |                |                                   | 0                        | kg                                     |
| 4.2.1  | General waste                                      |                    |                |                                   |                          |  |
| 4.2.2  | Hazardous waste                                    |                    |                |                                   |                          |  |
| Landfill [kg]  |  |                    |                |                                   | 63.578                   | kg                                     |
| 4.3.1  | Anything   |                    |                |                                   |                          |  |
| Hazardous waste [kg]                                   |  |                    |                |                                   | 876                      | kg                                     |
| 4.4  | Treatment  |                    |                |                                   |                          |  |
| Water (5)  |  |                    |                |                                   |                          |  |
| 5.1.1  | Industrial water                                   | 106.996            |                |                                   |                          |  |
| 5.1.2  | Drinking water                                     | 12.222             | m <sup>3</sup> |                                   |                          |  |
| 5.1  | Water - total                                      | 119.218            | m <sup>3</sup> |                                   |                          |  |

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| <b>Baseline, 2013</b>                                    |  |      |                                 |                          |                     |
|--|--|------|---------------------------------|--------------------------|---------------------|
| <b>Floniskra</b>   |  |      |                                 |                          |                     |
| SCOPE 1. Direct emissions, controlled by company         |  | 2013 |                                 |                          |                     |
| #  | Ressource  |      | CO <sub>2</sub> emission Amount | Unit                     | Ton CO <sub>2</sub> |
| 1.1.1  | Natural gas, heating the building                  |      | 16.578.551                      | kg CO <sub>2</sub>       | 16.579              |
| 1.1.2  | Natural gas, in production process, powder coating |      | 87.950                          | kg CO <sub>2</sub>       | 88                  |
| 1.2.1  | Diesel, company cars                               |      | 241.154                         | kg CO <sub>2</sub>       | 241                 |
| 1.2.2  | Diesel, forklifts                                  |      | 29.466                          | kg CO <sub>2</sub>       | 29                  |
| 1.2.3  | Petrol   |      | 55.158                          | kg CO <sub>2</sub>       | 55                  |
| SCOPE 2. Electricity                                     |  | 2013 |                                 |                          |                     |
| 2.1  | Electricity  |      | 7.436.348                       | kg CO <sub>2</sub>       | 7.436               |
|  |  |      |                                 |                          | 24.429              |
| SCOPE 3. Indirect emissions, not controlled by company   |  | 2013 |                                 |                          | SUM, Ton            |
|  | No input   |      |                                 |                          |                     |
| SUM, emission  |  |      | Amount                          | Unit                     |                     |
| Flonidan, CO <sub>2</sub> -emission, year 2013, pr pcs   |  |      | 6,33                            | kg CO <sub>2</sub> /unit |                     |
| Metrix, CO <sub>2</sub> -emission, year 2013, pr pcs     |  |      | 4,30                            | kg CO <sub>2</sub> /unit |                     |
| GPV, CO <sub>2</sub> -emission, year 2013, pr pcs        |  |      | 0,62                            | kg CO <sub>2</sub> /unit |                     |
| G meter, CO <sub>2</sub> -emission, year 2013, pr pcs    |  |      | 11,25                           | kg CO <sub>2</sub> /unit |                     |
| Iskraemeco, CO <sub>2</sub> -emission, year 2013, pr pcs |  |      | 10,46                           | kg CO <sub>2</sub> /unit |                     |
| E meter, CO <sub>2</sub> -emission, year 2013, pr pcs    |  |      | 10,46                           | kg CO <sub>2</sub> /unit |                     |
| E&G meter, CO <sub>2</sub> -emission, year 2013, pr pcs  |  |      | 21,71                           | kg CO <sub>2</sub> /unit |                     |
| Waste (4)  |  | 2013 |                                 |                          |                     |
| 4.1 Recycling/reuse [kg]                                 |  |      |                                 |                          |                     |
| 4.1.1  | Batteries  |      | 938                             | kg                       |                     |
| 4.1.2  | Leads  |      | 223                             | kg                       |                     |
| 4.1.3  | Electronics, mixed                                 |      | 7.253                           | kg                       |                     |
| 4.1.4  | Cardboard/paper                                    |      | 113.788                         | kg                       |                     |
| 4.1.5  | Plastic  |      | 104.909                         | kg                       |                     |
| 4.1.6  | Iron/metal   |      | 503.520                         | kg                       |                     |
| 4.1.7  | Circuit board                                      |      | 1.849                           | kg                       |                     |
| 4.1.8  | Building material (demolition)                     |      | 0                               | kg                       |                     |
| 4.1.9  | Wood packaging, used over and over again           |      | 49.500                          | kg                       |                     |
| 4.1.10   | Solder (dross)                                     |      | 2.000                           | kg                       |                     |
| 4.1  | <b>SUM</b>   |      | <b>783.980</b>                  | <b>kg</b>                |                     |
| Incineration [kg]  |  |      |                                 |                          |                     |
| 4.3.1  | General waste                                      |      | 2.820                           | kg                       |                     |
| 4.3.2  | Hazardous waste                                    |      | 20.416                          | kg                       |                     |
| Landfill [kg]  |  |      |                                 |                          |                     |
| 4.3.1  | Anything   |      | 174.037                         | kg                       |                     |
| Hazardous waste [kg]                                     |  |      |                                 |                          |                     |
| 4.4  | Treatment  |      | 21.127                          | kg                       |                     |
| Water (5)  |  |      |                                 |                          |                     |
| 5.1  | Water - total                                      |      | 157.988                         | m <sup>3</sup>           |                     |

Initials Buyer

Confidentially

Initials Supplier

Appendix C  
Interview with CEO  
25 April 2016

Interviewer: okay, don't worry it will not last more than 50 minutes I think.

Respondent: Okay

I: I hope, Okay?

R: ....

I: Okay first of all, I would like you to tell me, .... I would like to warn you that there is some stuff I know already, mmmmm. But I need your opinion and view okay?

R: Okay.

I: First of all, what is your position in the company?

R: I'm the CEO.

I: Okay, and can you describe me, a few of your responsibilities?

R: Yes. Mmh that a tricky question. I'm responsible for two major things actually. The board of directors of the company and the owners, which is "AVK". So i'm taking care of their interests, as a CEO, and then i guess the driven or driving the company. The main goal right now is really to, first of all live up to the SSM contract commitments, which is a huge task for the company. Then it is an organisational development of the company. To make sure that the company is scalable. So to take it from a start-up to a grown-up company.

I: Okay, so you told me about the owners. That it is 100% AVK group?

R: Yes, the ownership is 100% AVK group.

I: Okay.

R: That is resent. until..... I think, one year and a half, two years ago. There was a 50-50 split with another owner. A private guy. He sold his 50 % to AVK.

I: I wanted to ask you, because it is a important part of my thesis, that Floridan is a small company. Is it considered a small or medium sized enterprise? Do you know, because there are standard definitions and <interruption>

R: Yes, I think it depends, If you go for the danish definition, you would call this a medium sized company. However if you go for international standards, we would be a small company.

I: How many people are employed?

R: 50.

I: 50! Okay. So i guess medium size in your opinion?

R: Yes, medium size company.

I: Okay.

R: It depends on how you would measuring actually, because if you are measuring on revenue, or people, because we are producing a entity. Because, if we were producing the stuff ourself, we would probably be 250 people.

I: Okay.

R: But we don't have the production center, we are a development- and sales company, -right.

I: The EU definition, has both... Has two aspects, <Interrupt>

R: Okay, I didn't even know. Hahah.

I: Yeah, it's like that, i read a whole report on that. Anyway, first of all, to be considered small, it has to employ less than 50 people. For a medium, it is 50-250 people. Also the annual turnover should be, less than or equal to 50 million euros or balance total should be less or equal to 43 millions.

R: So by that definition, we are a small company, I would say.

I: Small, okay. So, that was that definition... Okay, then my book say, that I have to, <sudden realization> Oh! i forgot my chocolates!

R: Your what?

I: My chocolates! I'm supposed to give you a present.

R: It's cool. I don't need chocolate haha.

I: I'm so sorry. Okay, but my book said I had to motivate my interviewees with some kind of game and I've made this thing.

R: Cool!

I: do you know that we are trying to make a 100% Fair Meter?

R: Aha.

I: okay. and you have several aspects that you need to pay attention to. What I would like for you to tell me, which of those 8, you have to choose 2 of them, are the most important for you to make a Fair Meter. no okay, there's 6. So, do you understand? You have to choose 2...

R: In terms of...

I: In terms of all the CSR-related aspects... You know like labour, or origin of materials...

R: so, which one I think is the most important to choose to achieve a Fair meter...

I: Yeah, all of those are in the Fair meter deal but...

R: so in my view...

I: You can also add another one.

R: That's a tough one...Can you figure more?

I: "H" managed to pick two that kind of include the other ones.

R: So that's themes right...Yeah I understand...No, so I think, what is close to my heart at least..I think origin of materials, because I think that's one of the most blinking things, which is really bad, So it's not like or instance I don't think that labour an supply chain isn't important, but this isn't really bad typically and then I think the other one that's blinking for me is hazardous substances in the meter...Because that's... So my mindset is that if you wanna save the world, start by doing what helps the most, right?

I: Okay..Thank you very much! You will not be graded in this. (laughs)

R: Oh, really? (laughs)

I: Oka, and then we move on. Um... I would like to know...First of all, when did you come to the company?

R:Um...Ten months, 9? 8 months ago.

I: Okay. But still, you must know why the company decided to adopt a more CSR agenda...Can you tell me more about it?

R: Yeah, I think, originally, it started or the trigger point was the SMM project in (inaudible). So that's what really took it to the next level. I think, so all the ISO, the fair metering, and all of that was literally project-driven by SMM to their sub-suppliers, which we (inaudible). So contractually, don't be mistaken, we are obliged to deliver all that and that put a natural pressure on the company. So that was the trigger point. Had this company always been kind of Fair in its thinking? I would argue. But no doubt that the contract took it to another level.

I: And what do you know about before, how..? I know that it wasn't...

R: No, so before SMM so to speak...Um.. I guess it was less structured I would say. So it's more like... Almost like a value thinking, doing the right thing..And sort of thing... So that was the driver for it. So when we do construction, when we do... no one in this company would ever say..."We want to use child workers" for instance, right? But did the (inaudible) go back to secure that it happened, I would argue maybe not. But today we are, right?

I: So, can you tell me, it was founded when? You don't have to have an exact date...

R: But it's about 30 years ago. And the founder at that point was "H", the previous CEO. So... And it was something completely different at the time actually. Gas concentrators it's called. So these guys made iron, like a ton of iron, so when you had the gas deliveries through the networks, ou had those huge pipes with gas and you actually scale it down in pressure, so these stations that could do that was actually the original... It's also why actually we have a huge crane right here in the production somewhere.

I: completely different... So now you have the contractual requirements, but do you think that you can use those and the result you might have achieved, at a certain point?

R: Yes, so I think the...For me personally....I think it's great to have the Fair project, because it's a fantastic driver, right? You have a clear goal, this is something we want to drive and the feedback and knowledge we get though that is really valuable. So one thing is the contract: how can we use it the best possible way? So that's cool. From a business point of view, there's a clear tendency in the market... You know we're driven by tenders, big contracts, you have to go into the tender phase, etc. So the demand for Fair-like projects...Fair is a Dutch thing but Fair-like contractual commitments is there. So for us, from a business point of view, it's a huge advantage to have the green profile, the fair profile, the company. This is also something we use, you know when we are Fair, to the customer we emphasize it all the time. So the thinking right now is ... that I think... When.. This is again, just a

comment of mine, but originally a lot of this Fair thing was something... not for this company but in general... what does it take, what is the necessary thing we have to, right? So the discussion we have with the management team now, we wanna go beyond that. We wanna have it in our DNA, this is the profile of the company, this is who we are. That's also what we (inaudible) so far. So I think commercially it's huge advantage, the governments of Europe are driving this hard and to have it as a natural part of our company is just... you know...both commercially but also on a moral point of view...

I: Now I would like to know more about stakeholders of Flonidan. do you use the term here at Flonidan?

R: Mhmm

I: okay, I would like to know...Do you have any idea if there are any groups of people that can be or are affected by the company's actions now or in the future?

R: Um...(laughs)

I: it is a weird question, but...

R: There are a few, but of course, you know there is our owners. A major major stakeholder. So that's for sure. AVK. And then you have the utilities of Europe, and the utilities are like, you know, like the SMM group in Holland.

I: The buyers...

R: the buyers so to speak. We call them utilities. So the 3 major we are on right now, the utilities of Italy and Holland and England. So these three countries of course. And then I think another stakeholder is... funny enough... We don't have... You should think that we have major stakeholders in Denmark.... But not as much as the other countries of Europe. So that's... You have the Danish government of course which have influence in the way we work as a company, so the whole ISO system... In terms of that I think government is important for us. And then a huge stakeholder is actually in customers.

I: End customers?

R: Because in the end they drive the utilities which drive us so.. So the buyer so to speak has an enormous influence on us.

I: Do you consider for example the media to be... Maybe more now that you have the big contract? Do you consider it to be more influencing?

R: I think we... It's increasing. First of all this company cannot live in a protected little world. No one really knew the company. And of course as we grow, as we win these contracts all of a sudden the media plays a role. And the media plays a role in keeping us on our toes as well. How to put this... If the... It's not something I'm scared of as such but let's say... If we do something really bad, right? If we make a mistake or something... Let's say we have a big quality issue for instance, right? This would be blown out in the media. And it could kill our reputation. So like... If you see this... Sh\*\*\*storm going on around Europe, we could be part of that. So I think they play a role in keeping us on our toes but we don't use them. It's not like we need the media to tell our story.

I: okay. But I think for example... Recently I've seen more and more articles about Electronics waste... Maybe it's because I spot them. I mean in general not only for the company.

R: so you can check out the bigger scope. So no doubt that the whole Electronics waste discussion... Actually it's funny because electronic waste if you think about it... Our Electronics, right, we put it into the field and it stays there for 20 years. So the whole recycling period is more much longer than on your iPhone for instance. So the electronic waste discussion it's much more driven by consumer electronics than what we do. That said it has an influence. Nevertheless. But if you take an iPhone for

instance, I don't know about you I have a new one every year so in 20 years I would have 20 iPhones or whatever they call it in 20 years. (laughs) At the same time with one meter, right? So the environmental impact it's just much less.

I: yes I think less people will talk about meters than iPhones and...

R: oh for sure. It's not like it's not important it's just the impact is much bigger.

I: so that's kind of better for the company. Okay. For example does the company have a predefined set of transactions for communicating, negotiating with those stakeholders? Like for example consumer complaints? I know you're not directly involved but for example what do you know? How are they treated in the company? You pay attention to it or... I'm not saying you ignore it completely but...?

R: (laughs) no I think... I will say it immediately first of all, we could do a better job. Than we do today. And one of the symptoms of growing is that you can have company where you can have people... Kind of people-dependent. But that doesn't last when you grow because then you need scalability and then you cannot (inaudible) two procedures so to speak. To make it happen. The other thing is that our end-customer is filtered through our utilities. So we have had some cases where there was an issue in the market and we just didn't know. So not like a huge thing but all of a sudden when we go out and talk to these utilities they say: "By the way we have a few customers with an issue" and it doesn't flow back to us in the speed that we would like to.

I: So the problem was that the customers didn't have the means to...

R: So an example of that that's some of our meters... A known issue is that they can make noise. Due to the mechanical parts, right? But that kind of noise... It's also if you're deaf you cannot hear it, if you have your meter next to your bedroom it's pretty annoying. If it's in the basement you don't care right? So it's really... So if a customer has a bad experience it needs to flow through us right. So what I'm saying is that we have had cases also while I've been here that it kind of ended at the utility and never flow through to us. It didn't flow through to us. So one of the areas I would like to improve is making sure that we have direct links with the customers for these things. And it also comes out of... We ship like 25000 meters a month. so we want to have absolute security that when there's an issue in the market we don't figure out like six months later. We want to know immediately so we don't ship like... You do the math.(laughs) A lot of meters.

I: Oh, I can imagine...You mentioned before different kinds of stakeholders for example utilities and the owners. Do you consider one group to have more power over...? Not over the company but to influence the company more than another group.

R: (thinking) The utilities have a huge... Actually more than the owners almost. Yes seriously because we don't have a lot of customers so for instance these big contracts in Holland and England it's like 5 customers. So this company has like 5 customers, right? We don't have a thousand customers. It's not completely true but you know... So they have a huge influence in the company. And I think the owner group is really important for us because we... As you know we're not on the stock market for instance, which is a huge difference than being with a family-owned company. So we don't have the same display of our results as a stock market exchange company has.

I: Aha. Okay so the utilities. And how is the personal interaction with the utilities? Like for example do you have a close relationship?

R: No we have a close relationship with them. I have to. So we know them really well. Also because they put a lot of trust in us as a supplier. If we fail they fail to and will have a huge impact. You can also see when you look over the contract we do with those guys. The contract with SMM is like half a meter thick. No kidding.

I: Yeah, with all the Annexes...

R: You've seen it I guess. But if you take that aside they also have to have faith in that we actually as a supplier can deliver. Because we're only a small part of a bigger... A bigger machine so to speak right? The gas meter, the electronic meter, the water meter, the whole infrastructure and everything. So if we can't deliver then all of that will fail. So that's why the importance of us as a trusted supplier is enormous actually. So it takes personal interaction. for my own person I really enjoy doing that. Because one thing is the contract but if I cannot see and feel them, so to speak, I don't know where they are. So I spend a lot of time out there to meet up with them and make sure I get their feeling.

I: Very good. And how about the employees, for example? Um... You are like the highest... The person with the highest position in the company... Do you try to maintain a more personal interaction with the employees...? How is your...?

R: No I think the... I believe in two things when it comes to that. I think it's important that the customers are very visible in the organizations. It's kind of a...

<Interruption by phone ringing - interview continues in second recording>

R: (laughs)

I: Sorry, my friends don't know that i'm in a meeting.

R: That's all right. We have these monthly meetings, and there we bringing in...reality so to speak. If we have an issue or opportunity, we will literally share everything.

I: Everything, okay.

R: And there is really nothing, that we cannot talk about. It is very, very few items that we don't entertain in these meetings, and that's my.... You know, all in all i have... I think you have participated.

I: I think i was in the first one.

R: Yes we spoke danish, that didn't help you a hell of a lot, -

I: -no.

R: -but we really do, is just, to give the right sense of urgency of the company on those meetings.

I: Okay.

R: On a more personal note. I try to be as visible and talk to as many people i can in the company, but it is not... that i cannot rely on my leaders, to be the one really really trusted in this company. The reason for that is they do a better job. You know, you can't.... If you wanna make sure that your employees, have someone to go to. If they have a issue or whatever. It is difficult for anyone to have a personal relationship to 50 people.

I: Yes, of course.

R: Right, so they play the important role in that. I'm very trusted by my own leaders, so i'm really making sure to interact with those, and then they have to, you know, take care of the employees.

I: Okay, so... Let's say on the quality department... You don't believe that you should, for example in encouraging more work in the CSR?, -I'm sorry, all my questions are about CSR.

R: That's fine.

I: For example, in the quality department, you don't think you should, not like interfere but also be involved in that by doing something concrete related to, let say the environment?

R: Sure, you know Buggi. And she is the... almost like a symbol, hah, as a employee in that. So the answer is yes. Well i'm involved is in, you know... what is a good example. I remember the day Buggi and I were running home from work, we did a big show out of it, "We're running home from work!", where are you? you should be running." So we kind of play this game and making it... trying to symbolize that what we are doing is important. Because if i don't show the example, so to speak, and always doing the right thing. Then it will be horror. So you're right. So, as a... We talk about in Denmark and in this company. The life balance of work... Spare time and <interuption>

I: Yes it is famous.

R: Famous, life balance. I'm taking it pretty serious. So... make sure that we have a healthy life-balance in this as a company, and that's down to the employee.

I: Okay. but for example, do you think that employees should be...informed about the fair related aspects?

R: Absolutely, and also the choices they make.

I: Mmh. What do you mean?

R: No, i mean, for instance when we do development. You know R'n'D department. The choices we make in our constructions has a huge impact. More than anything actually.

I: Yes.

R: So when we, pick a component or whatever is the issue, we should make sure that we, or we have to make sure that the... You know the things in "Fair", where is the origin and what kinds of components, and all of that is patrolled. When we do painting, do we really need to paint the product? Is it necessary? Couldn't we just have the raw metal and stainless steel. So a good example is the new ultra sonic meter, you have probably heard about that. That ain't painted. So instead of using painted surfs, it is just raw stainless steal. Actually part of the consideration of that is exactly to make sure that you don't have to paint, right. So, and these small choices, is really making sure that when they do the choice that they look at price and look at "Fair", they look at connectivity in work. That needs to be part of their daily life.

I: Yeah also it makes life easier for the quality Department when you kind of know more about the... I'm going to go out and don't knows about the material then having to ask all of the suppliers and stuff like that.

R: Exactly. So that's important. Are we world champions? I don't think so but you know we're taking some important steps over the last few months.

I: Aha. But in general have you... Do you know if CSR has been considered an obstacle or... you know something..."Not this again!"

R: (laughs) (inaudible) No for me it hasn't been a fight. You know I think... That's the good thing. People really are curious and really want it and think it's important. And of course there's always this... When you know, pricing is important, customers are important but we also want to do things the right way. So there is this Danish word: "ordentlig". It means: always do the right thing. And that's something I... Always do the right thing no matter the cost is kind of the direction. And I am a strong believer in that. So maybe we will have to take a choice that increases the price by something but if it's the right choice I really don't care.

I: So you're saying that CSR could be the main criterion could be the base upon which you make component choices.

R: absolutely. There's of course a gray area in there. But if you take a clean choice like saying: "If I pick this component I would save...I'm just saying...something 50 Euro Cent". If I use it from India where I know that children are sitting there working, right? We don't even have the debate about that. It's kind of like I don't give a s\*\*\* (laughs). Price just went up! So that's the easy choices, right? And then you move into the grey zone of course where you might not know right? it's not as clean as... You still have to make the right choices and make sure that our foundation and decision is in place. So...

I: okay. I have another question about the stakeholders. Lots of companies... Mainly bigger companies... They dedicate a lot of resources towards knowing what their stakeholders need or or what they think, for example employees... For example knowing that the employees like it when their company does not employ child Labour or...does the company dedicate resources to that kind of knowledge? Not only for employees but also the utilities as well...

R: I think the difference is we should take... That's where we need to be clear on: big and small companies. Right? If you if you take an example like an American company with a 100.000 employees, right? You would have your HR department, your (inaudible) and all of that machine right? To some extent it actually exists in smaller companies too - it just doesn't have a name. In this company it has a name. Because if you look at the Quality Department or environmental department or "H" 's Department or whatever you want to call it this is 5 employees out of 50, which is...if you scale it up pretty significant. if you had 100.000 employees you should have 5.000 working on that... So I think the answer is yes. But you do not have the size that you can have specifics for everything right? So that group is covering a lot on that. Does that make sense?

I: It does. because it's kind of resources that are small company has.

R: You do more jobs right?

I: Exactly yeah. More responsibilities for each person.

R: it's like me for instance. I am the CEO right? And I am pretty much involved in sales for instance. I am a lot involved in R&D. And because we don't have the size or anything else, right. But if we had the size of 100.000, my job would also be different. I would say right? So I think it's the size that makes a difference.

I: So you would say that the analogy of 5 employees working in a company of 50 employees it is... It means that...

R: Significant (inaudible).

I: I would agree yeah. Okay and the last one. In general, do you consider Flonidan to have a big impact on the environment or in society in general?

R: Yeah.

I: You think? Even though it's a small company?

R: If we look at what we do right? (laughs) Do we make sure that the poles are not melting? I guess not (laughs).

<Phone rings>

R: Sorry, now it's for me. If you look at Holland, I think Holland the country as such as 12 million people or something in that range. Right? We will deliver like 5, 6 million gas meters for Holland.

We're 50% of the contract. So in that scope it has a huge impact on Holland. Right? But of course if you take the planet it's probably insignificant. And that is just my own little philosophy.

I: But then you also have 2 other European countries.

R: Yeah. And then England comes in and then Italy comes in. I think so, yes. I like to believe that what we do has an impact. Actually my two daughters have very strong... Are very involved in environmental work. And they always say that even though it's a small thing it all helps. So if you don't start with a small thing, you will never get started, so to speak. So in terms of us yeah I do believe that we make a change. I know we do but of course we could argue that there are things in the world that would have an impact bigger than what we do. But we have our small portion too.

I: I think I would agree because if you... I would agree with you that Flonidan has an impact. For example we were calculating on the components that we managed to analyze, for the raw material composition and we saw how much gold and tin we have, which are the conflict materials... For one meter it's really really small....It's like mg or g but if you multiply it with the number of meters that you have to deliver...

R: It's pretty significant...

I: It's lots of kilos and that's a lot of forced labour...Hopefully not, but...

R: No, but that's where we need to be real right? You just don't see it when you walk around this place right? You don't see the meters flow through but it doesn't mean we're not responsible for it.

I: Do you think that... Because you have two subcontractors: Metrix and Kimball. Do you think that Flonidan has the power to influence?

R: oh yeah.

I: You think? Okay.

R: We also use it.

I: Like for example of the environmental aspects? For example contain their consumption or...? Pass on some requirements to the suppliers?

R: Yeah so we are. You know... I don't know if you talked to (inaudible) but we are using it back to them like that forced...you know... child labour and all of that...Both companies, like Kimball for instance is also chosen on those criteria. so it's not like we just... If you really want to do this cheap cheap we shouldn't have used Kimball. We should go somewhere...I don't want to... (laughs) I would call them exotic countries you could go to... Which don't have the same standards that Kimball has. As you know Kimball is pretty new. We started with them six months ago so...If you take the...Metrix...uh...supplier... We have been working with those guys I think 5,6 years maybe. And during that time they have gone through a huge development as a subcontractor too. So... I haven't seen it 5 - 6 years ago but I've talked to "H. O.", my predecessor. You know I think definitely they have moved up on the latter when it comes to being Fair and CSR.

I: That's good to know. Makes life easier for "B". perfect that was my list of questions. So far. And I don't have anything else in mind I think.

-----End of Interview-----

Appendix D  
Interview with CQO  
13 April 2016

Interviewer: first of all I would like you to tell me your title and your responsibilities

Respondent: I am chief quality officer here at Flonidan. I do have the responsibility for quality, health safety and environment, and ... IS.... I can never remember the name.

I: Information security?

R: Information security! That was the name thank you! I'll write it down here so I can remember it. So that's basically my responsibilities.

I: in general I'm going to ask you questions about CSR and the fair meter project. But first of all we're going to play some sort of game. Imagine that you have the possibility to make a 100% Fair meter, as you want to do. And the Fair meter is equal to 50 points. However you should only focus on two aspects. For example it can be in the environment and can be in labor issues, it can be in the origin of materials and so on. each of those aspects is equal to 25 points and you can only choose two of them. What would you choose? I have them here and you can also make one of your own.

R: (thinking) Basically I think there is a... I'm not so sure about the labor issues in the supply chain. I know mainly where it's coming from. You can of course say if you do not have full control of what the materials is coming from then you can have a labor issue yes. But in my opinion if you're not having conflict materials and we know where the material is coming from, we are most likely not having labor issues so origin of materials is important. No hazardous substances in the meter.... Yes and no. As long as we're talking about electronics they're always be some hazardous materials in it. On the other hand you can say if they are in the meter and you have the meter as a control there is no dangers in it. There's no danger for anyone in it. Except for as a toy. I've been at Lego. In the plastic, in the metal, in the whatever there is hazardous materials. It's about what's coming out. So what are you exposing your customers for? That's I think, that's the most important one. Because you're cannot have Electronics without using some hazardous substances. It's quite impossible

with today's technology. (thinking) so I'm going to choose amongst circularity of resources and environment. I'm saying we have scarce resources yes but on the short hand I think I'll go with the environment. So I'll go with origin of materials and environment.

I: Okay, thank you.

R: You're welcome.

I: So first of all why did Flonidan decide to become more CSR-friendly and adopt a CSR agenda?

R: Now we have a problem because I have a caramel in my mouth (laughs).

I: Don't worry, don't worry (laughs).

R: I'm chewing, I'm chewing.

(pause)

R: Basically we have been working with CSR for the last three to four years. Where they have made the CSR reports because of (inaudible).

I: Because of...?

R: That's part of the legislation when we are reporting on economic stuff. That we have to have this CSR in some place. And we did it. I wouldn't say it was good but it was the start. And then we went into this tender work in Holland where I would say once on fourth of the contracts, where we are giving points, was about Fair. So basically it was due to the Fair contract in Holland which actually is installed by the Dutch government with the utilities which are providing gas and water, no gas and electricity. Meaning that in our tender work we had to be sure that we would have sufficient numbers to get the sufficient funds so we would get awarded to the contract. That's basically the reason or the trigger point to do it. But on the other hand when we are looking at it, it is very very good and strong marketing point to say "Our meters is fair, we know where the materials is coming from, we know what the contents is, we are doing our best to, I would say, recycle what's possible. We are doing as best to have as low as possible impact on the global footprint and carbon footprint" and so on and so forth. So it is coming from a demand in a tender and in a contract that we have and now it's going to be part of the DNA of Flonidan, but we are taking this very seriously and see it as an advantage for us. That we have this Fair incorporated already. And another trend is that because we are supplying to utilities which used to be government-owned which is not today, they have a much more strong focus on these topics then if you're going to somewhere else. So we see it as a business advantage in the long run and to have this multiple bottom line in our approach.

I: okay. Okay..

R: Did you know that?

I: The triple bottom line? Yeah we learnt it.

R: Damn. (laughs)

I: It's okay. (laughs) Now I would like to talk about the company's stakeholders. For example, now forget about the requirements and the buyers and stuff. I would like to know if Flonidan has some processes to transact with its stakeholders. What I mean is, for example: how do you treat a customer complains or is it important to have a personal interaction with the customers? Is it good to hear their needs, what they're worried about concerning your products? And also the employees. I would like to know how is the day-to-day interactions. Would you say that Flonidan treats its employees well?

R: let's take the employee's first I would say. I would say I'm just speaking for myself and of course as part of the top management team, but mainly from myself as a manager or leader I would say. For me it is extremely important that my employees have all the information that I can give them. Of course there will be small secrets but mainly I am telling nearly all I know. This has multiple purposes. The one is that whenever I'm looking at an employee and I'm looking at a new employee, I'm always saying: "yes here is the frame that I would like you to work within and I would appreciate if you were going out of the box". Meaning that this is the framework, this is the way you can make the decisions and here is your responsibilities if you are able to have them. If not, of course not, then I would support you. So for me it's very important that I have a whole person, which has a good work-life balance if you can say so. Yes sometimes I need you a bit more than normal but then I would expect you to lay off a bit of your time in the next weeks. And so it is flexible, but also they have the empowerment, they have the decision power and information to handle on. So they themselves can make the necessary decisions. Not that I'm not able to take the decision, because I am, but I would like them to do it themselves, so...As you are. That's a different way of working. That you should be able to take the decisions. Otherwise I shall and of course I can but I will not, if I can avoid it. Because you will have more satisfaction on your job if you can take the decision to progress as expected. And I know it's not completely like this but the big change came with the new CEO who is working I would say exactly the same way as I am. "Here my friend, here is the frame, go ahead. Come and ask me if you have some doubts or you need some coaching or do you need some advice or of course you can come and say: I need a decision on this one, I cannot manage to do it myself". I know that can give a bit more stress to some employees but I have to say I am not willing to give up on this one and I have an extremely high confidence in my employees, always. 110% I would say. But I have extremely high

confidence in my employees and sometimes I will be disappointed but that's the way it is and that's my way of being a leader. Did I answer what you asked?

I: Well, yes I need your point of view, which can come out in the company or some part of it. At least the part that you control.

R: I think it's coming more and more. But I think it is a matter of trained leader I would say. Or you have it built from birth. But it will go to that direction, that we need to have more employee empowerment in our organization. We have to get rid of the leaders or managers that are bottlenecks, because otherwise we would lose our agility. And that means, if we have a problem or if you have a task it shouldn't be that we have to go through many people. I would say: "Guys gather the three or four people that have to do the job. Here guys, here is the job. Go ahead". And then they can manage.

I: Would you say that this is characteristic of a small company?

R: No. I think it's much more culture based than it is about the size of the company. I have been at Grunfoss, Vestas, Lego and that they are working this way. Because the other one is impossible, because if you have to pass the top management each time...so if all the decisions from 10 to 20000 employees have to go to the top and down again then it won't work. So you have to work cross organizational, without being necessary to consult the managers all the time.

I: Okay I think I have what I need about the employees. What about the consumers? It can be the buyers as well but what I'm interested more is for example how you treat consumer complaints. Do you have like a special process?

R: Yes we do. Are you talking about customer complaints in general or related to CSR or Fair?

I: In general.

R: Yes we have a very strict system. External issue management. Based on the AD process, which is a Quality Tool. Where you have a predefined steps that you go to. First of all you have a description and you have a team that has to solve this. Next is what is the containment of the problem. Then you have to find the cause. Then you have to say okay what can I do to change it? And what do I need to do for this issue not to come up again? And then you're having an appreciation of the team who has done the work. Whenever we have a claim, it's within and the customer who is complaining will get a proper feedback on the solution. And then we solve the problem. It takes sometimes very fast and sometimes very slow.

I: But at least you have a standard procedure...

R: We have an extremely standard procedure how to do it. And you can see it in "Improve".

I: the media is often mentioned as a stakeholder for a company. Has it been something of concern to the company?

R: Basically not. It changed a bit since when the new CEO joined because he's more public than the former CEO. So he has been in the newspapers several times already in this half year he has been here. So yes it has. It is important in the way that we should use it much more as a marketing or sales force. And use it in that way that we can promote our CSR and Fair work. We can promote all our certificates, the way we are working, the values that we have and so on and so forth. Unfortunately the Flonidan homepage is a bit off-line so it's a bit difficult to update it as it we would like to. Hopefully that will change soon enough.

I: You told me that your new CEO is more public than the old one. Does he talk mostly about CSR or...?

R: It depends on where he is. Yes he is and he is strongly supporting the CSR and Fair work. Which as he says I would like the company to be the world leader in this because it is important to our customers and the consumers in the end, because they would like to have a... as green as it gets, in my words, green meter. It would take several years before it's completely green and most likely never will but... As green as possible. You can say at least the battery and the diaphragm of the gas meter is intended for at least 20 years and you can just look at your phone how old is that and how long do you think it will be before you change it...and I would say the life cycle of most phones if you buy a new one is two to two-and-a-half years on average.

I: You mentioned that the CEO has been supporting the company externally in the media, but how about internally, what has he been doing? Has he been of help? for example by motivating the employees...?

R: Yes he has. One of the first thing he did was installing these monthly information meetings which was what was absolutely missing before. There was one at Christmas and one in the summer holidays. But that's it. No need to inform anyone of what's going on because then they will just ask questions! And this is totally opposite than the I'm working... the way that the former CEO was doing it. So the first thing the new CEO does is to have these monthly meetings.

I: and what do you discuss during those meetings?

R: whatever. What is the financial situation, what are the opportunities that we are looking at, what are some... that we have vested out because we cannot focus on everything, what is the conclusion, what are the immediate actions, then a bit about the SciFlo that we have to install, that is basically more green than the other one because it's only a third of the weight or 4th. What is the action plan on this one and what is the organizational development going on. We're having a new CCO in the first of May which is starting as well. Chief Commercial Officer. So that was the meeting this time. That "A" was telling a bit about the audits coming up for ISO and MID. "B" was up telling a bit about information security. "I" is telling about the economy from time to time. I can throw in if there's any news on the quality, health safety and environment. So basically everyone can step in and say what's going on.

I: And now in general about the company and the environment. Do you consider Flonidan to have a big impact on the environment or a small one?

R: (thinking) that's a very good question. It depends on which perspective you are looking at it. But I will try to explain what I think. I think that the best we can do is to try to be as green as we can get. And that means of course save on the electricity, the heating, the use of water, do what we can. And in the same time try to ensure that our supply chain is as green as it can get, again. Mainly we are not producing here. It is produced in Poland. For instance we have moved what is quite a substantial part of the electronics, the index from Thailand to Poland. And then it's only... Instead of coming from Thailand, to Poland, to Metrix in north of Poland, in Gdansk. So instead of traveling 10300 kilometers, it travels 300 kilometers and that is substantial savings on CO2. So yes we are thinking about it. I would say that the transport from Poland to Holland in this specifically is going to be EURO 6 because they are obliged to be EURO 5 and will follow the EURO 6 norms. About emissions. Of trucks. So yes we have an impact basically on our emissions, partly this is also suncatchers for electricity which were discussing if we should invest in or just wait a bit. In the present situation that we are in, we will have to wait for it I think. But we will unless we set up some suncatchers in the roof to save and make green electricity.

I: and now a bit about the supply chain. What is the criteria of selecting suppliers? For example is it based on financial criteria, product quality criteria. Of course it must play a role but what is the priority?

R: I would say that we have to divide them into different areas. There is Tier 1 suppliers which is our primary production, which is Kimball/GPV for 1 and Metrix for the base meter and the final assembly. There are some technical skills that it is very important that they have these. Then there is of course the financial in that it is the correct price. But also that the company is financially healthy.

Because if they are not, then they are not able to manage and in the very floating market that we are in, they should be able to withstand some fluctuations in the turnover because that's... But primary, for my point of view, is that first of all the quality is right because if it's not right, it can cost a lot of money and also have an impact on the CSR. But also we are also assessing if they have adherence to the electronics for EICC or Fair Labor Association, that they have ISO14001 certificates and working with environmental stuff and are working with ISO18001. It's about health and safety or similar. So yes it is multiple when we were choosing a supplier. It's not only that they are on the right price. They should also be able to handle the green stuff, quality, CSR, and of course the employees should be treated well. Not overpaid but treated fair I would say. And of course they should be able to help us with the right information on Fair metrics. Which is about where is the stuff coming from. And I would say that Kimball has been a good help for us in this matter. And so has Metrix in that way. So yeah there are multiple selections when we are choosing a supplier and basically we have a questionnaire of... I cannot remember there are lots of questions when we are coming out to suppliers. So this is for Tier 1 suppliers. Tier 2 is basically... If it's a supplier of our choosing, they are treated as Tier 1. For instance, we are looking for a new plastic supplier for our (inaudible) and they are treated exactly the same as Tier 1. And furthermore we are asking Kimball and Metrix for CSR metrics, measurements and focus on their Tier 1 suppliers. So yes it is installed in the supply chain and it is going to be even more over the coming years.

I: but would you say that it could be the number one priority?

R: CSR?

I: Yes.

R: (thinking) No. It will always as whenever and I'm always provoking people: "where's the money, where's the money coming from?" That is quite funny because when I'm saying that in different areas yes it's fine but do you have the necessary commitment? So basically if it makes money it's good if it doesn't but we can make money out of this Fair so that's the important way to look at it. And not the least, we need to be careful about the way we select. We definitely are.

I: but you would say that it will be number one priority?

R: No. It will always be... I would say it would be number one and a half. The first one is the quality and the price, that's number one. And then Fair. CSR. But you cannot say it's one or the other because if you go to a supplier that has absolutely no intention... That is treating people terrible, I would say: no. So if it's fair treatment I would say on the workforce and of course that they have to focus on how to save stuff on the electricity, the heating, the water or whatever then I'm going to say "yeah that's fine". That you will always have to consider the economy and the quality.

I: You mentioned the electricity, and the water, and waste for the Tier 1 suppliers. Do you think that Flonidan is in a position to control or affect in some way the environmental aspects of those two companies?

R: yes we are. One example is that Kimballl is going to achieve the ISO 45001 certificate. They didn't have it and they didn't intend to. But they are. They have ISO 9000, they have ISO 14001. And due to the contract with us they are going to be certified. So yes we can have an impact, yes they are actually reporting to us the progress, they have the savings that they are entitled to have and so is Metrix. So yes we have influence.

I: In general about Flonidan's bargaining power. Down on the supply chain, do you think that influence the other suppliers as well?

R: I think we can. It's a matter of... You need to have the personal relationships. If I'm just going to say to the battery supplier in South Korea: "what are your green measurements?". But on the other hand if I am going to visit them and say that this is part of the assessment or the audit I am going to have and then I'll say: "okay how are you treating your people or what are your conditions for the labor?", "how are you dealing with the waste? How is your consumption of water, electricity, gas? And how are you

working on savings?" Because I will when I'm going out there. And more and more customers are coming with those questions and sooner or later the pressure will be... and they will have to do it. And basically if you do it right you can save money. Basically you can have it better if you do it right. So it is more a question about the pressure on the supply chain as well as it is an addition for the company. For instance, when we are scrapping things here we can get money for the materials. If we take it apart in the right ways. Okay we are going to use some labor force to dismantle the parts but we can get money for it.

I: but back to the suppliers. You said that you visit them. You believe in personal relationships. What other methods do you use to monitor them? Questionnaires? And how often do you visit, for example on-site?

R: I would say the main suppliers, we are visiting several times a year. The more remote ones: 2nd 3rd tier, it's maximum once a year. The tier-1 suppliers are obliged to report on these measurements, I would say not monthly but at least quarterly. The tier-2 suppliers, this is mainly done during visits or audits. About Fair.

I: what kind of CSR-related certifications do you have? or in general certifications? After the requirements

R: Right now I would say on the CSR we have the E4 certification, where "K" and "B" have done a very good job basically by making a stakeholder analysis and what's going on and what should the next steps be regarding CSR. and then we have ISO 9001 and this is very common. We have MID. We have ATEX which is ensuring that the product that we are selling, as it is a gas product is explosion-safe. So if there was a gas leak it would not ignite and have an explosion. Furthermore we have just had ISO 27001 and in December this year we will have ISO 14001 and 45001. that's for the environment. Is it? No. It's for health and safety. 14001 is environmental. So that's for this year. I haven't thought so long if there's any more certificates we need. I think that's more than enough for the time being.

I: And then I would like to ask you a bit about the buyers, in this case the Dutch utilities? In relation to Fair, would you say that Flonidan has received lots of pressure from them?

R: I would say that we have put the pressure on ourselves. We're promising quite substantial savings. During this delivery time... This is between 20 and 25% in all over this 5 years. Actually it's more. 7 years. On gas, electricity, Water, waste, etc. so that's quite a lot. So yes of course but we have ourselves put in the numbers. Okay then they are saying: "how are you going to achieve that?" And that's where the real work starts. So basically what they did is that: "We have this Fair. Would you like to attend to it?" that's different areas of... That's the Fair about the environmental, the labor stuff. And then we have the supply chain. And then we have about the Fair Pilot, which in the first step is: "okay where is the material coming from? Which smelter has been used for making this component? Which raw material?". So that's Fair Pilot in the first one and when we know that, can we then design a Fair Meter, which is going to be step 2 in the Fair Meter pilot, which is not decided yet if we will continue with it. As you know, there is a Dutch company that has made a fair phone. Not that it is completely fair, I don't think so, but it's as good as it can get. But what they have done is that the phone is modularized, so if you like to have some more RAM you just take it out and put it in, if you like to have more battery power, put it in. So it is exchangeable as well. Because if you have a Samsung or an iPhone, if it doesn't work you just throw it away. With the fair phone, you can change all the different modules and it's more made out of good stuff I would think.

I: You said before about the requirements. That you put yourself mostly in that pressure. Also you said before that you were in the tender procedure, when they were making the contract, something like that.

R: Yes in the tendering only.

I: The Fair requirements that you have. Did you sit down together with them to discuss about what is most relevant to the company or did they have a specific list of hard requirements

R: they have what they call a Fair Performance Ladder. Where they have some subjects and then we can fill in: "okay in the water we can save 4%..." and so on and so forth. And secondly they had some questions about: is the product RoHS and REACH compliant, and are we complying to WEEE as a supply chain, compliant to FLA, EICC, etc. So this was actually done beforehand from their side in the tendering work and we said yes yes no no, etc.

I: So you had a say in what...

R: Yes and I would say that we have promised a bit more (inaudible) I would say on the supply chain and the conflict materials and so on. So yes in that way and then we had a long clarification period After we were awarded into this where we were I would say discussing a lot what should be in and what should be out over the Fair work. Because they were just pouring in and we were I would say "yes we would of course like to do whatever but we have limited resources so we have to be very strict. This is what we promised and this is what we will do." And asking not more not less.

I: okay. And something else about the buyers... Lastly actually. Apart from CSR, in general how would you describe the relationship? One of the aspects that I'm interested in knowing is if they have been correct from their side, apart from having just the requirements. So for example have the insured timely payment, or in general, have they kept good relationships or have there been any problems with budgets?

R: I would say that basically up to now they haven't paid a penny.

I: Wow!!

R: (laughs)

I: okay

R: we are working on very long term. And the money is first rolling when we are selling products. So it has been a very long project. This has lasted out for two years and we have used a heavy amount of money to get them where we are. So... But I'm sure when it starts rolling the payment will come. No worries. But it has been a tough period, with a lot of traveling and a lot of expenses to ensure that we are on the right track.

I: And would you say that you are on the right track?

R: We are. I would say that the good story is that we have been selling to the Dutch before not the previous product, not the DSMR 4 that they are using now but the DSMR 2 and there were some problems with lah lah lah.... And we were in as an underdog in this tender and out of the... I would say 3 different parties, with the tender as a supplier, we are the only ones which is on track and it is highly appreciated as a last... Yesterday the CEO was attending a meeting in Holland and where we were appreciated highly in front of all the others on our Fair work.

I: Really?

R: We are. (laughs)

I: Perfect.

R: And the same we have been on all other parameters. I would say we are the absolutely best performing supplier they have. And they are saying it. And we have done a Quantum Leap from where we started I would say one and a half year ago up to now. We are outperforming all the others on both the product and the quality, Fair, supply chain, whatever. So they are very happy in what we have achieved up to now.

I: Really good.

R: Because... You know the CEO a bit.

I: Yes.

R: He says that he has a hand like...very big...I would say...Jysk...and a deal is a deal. If we are shaking hands this is what we are going to do. This is what we do.

I: Yes he has mentioned it to me.

R: Yes he has mentioned it several times. And basically that was what I was doing in both the quality Fair and supply chain in the first part of the tender. Saying yes this is what we're going to do and we have done it. So yes it is appreciated also on the fair. Absolutely.

I: Okay. And now my last question. About in general the department that is handling the whole Fair and CSR and environmental stuff. Has CSR been...?

R: I have two hopeless girls working on this one. (laughs)

I: (laughs) I don't know, I don't know.

R: You don't know! (laughs)

I: But would you say from your point of view, not their point of view.... Would you say that CSR has been considered as an obstacle? Was there a day when you said: "oh I wish we didn't have to do this"?

R: (laughs)

I: All answers are allowed (laughs)

R: Yes of course there has been days when you say: oh I hate it. Because it is not always easy. It's not always easy to get the information we would like to have. It sometimes takes a long time to get the information out of people and at the same time it can be difficult to understand what is going... Why are we doing it? Why are we using time for it? But on the other hand when you then have the complete overview, you understand it and you get appreciated by the customers. Then you can say "oh yeah". It was good. Yes it was tough, as all projects are. Yes it was from time to time (inaudible) but there's also downhill stuff and you say yes now we're tracking! yes thank you. So in that I would say... In that way it has been a good ride and an interesting one as well.

I: And it will be for a long time (laughs)

R: Absolutely. It's 5 years of hard work I would say, so I think it's more about having the correct metrics, saying if you're monitoring this in the next half year we're going to do this, next half year we're going to do this, and next half year we're going to do this. Because that's the only way that you can do it and continue improvements. So we can reach, I would say the bottom or the sky. You decide yourself. because the problem is you are using of course as little energy is possible to produce one meter or one unit or you can say you can reach the sky and say oh I'm not using anything to produce this. And I can reuse all the meters. And that's why I have always in my mind and when it's about Fair and CSR: as green As It Gets. And if I'm talking quality: As Good As It Gets. Because you always have a snapshot today I'm here, tomorrow I'd like to be on the other side using less, better quality. So you can say the better I can get the quality to be, the less CO2 I have. stickers and they do not have any returns. I do not have anything so I can get it right from the mine to the consumer in short without any reboots or any wrongbacks.

I: okay! That was all my questions!

-----End of interview-----

## Appendix E

### Interview with HSE/IS coordinator

27 April 2016

Interviewer: hello and welcome

Respondent: thank you

I: first I would like to know your position in the company and some of your main responsibilities

R: I am the HSE/IS coordinator. My main responsibility is information security, health safety and environment. I am responsible for building up the systems, implementing them, make awareness training to get it out in every corner of the company.

I: Let's play kind of a game. Imagine you had 6 aspects with which you could make 100% fair meter. a fair meter equals 50 points. Here you have the six aspects and each aspect equals 25 points. And you have to choose two of them. where would you focus your attention? do you understand ?

R: so I can only choose 2?

I: yes you can only choose 2. and you can create your own if you want.

R: (thinking)

R: I will not use environment because it's kind of covered by circularity. now you've made an origin of materials but I think that it's deeper than...so.... I would focus on... I will make my own one... and that should be... I'll call it fair supply chain. I'm sorry I cannot choose among origin of materials and labor issues. I want to focus on the supply chain the whole way down and I think that covers both labor and origin of materials and how it's processed, what they do with all their emissions, how they use their resources how they handle... I think everything is in a supply chain. the focus is not at Flonidan but in our supply chain because because we don't produce anything ourselves. is that okay?

I: yeah there is no wrong or right answer so don't be worried. thank you very much. now would you say that Flonidan has an impact on the environment or on society?

R: We have an indirect impact on the environment. Ourselves it's very very small. we're working on decreasing air impact from this building and it's very very small what we can do. But we can do, not just to do it but to show our suppliers that something can be done easily.

I: so you so you would say that the company has a small...

R: we have a large, because we have the producers which produce parts and the whole meter.

I: and as I have understood you have some requirements from your contract with the Dutch utilities. Is it correct?

R: Yes

I: and part of those requirements is the Fair project.

R: to be fair to people and nature

I: and does Flonidan plan to benefit from those requirements in the future?

R: oh yes. We actually see the money in it. of course it's nice to have it in our... the plan is to make CSR a part of our DNA. it should be in everything we do. It's growing... In fact yesterday a colleague came up to me and said "I just talked with someone on plastic. Dupont and another company is making a new granulate which is partly bio-something". That was all I got. So he's thinking about it every time he has to choose a new granulate for plastic parts. And he did not think about this half a year ago, not at all. And now he just wants to impress me all the time and I'm just giving him all the credit I can.

I: Perfect, that's really good.

R: so we are planning to... it must be this part of our DNA and then we are to benefit from it economically because we want to be in front to show that we are in front, to give the customers what we are to give them, not what they just say they want. we want to give them even more, be greener, and they have to choose us because of that.

I: then let's go to stakeholders. Are you familiar with that term?

R: yeah

I: Perfect. does the company I understand who is stakeholders are?

R: Yes we made a stakeholder assessment. Actually we made it as a part of our new certification on 14001 and 45001, which is the new 18001 and we can see our stakeholders in that. I don't have my computer but I have a graph I can give you, which illustrates our stakeholders the influence they have. For instance, and this is funny, we fulfill the Danish legislation so the government of Denmark has some impact but actually the Dutch government have even higher demands and we got that through this contact with SMM so they have even higher influence on us than the Danish government.

I: okay that's perfect. so my next question would be: What the stakes or the power of each stakeholder is

R: You will see that on the graph. I can give you that. You can have it in your report if you want.

I: yes that would be amazing. And do you remember some of those stakeholders?

R: Yes, as I said Danish government, Dutch government, or we just call it foreign governments... we have the employees, the family of the employees actually as well, you always forget those. Our customers, our suppliers, retailers is it called? the ones buying our water meters... you have our bank, our financial institute, insurance company...

I: and the utilities, like the buyers?

R: yeah they are customers, the utilities. Actually I think it's as utilities, then you both have gas and water utilities. the management, the board of management... That was some.

I: maybe your partners, because...

R: yeah we have those as well, Iskraemeco exactly.

I: have you considered the community here in Horsens as part of your...

R: we also have that, yeah. But they have very very low influence at this time. We even considered the companies in this area because if we have an accident of any kind, environmental, then it will have perhaps influence on the other... if we burn then maybe they can't work because they get smoke in their buildings.

I: and does the company have any set of transactions for negotiating with those stakeholders, for example about how it handles consumer and customer complaints or in general personal interaction with customers, when they have some issues or some quality issues?

R: For customers and suppliers, yes we have that in our quality system actually. Quality management system.

I: And is it like a process that you follow every time something happens?

R: it's not finished, done, anything, but it's there and we are actually right now working on it, to make it better, to make it easier, to follow... to make it more simple.

I: but it is there and it's...

R: yeah but not for anything else than customers and suppliers. And we actually made Improvement on suppliers because we now have a quality... what's called... I only know the Danish word... when we get new suppliers we made a two-page which they're going to get on quality and so on and there we put in some some, of course information security, but we also put in that we, for instance, need information on exact composition of the components so they know that when we are making a deal. That's quite new.

I: And what about the employees? how are the day-to-day interactions? would you say that there was a good climate in the office?

R: In general? Not in relation to this but in general?

I: Yes

R: (pause) it's not good good.

I: Okay. You mean here?

R: Yeah at Flonidan.

I: okay. Why would you say that?

R: Because we are not good enough to work together. This has been a very small company and the last CEO was very he was the father of the company and if you had anything you would go to him. Even if you were manager or just shop floor employee, you went to him. You could go around your own leader. Now you have to...to change your organization, we are all to take decisions in our areas. We are going to be more dynamic, we need to do that. We cannot have one person deciding everything when we are growing to be like the double. We will be around a hundred in a few years and to do that, in order to make this transition, we need to be able to help each other, to interact with each other. And not everyone is ready for that by now. And this makes a bit of a...yeah...unhappiness.

I: And how about stakeholder needs in general? Does the company dedicate resources towards understanding their needs? For example the employees or your customers?

R: Just what we have made. And it's based on what we made...an education process on CSR. We made a stakeholder assessment.

I: For example, lots of companies have stakeholder surveys, employee surveys that ask them what is the most important to them for the company to focus... And stuff like that. Do you think that Flonidan could be in a position to do that or are there some constraints? Time or...?

R: No we don't have it by now. We have made a customer survey and that's all we need and within the company we have an APV which we have at least once per 3 years. You need to make that in Denmark. It's called arbejdspladsverdering. It's an assessment of the work you are doing and how you are doing it. So there it often comes up that I have too little lights, I am satisfied with my colleagues, or I don't have a table which can go up and down which I would really like...

I: And do the employees fill it out themselves or?

R: Yes. They do that themselves. You can do it in different ways. By now it has been a scheme that you fill in.

I: Has the relationship with the media been something of concern to the company? maybe more lately or does it not bother the company?

R: When I was hired a year ago we did not have contact with the media. But the new CEO which we have had for almost 8 months, he's very into contact with the media. So he has an interview with a local magazine, we have now made an interview with green Network and now have an article on CSR.dk on our CSR work. And we are trying to use LinkedIn to share our successes. We're trying, we're working on it. If we had a marketing department we would do it more but we are not big enough for that. So it's what we can do. For instance, when we got the certificate on 27001, Hans was the one responsible to place it on LinkedIn which we have to share with... so we'll probably do something Fair on it as well.

I: Would you say that the company receives lots of pressure from its stakeholders? For example your customers or employees?

R: Pressure we only have from our customers.

I: Which would be right now the Dutch utilities?

R: Yes exactly. Of course we also have other customers by now. But the ones starting all this work was SMM. They initiated everything.

I: So far have they provided any help, like any resources, any other kind of support along with their pressure?

R: Actually that's the amazing part. Of course they pressure us and they seem to not understand that we are only 40 persons and it's only me and you working on this subject actually now. But we have the cooperation with SMM and Iskraemeco where we are to make this Fair Meter Pilot. And it's amazing what they gave us. They were slow in the beginning but now they actually are taking part in it. And yes they pay half our expenses on this Fair Meter pilot.

I: Has the payment been timely?

R: As far as I know yes it has.

I: And have they enlisted help of any other third parties, like NGOs or government agencies, certification...?

R: well they are trying to but at this point they have been very slow so far. But now we just got Phillips into the deal. Phillips are working on Fair electronics as well so tomorrow SMM's consultant will have a meeting with the responsible person from Phillips.

I: And have they provided any ideas of how suppliers can also come on board? Like how you can maybe monitor them better, maybe with audits or something like that?

R: We have talked about it. We are so lucky that R, as a part of SMM, has made something similar before so in the process of making the contract he was very active on what to do and what not to do, what is possible what is not possible. So he's realistic compared to some of the other people, which we are working together with. They just want everything.

I: Would you say that they are more idealistic?

R: they are, some of them.

I: and would you say that in the beginning they didn't know exactly the technicalities? For example they want you to be more fair but they don't know exactly if it can be accomplished in all levels?

R: I would more say that they were... if there were five people then all five had something which they wanted because they knew that there was something environmental-ish and how that's how the contract is actually made, on these idealistic thoughts. "these we would like, this would look good". So I heard from a very clever person that they should only have given us a few requirements and that would have been much more easy to get an overview and tackle.

I: They gave you those requirements. Did they explain to you maybe in the beginning of the process, how those can be a long-term opportunity so you can have the motivation to follow them with passion and...?what

R: Actually most of the goals are set for 2016 or 17 until 2020 so we have a short-term and long-term.

I: so you recognize the potential of it afterwards.

R: some of them are hard to get but I think we will do it.

I: and have they provided help with awareness training on suppliers?

R: No, not that I know of but they have conducted audits at our suppliers in cooperation with us.

I: because they have a lot of bargaining power so maybe they can convince more suppliers?

R: No, not these suppliers. They have been at our main suppliers Metrix and Kimball.

I: and have they been open for learning from you? Because you said in the beginning they were not so... they were not doing a lot and you were doing most of it. Have they been open during the process? about the difficulties?

R: Well they were a bit closed in the beginning and when we began to achieve results they actually came along. You can say they got inspired, I think. So now they are into the project.

I: Into the project...

R: Yeah they want the project, it's not just a product. It's something they can achieve something else from and they are talking about when we make this we are going to buy this tool, which is to have a public side on the fair meter. Then they would like to get even more than the fair meter as well. It's a kind of dream for them that everything they buy should be in there.

I: so they were asking and asking and not giving a lot in the beginning.

R: They were not asking, they were demanding. So now it's a cooperation I think. I feel it's a cooperation.

I: Have they given time for you to improve some of the difficulties that have arisen or have they demanded immediate compliance?

R: They have given us time. For sure. Their deadlines are very short and we have to fulfill them and again they did not take into consideration that we are very few here and that Iskraemeco, our partners, they are a little bit more employees. It seems like they are not thinking about this and of course they should not because we should be equal on this point but it is harder when you are only one and a half person, to achieve the goals.

I: Yes of course. But other than that you told me the payment was timely even from the beginning of the project like with the budget and...

R: As far as I know. We were not paid in the beginning because it was just part of our development but on the fair meter project we were to make a schedule. They got that on time and hopefully they paid us. I think we got an email on that.

I: You told me that they have audited your two subcontractors. But other than that have they provided any guidance with the rest of the suppliers? For example with how to pass on the requirements to the other suppliers?

R: They have been part of it. We made this supplier questionnaire which we made in cooperation with SMM. To be honest it's not good. We got it ourselves from Iskraemeco to fulfill and it's really really hard, even though I know what it's meant. I think the suppliers are having a hard time with this. So this should have been given more time but we were in a hurry in order to get some results from the suppliers but maybe because we have been this fast and not taking the small details into consideration then it would be longer for the suppliers to answer because they don't understand it.

I: And do they understand that? That it will take time and effort?

R: They do. And they accept it. And that's incredible actually.

I: And now to Flonidan and its supply chain. Would you say that the company has a high bargaining power or a lower one compared to...? Like in terms of passing on requirements?

R: (pause) Well that's a hard question. (laughs) It is. It depends on which suppliers. If it's like Kimball, our new supplier which we exchanged during this process with SMM... We changed from the main supplier GPV to Kimball: we have a very high bargaining power. We give them quite a big order. And they want that. And we want them and we show it to them. But on the Chinese guys we have for instance display or the one making the gear or... We have some Asian suppliers, which... For instance, the supplier questionnaire we cannot get an answer.

I: So what do you say that the main subcontractors: Metrix and Kimball, you have bargaining power there, but later on it gets...

R: just leaving small order at the supplier, we don't have any bargaining power. We are too small for that. So what we need is to make Kimball take contact to the suppliers they use for our products instead of us going to them. But so far we gained like nothing. But maybe that's because Kimball is not pressuring the suppliers as much as we would like them to. Because they... Yeah it's not their project. They sent it out and now it's done.

I: So it stops to them. So they said "yes we will pay attention to our water consumption..."?

R: Perhaps, I don't know. So when we have time that's what we're going to look into.

I: Okay. Some companies communicate their CSR efforts to their stakeholders, for example the employees. Do you think that is important for Flonidan to do? Like for example have a CSR report to

show what has been done so far or a code of conduct on the website? Do you think that those things are important?

R: the things we don't have by now? yes I think it's important. We are now in a progress of making the new strategy for Flonidan and as part of this, CSR will be some of it. To make this goal with selling our product on being fair, then we need to kind of say to the world :"we are here, we've done this this is what we want. This is our code of conduct". So we are to make it. The plan is to make the code of conduct this year and hopefully the CSR report as well this year. We have a CSR report but no one has seen it. We have it just to have it if anyone is asking for it.

I: but it is impressive for a really small company to have a CSR report. Not everyone is as...

R: It is depending on how big it is. It don't have to be greenwashing, along with beautiful pictures and so on. It can be just a statement.

I: and how about personal communication to employees?

R: We are not there yet. Unfortunately we haven't had the time. The plan is to make an event. We think it would be "fair" which would be our word but it's not decided yet. Or it could be something "decent", "orderliness", something and then we will put people in groups and they have to discuss this word, to fill out what is it. What does it mean to us? ? But we need time for that. We cannot just do it... We have these monthly meetings and that's not time enough. We need people to work with it and maybe we will start with an awareness training which we have made on information security and had quite good success in that way. But we need to get the people of Flonidan to put in their words and their understanding into it so that we have a common base. Until now have used the word Fair. That's what they've heard shortly in this monthly meetings but if we are to use that word, we are to make it our own. But we cannot just make it our own, we have to work for it. But what we actually want to say is that... In Danish: "jysk håndtryk". A handshake of the Jutland people. That means that when we say OK and we do give hands on it on this, then we are fair actually. We do things in an orderly way. We are decent and because of this, because we have been open to SMM, they are considering us as one of their best suppliers which they ever have had had. Because we achieve goals and we are open. We say we can't achieve this goal right now but we are working on it. And that's what customers like.

I: We mentioned before the monthly meetings. And in general the communication to employees. Do you think that employee engagement towards the CSR practices of the company is important and also for the CSR efforts to be more successful? Do you think that it's important to engage the employees towards that?

R: yes. And that should be a part of it because when we're going to get the certificate HSE, occupational health and safety and environment, then we will make awareness training. We will take all the employees under the CSR wings so to speak. They need to know it. We cannot have something and say "we have it!" and nobody else but me knows it. That would be terrible.

I: You told me you have plans to do more about it in the future. What has been done so far?

R: So far we have done nothing. When we are done with the talk on May, we are going to, or I am going to focus on the implementation of the two new systems. Management Systems. Yes and they have requirements on awareness. So to get the certificate we need to do awareness training, and it's not just making awareness training for everyone. It's being there for every employee. As we started with the person making the small plastic parts and he's talking about this and you can see that other people are affected by it. So that's the way. Make the small circles and then you'll have the big circle.

I: You said that you have a lot to do on future plans on employee engagement in CSR. However what has been the contribution of senior management to this? Is it on board with this like the CEO or maybe other...?

R: the new CEO is. When I started talking about CSR he was like "What is that?" And a week later there was a big article in Berlinske about CSR and how Novo Nordisk and other big Danish companies

actually achieved a lot on this and he came down with this article: "Now I understand where you're going and we are going there!". So I had his full engagement. That's for sure. What I need from him is to make it as a visible part of our strategy. He wants it but he has to make the work as well.

I: I can imagine he's a supporter but I think it needs more concrete help than this.

R: Oh I have that. Every Monday the CEO has a meeting with all his "COs" and here they discuss different kinds of things and if I have a problem I would give it to H and he would take this to this meeting. If there's not support enough from one Department then they will handle it there. And now if I have problems with suppliers I put my colleague J which actually visits those Asian guys and H as a CC. And often that gives some kind of response immediately. In May J is going to China, Taiwan and all these Asian guys and I have a deal with him that get half an hour to tell him about our supplier questionnaire, to train him in it and he will take it there and he will sit on the people until they've made it. But we actually have some good answers from the Asian guys.

I: what kind of CSR related standards have you adopted and what are the plans for the future?

R: so far none.

I: but in general what kind of certificates?

R: when you have the 9001 on quality. We have 27001 on information security. We have the MID which we need because it's an electronic product. And we have a ATEX which we need because it is for gas and you have a battery and static and so on. We need to be sure that it will not explode. ATEX, that is the explosion director. within this year we are hopefully to be certified on the 14001 and then you have 18000 or 45001 if it's here. We don't know, hopefully it will come this autumn.

I: there's also one called SA8000.

R: No we don't adopt that. We don't get a certificate on HSR because it's very hard to get. You have to do a lot of work and it's more for large organizations I think rather than a small one like us.

I: so 14001 is better suited to Flonidan?

R: yeah. And it's easier to achieve. And that's what customers are asking for. They want 14001. They are not saying... 8001.

I: you told me you have the supplier questionnaire to get information. Do you use any monitoring techniques apart from just getting information? You told me that your colleague is going to Asia to make audits?

R: Yes. I don't know how often to be honest because that's part of the quality work. We send out a self-assessment scheme where they score themselves. We ought to use this when we get new suppliers or are investigating for new suppliers and then we go for some of them if we think we need to, if they're big then we go to make an audit and here we have quality, information security. Actually already we have environmental health and safety.

I: certification?

R: we ask for this but as you know in India for example you can get a quality certification in exchange for money so you have to be there and see it for yourself.

I: so you think all this is the most important?

R: Yes. But it's very important that you have a good auditor. Or auditee I think it's called. Because if they know you come they can change a lot in the surface. The children can be left at home not going to

work that day and you hear a lot of stories about that. We haven't experienced that ourselves but that's the kind of stuff you are looking for.

I: and how would you characterize the information that you get from suppliers? From what you have used so far. For the supplier questionnaire.

R: It differs. It differs from getting nothing and I mean really nothing. The display we got some funny characters saying nothing and from others we got the name of the component and the name of the granulator they use for this plastic component. Everything was in it. So it depends on who's working with it. At the suppliers.

I: and have some aspects be more difficult to get information on? Like for example labor? Or origin of materials?

R: Yes. Labor and the origin yes of course. not all the origin. I would say labor is even harder to get because they refer to their own legislation and we are not into that. But for me it's very important when I get something good, I give the credit to the one sending it to me.

I: you said that they referred to their own legislation. Do you think like maybe in the beginning it is kind of complicated, the information they send but if you do a bit of research on your own do you think it can be sorted out?

R: yes of course you can. But it's hard. It's really hard. And it would be nice if everyone said: "Oh we are into FLA, we are into the EICC" and so on. Of course they comply with it. They have to. To be suppliers. But do they really do it? That's the question.

I: And what would make your life easier as an employee of a small company? Would it help to have more people helping you or other kinds of resources towards that?

R: it would be to have the suppliers in Europe.

I: All of them? Not just the subcontractors?

R: Exactly. That would be easier because then at least we had the EU legislation or regulation to fall back on.

I: what about other employees in the company? Like for example in production or R&D? Is it possible that they talk more to subsequent suppliers?

R: Yes. Yes I got the contact for the display through one of the hardware guys. And one day he had a meeting with a supplier and I was told, so I went in: "Hi! I need some more information!". it's a Danish guy hired by Rutronik and they buy the display from Tianma so our contact to Tianma is through Rutronik so I need to get Rutronik on my side to understand what I need in order for them to make Tianma understand what's needed.

I: so it's all about people.

R: It's all about people.

I: And how has the relationship with those suppliers been? You told me that some of them you need to get through some others... So do you think it's difficult to maintain a relationship, a close relationship?

R: of course it is. We have a Danish supplier on a few plastic components and that's so easy. I just call him and we talk in our native language and that's easier and I can charm him through the telephone so that's so simple.

I: but other rules apply...

R: When we use emails.

I: And Kimball and Metrix. The relationship there, is it better? More close?

R: yeah. And it's so nice that we don't get that much from GPV anymore because I saw an article on the garbage handling out there and it was terrible. They do not handle it at all. It's landfill. So it's so nice to know that in Poland.... I know that their legislation is not as hard as in Denmark but they have tried some regulations down there compared to... an occupational health and safety they have on their legislation that if an employee of mine, someone gets hurt down there, then I could end up in jail. They are very eager to solve the problems. I have been working with people from Poland before and when they hear about our legislation they say: "oh so you don't have any responsibility" and no, the CEO has it. I am just working for him. But down there when you are educated as as environmental or occupational health and safety specialist, It's all under your responsibility so I'm glad that I'm here.

I: And a last one. Has CSR considered at any point as an obstacle, like something you would gladly avoid one day?

R: Only when I walk around the company and ask questions. For example when it's on weight. So no it hasn't been.

I: Only a bit?

R: Only when I'm taking time from other people. And it's actually funny walking around saying... "Well we have this contract with SMM and for that I need this". "You do? Why?". "Well we have to train our employees..." "You do? No!" So not everyone knows what the contract consist of. And I don't know what it consists of in relation to the product itself. And to production, because it's so big. In the production they get the information they need.

-----End of Interview-----

Appendix F  
Interview with Internal Sales Employee  
20 April 2016

Interviewer: well first of all I would like to know your position in the company

Respondent: I am in internal sales and I don't really have a title that is what is on my signature and business card

I: And what does your job entail?

R: it is quotation and Order handling and follow up regarding to everything customer related, service and stuff.

I: and how long have you worked at Flonidan?

R: a year and two months I think.

I: a year and two months, ok. so you must talk a lot with customers...

R: yes all the time.

I: but internal does that mean...?

R: that's everything in it for sales guy you know comes back with an order or they sent orders to email, or they just need a quote, or have questions related to our products and everything they could imagine to ask..

I: and is it only in Denmark or...?

R: no it's all customers. "M" has more or less smart meters and I have the rest, like turbine meters, regulators, converters, and everything.

I: okay. Now I'd like to ask in general about Flonidan and the environment. You don't have to know anything, just whatever....

R: Is it the work environment or what do you think it's....

I: no in general. first of all I would like to know if you think Flonidan has an impact on the environment in general? Like pollution or what you can imagine.

R: not a big impact but we try to reduce our emissions, CO2 and everything.

I: but would you say that Flonidan, as you are aware the products we use, what we transport here and there, do you think that we use a lot of energy? or in general does Flonidan have activities that can hurt the environment?

R: yes we have transport that includes trucks and sometimes planes and stuff that would have caused... and we have a lot of shipments. which of course causes something for the environment.

I: so you think that would be a burden?

R: yes it is but I think this is difficult because if you need to sell something you need to transfer it to the customers...

I: of course of course.

R: so it's difficult to do that much about

I: are you aware if the company does something to address those issues? let's say that someone has realized that it has an impact on the environment. for example the pollution, do you think that something is being done in the company?

R: I know it is but I do not know exactly what. I know that there is something going on with all those issues but I am not involved so I do not know really what.

I: that is ok. Let's go a bit to Flonidan's customers and also the employees. How would you say the company treats customers and employees? Would you say that customers have any complaints or employees...?

R: we have recently made that complaint issue... all that procedure stuff so they should be treated much more effectively now than before. Before it would be difficult because there wasn't really who did what exactly... So it has been a little more efficient I think at the complaints and stuff. There's been a customer survey too but I haven't heard the results of it. So maybe it could be found in Improve I don't know.

I: so you say that customer complaints are being addressed at the company.

R: yes

I: would you say that there is a standard procedure that is being followed?

R: yeah yeah

I: okay and do you use that for example when you have a call from a customer...?

R: yes we do

I: so you put in some data or...

R: yeah, we...when I have a customer that says: " oh no my analog broke, it doesn't work, it's crap...", then he needs to send it back and I will get a claims number from "A" or "K" and then he will send it back and then it will go through one of those two and maybe if he says very urgent, I make an order and ship a new card right away and if we find out that he didn't cause the fault in the old card he will get a credit note. And maybe sometimes they have done something so we can see there if they tampered with anything so that is their own fault and then we have to say " yeah you tampered with it so we cannot give you a credit note or anything"

I: is there many times that you've seen tampered...

R: yeah. It happens.

I: and then they call and say...

R: because sometimes they don't know how to put it in or they open it because they think they can repair it themselves or some technician takes it out to see what it is and then pops it in wrong or drops it and then they try to fix it themselves. They do a lot of stupid stuff.

I: Haha okay but when they say that to you...

R: we address it as a.... we have a complaint and until otherwise proved they are always right unless it's a customer we know does the stupid stuff all the time.

I: so you are not suspicious or something...

R: no we just always say: "you need to send it to us so we can see the product". Because we need to see the product also so we don't send one for free and then they have two products, working products maybe. So always they return something, If it's a meter maybe we can repair and then ship back. It depends what kind of product.

I: so you speak a lot with customers? And do you like it? Not like it but for example when people are complaining or being angry or something... tell me more about it, because at the University they tell us it is really really important, like everyone we'll do it at some point in their lives...

R: you need to be very patient and no matter how stupid the customer is you need to apologize. Even if it is their fault then you have to apologize and tell them that unfortunately you cannot give them anything for free or... but always start with... you need to be very patient and you need to be very polite and especially when we come abroad. You know in Denmark we are not always that polite it's a bit more loose but as in Germany, England, China, whatever more polite and correct when they talk to people unless you know them very well, so um...

I: so you try to be one someone is really difficult and...

R: yeah I apologize a lot and when you hang up the phone you say what a jerk

I: okay to get it off your system (laughs)

R: (laughs) yeah!

I: okay

R: then I'm talking to "M" and says: "oh no he called again and complained over that meter he bought but he didn't want (laughs)

I: I imagine I wouldn't be so patient if anything...

R: no it takes a little practice. I started as a technical assistant and got where I just (inaudible) furniture and then I slowly got to doing small projects so it was a learning process, so...

I: okay. But when you are really polite and stuff don't they say " yeah but you have to pay everything", you have to remember what is the company's policy

R: but yeah, you can be very polite and still say no. And I can say no a lot of times.

I: that is really good

R: but you have to do it in a way so that they don't feel like we don't take care of them. It's a little difficult to explain but you have to be open and polite and even if he's the biggest a\*\*\*\*\* ever, you have to. And if it goes really really wrong then you have to say: "you have to talk to my boss".

I: in that case is it "P"?

R: yeah

I: okay

R: but I'm getting a new boss soon

I: really?

R: yeah. the first of May.

I: really? are you excited?

R: I...you never know! but hopefully it will be better because "P" is more or less taking 3 jobs actually I think at the moment.

I: right now? so he's not being replaced just dividing the work

R: yeah they are. so he's going to be more on the tender side Which is huge at the moment.and then the new guy, he's going to be more daily boss something so...

I: but on the tender side, I know you are not on it..

R: No I'm not. I'm not really involved...

I: okay cool cool cool but that's all I need to know. And then in general. You are an employee at Flonidan... Do you think... how would you find the general climate in the office? are you happy to work here? Don't worry it's not gossip! But I think... General working climate is what I'm interested in. like in general interactions with the employees...what you say that it is a pleasant working environment, or...?

R: more or less but there's a lot of stress and a lot of busyness and people handle it differently. Someone drives when it's busy and others don't. They get a little annoyed and irritated. Everybody can when it's really going fast. Someone handles it better than others.

I: what do you mean when..?

R: some people are not comfortable with stress... And when 10 people stand and say "we need an answer now, we need an answer now" then they kind of break down and doesn't give an answer to anyone because they cannot really prioritize...

I: under stressful... situations

R: yeah.and thenthey get a little angry and irritated...something...and we can all be that. Some are just more than others. because it's going really really fast here at the moment.

I: It's...okay, it is more fast than it was two years ago? You are not here but...

R: no but even when I started it's going faster...

I: it's going faster...

R: yeah and that's because yeah we are all trying to follow because there are not enough people to do the job but that is why there keep on coming new people.

I: yes when I came there was 42 I think but I also received emails that more and more people were coming

R: yeah I don't know, when did you come?

I: November

R: yeah I think we have 4 or 5 more since then at least

I: and then in general have you heard about the Fair meter project? You don't have to know.

R: yeah a little but that's very little because I haven't been really directly involved in it so that's just what I've heard

I: what have you heard? Even if it's a little little.

R: but, you know about Fair. You know that's about lower CO2 and not slave labor and not the wrong products.. Yes subcomponents and that your suppliers doesn't use illegal components either and...uh... some more in that. I can't remember right now.

I: it's okay. You know more than you think! I mean it's also about reducing the impact on the environment energy and carbon dioxide

R: yeah that's all the emissions and stuff...

I: but we're also trying to see where are all the materials... I'm just trying to give you an explanation to have a better idea... we're also trying to see where all our materials come from...

R: and that's to be sure that neither you or your suppliers use illegal...

I: that's right, we don't have any conflict minerals that finance...

R: yes, illegal components.

I: civil wars...yes and also for labor conditions

R: yeah no slave labor no child labor no something

I: all that yes but OK do you find it an interesting topic? I know it's somewhere in the background for you but...

R: Um...I don't know I don't know if... not interesting but necessary.

I: you think it's necessary

R: yeah

I: okay, glad to hear it

R: I definitely think it's necessary

I: aha... and would you like more... do you think that with what you're doing at the company... Do you think you would be able to not change what you're doing at the company but through what you're doing help towards it do you think or... like contribute in a way, do you feel like...?

R: not much. In my function I wouldn't be able to do much

I: what do you think... you told me it's necessary. Do you think that... now I know that you are not.. You told me that you are not really a hundred percent informed about it. What...would you like in the future in general to have some knowledge of how the company is doing with it...? Ummm...

R: yeah it could be on our information meeting. Yes if someone stood up and said it so everyone would understand because they often use a lot of.... yeah you know letters...

I: difficult terms?

R: difficult terms, short terms that only the involved knows what is. And you know also the people that are in production are not hearing anything about it unless they hear it on a meeting like that and then it needs to be you know totally plain so everyone understands..

I: everyone understands...yeah

R: and it's often the thing is they send a couple of emails out but that was with a lot of terms I did not understand where you should have been involved to understand these terms... so that was a little: "yeah you're right" and then delete the mail.

I: I can imagine, really interesting. But you told me it's necessary. If you knew what the company was doing about it, if it was positive, If it was progressing really nice, who do you feel more happy about working here, because...

R:I will be...I don't know more happy, but I would be really unhappy if I found out that we supported child labour or something. That would be not nice to know yeah.

I: okay and I think lastly umm...do you think that top management has recently started spending more time on motivating the employees? Like you told me the information meetings. Do you feel like this is working for you to...

R: it's at least nice to know more about what's going on in the company so it's kind of a motivator to you know what's going on and where the company's going. You get a little more information on these and everyone has the same information so it doesn't really hurt that we heard that and everything...everyone has the same.

I: like for example, do you think more of a motivator would be more information meetings or maybe exercises... like you know when you did the training exercises it was kind of, you get to talk with other people you got to wake up

R:(inaudible) (laughs)

I: (laughs) yeah of course of course but...

R: but yeah but do, you can get.... if it should be... I don't think you can do more than the monthly information meeting but then you should maybe do something in the departments. In like with the weekly department meetings. That would be great. We don't have any department meetings.

I: like for meetings at sales specifically or....

R: Yeah but.. yeah for sales or for whoever is in purchase or whoever is in quality Department... a weekly department meeting. Because you address some issues who isn't relevant for the rest of the company.

I: Aha, like for example the quality Department telling you some stuff about their...

R: No no only people from quality that you discuss your daily work and stuff. And that I think is relevant for all departments that they have their own...

I: Ahh okay

R: so for example in sales we will discuss different, difficult clients or prices or new products and stuff that wouldn't be relevant for you in quality

I: Yeah in quality they have the info meeting 3 days in a week and they discuss about...

R: yeah the board meeting or whatever it's called

I: and that's when I get to know what the others are doing

R: yes we need that in our department. "P" has had much too much to do...

I: yeah I can imagine. Maybe it will be different now with the new guy

R: I hope that will give some clarity on how our department is doing...

I: Aha...! that's it with your interview!you did well! it was short how much was it?

-----End of interview-----

## Appendix G

### Interview Guide

*Table A 1. Example of Interview guide given to interviewees; own work.*

#### Master Thesis Interview Guide Ioanna Georgiou

##### Purpose of interview & of research:

The individual interviews are part of the qualitative research method of the thesis.  
The purpose of this interview is to understand Flonidan's social and environmental practices through the attitudes, feelings and motives of the interviewees.  
The overall research aims to strengthen Flonidan's environmental and social responsibility prospects.

##### Subject of Questions:

- Your position in the company (title and responsibilities)
- Implementation of CSR by Flonidan
- Flonidan's stakeholders
- Company's relationship with buyers
- Company's relationship with suppliers
- Employee engagement
- Senior management and CSR

##### About the Interview:

- Names of participants remain confidential.
- This method of research requires that all interviews be electronically recorded; however, recordings will not be shared.  
If you do not consent to this, please state it beforehand.
- Expect the interview to last about 1 hour.

Thank you for your participation!



Appendix H  
Field Notes: Workshop 1  
16 December 2015  
(pdf file on next page)

# Workshop 1

16/12/15 Wednesday

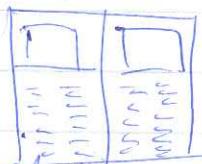
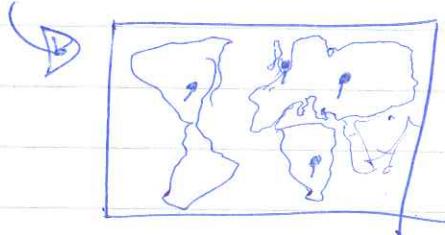
[REDACTED] + [REDACTED] → Fluoridam  
 M [REDACTED] → Staemeco (R&D manager)  
 M [REDACTED] → [REDACTED] (Fair Meter project manager) background  
 R [REDACTED] → Stedin  
 H [REDACTED] → Alliander  
 D [REDACTED] → [REDACTED]

→ WHAT IS OUR SHARED DREAM?

## Fair Transparency Tool

Shared Vision for Transparency Tool:

- world map [REDACTED] with pinpoints of locations in supply chain
- users can search for specific sites, materials, comp, etc.
- information on source of each one



"it doesn't have to be perfect"

We will share, however incomplete, our first attempts with transparency.

to the public

Aim:

- Inform the public on the origin of materials environmental & production process of meter.
- help make informed decision on fairness of product design improvements later in the meter.

Website for consumers & others → N GOs  
 focus on Dutch customers → e. sector companies

~~for  
Flonkska~~

Secure members only version:

maybe also: Stedim  
Alexander etc.

II & other suppliers

Flonkska, should upload information & make sure IDs  
correct & accurate

Flonkska: "tier 2 suppliers also input their data  
important validation from Flonkska!"  
"impact of components S current  
& future ..."

### Plan of Approach

|                                 | Dec<br>(SK)                                     | Febr<br>(SL)                                    | March  | April |
|---------------------------------|---|---|--|-------|
| Info<br>Sources of<br>knowledge | • BOM<br>components<br>until tier 1             | → additional<br>data ?, Data                    |  |       |
| Total<br>Approach               | Share self<br>systems used<br>& IP counterparts | • choose a tool<br>after market<br>consultation | • decision on tool<br>• visual<br>• resources needed |       |
| Knowledge<br>Sharing            |   | • share info<br>on conflict<br>materials        |  |       |
| Working<br>with                 |   |   | • discuss what<br>easy win<br>will be                |       |

- 1) Bi-weekly calls (every 2<sup>nd</sup> Thursday)
  - monitor progress at FMP
  - review & talk about ~~the~~ docs.
  - we should agree on a list of issues on which to get information on from suppliers & relevant documents
  - system requirements → tool.

2)

Appendix I  
Field Notes: Bi-weekly Call  
7 January 2016  
(pdf file on next page)

Thursday 07/01/16

During bi-weekly call:

- ~~Florida~~ already started getting info. (suppliers & components)
  - getting info on both REACH & will start
  - CMET is extensive
  - Info is there for maybe
    - 55% of components easy win
  - 4 meter types
  - EICC: 4 members (suppliers)  
lots report to CMET
  - All info is from Silicon Expert
  - Working on getting info on composition of comp.
  - Focus on single-phase meters
  - Data by March
- ~~Florida~~ February workshop

10<sup>th</sup>  
Update  
11<sup>th</sup>  
talk about Report

- March meetings:  
22 + 23?

To do:

~~REACH~~

- 1) discuss what kind of data Florida can take from Silicon Exp.
- 2) talk about February agenda

what can we use ~~for~~ for report?

Appendix J  
Field Notes: Workshop 2  
10 & 11 February 2016  
(pdf file on next page)

Kranj,  
Slovenia

10/02/16

- Participants still discussing about the FMP budget.  
it ~~has~~ has not been approved yet.
- !! Meeting at March might not happen if budget is not approved !!

- Isbraemeco presented G-meter's ~~water~~ material composition assessment.
  - Based on Open-source (Google, websites) Silicon Expert
  - Iskra's chemical lab
- Floridan has to prepare the same assessment for G-meter
  - !! For March meeting !!

↳ data will be included in demo  
for Transparency Tool.

- ↳ Isbraemeco will search G-meter's parts as well.
- We have to send out questionnaire to suppliers. (end of this week)

Isbraemeco's supply management ! Wait for final version from M. [REDACTED] !  
will send questionnaire ~~decisions~~ Decisions:

- we should bring other parties in the FMP & for Transparency Tool

|                |      |
|----------------|------|
| - FairPhone    | (D)  |
| - UNGC         | (M)  |
| - Max Havelaar | (R)  |
| - Philips      | (D)  |
| - Sourcingmap  | (D)  |
| - Metabolic    | (M)  |
| - Intel        | (B?) |



11/02/16

## Fair Meter Report

April 30<sup>th</sup>  
(2017)

### Circularity Reporting (2016)

base: 2013

Show results: 2015

report on yearly circle

- show what changes have been made regarding the indicators.
- make it clear which conversion rates are used.

### Critical & Scarce Materials

- list from EU is reference, - we call it critical from now on

### Fairness Reporting

- we will report on what we have:

### Waste

maybe pie chart showing the composition  
of waste and if recycled is increased.

Appendix K  
Field Notes: Workshop 4  
12 May 2016  
(pdf file on next page)

Rotterdam

Skype

Thursday 12/05/16

Talk with Fairphone & Philips

→ shares list of suppliers on website

Fairphone → want to be transparent on challenges.

→ burden administrative for suppliers

Philips:

<sup>env.</sup>

CR360: ~~stuff~~ & social stuff

Sourcemap: not for complex products

~~Ecochain~~ BOMcheck (developed by a chemist)

They also want LCA tool.

Ecochain

} not one system that can capture everything

- ~~tips~~ Suppliers do not want to be transparent.
- Difficult even for them to collect all into.
  - collect into from 3-4 different platforms
  - Sourcemap good way to communicate to consumers
  - bad things they don't want to show & locations.
  - good things yes
  - "What is in this for the suppliers?" That is the golden question
  - is also having trouble
    - standardized components can be purchased anywhere but for strategic ~~and~~ suppliers, the relationship is easier.
  - pushing for transparency EICC for product level.
  - audits don't improve suppliers conditions.
    - they do quick-fixing often
  - "how to increase transparency without consulting the partners involved". → focused on ~~one~~ multi-stakeholder dialogue.
  - Philips is a peanut in the supply chain even though it is considered a large company
    - everyone must work together on this
    - the focus should be on improvement, not just on compliance

- deployment pack (consistent messaging)  
 + keep it clear & simple  
 ↗ need for cause  
 Why we do it  
 ↗ sell it  
 ↗ another department  
 ↗ people who chase and pressure
- the use of sharepoint to track data  
 ↗ layer to report to management  
 ↗ layer to share to outside world

## Electronics Watch

10<sup>30</sup> - 11<sup>30</sup> Dutch organization situated in Sweden

- Public sector procurement represents source of hope
- main drivers for improved sustainability

~ Uses worker-driven monitoring.

Most parties do not seem convinced but Stadlin ~~is~~ Sust. manager ~~is an advocate~~ seems to mention "Let's give it a try more and more."

# FAIR METER REPORT

Dominik (Alexander) & D (Copper 8)

- satisfied with report
- progress apart from material transparency

- drastic decreases of CO<sub>2</sub>  
~~water reduction~~  
+ waste → ~~reduction~~

~~for next report:~~

- nice to see from which developments the reduction comes from  
e.g. next to the percentage → write the actions that led to the reduction.

Istokemco: + Flawdah

"water would have been contained if Istok had put the new air condition system + particularly warm summer in Slovenia.  
& also Comball hired more people & had a testing system ~~that~~ that used lots of water"

sister

waste

the goal was not something we could fulfill

bit should have been on lowering waste instead.

Dominik (Alexander)

- next report → more transparency: what is already done and what is about to come
- summarizing visualization of progress

Appendix L  
Supplier Questionnaire

*Table A 2. "Introduction" sheet in FlonIskra's supplier questionnaire. Adapted from supplier questionnaire - anonymized for confidential purposes.*

| <b>FlonIskra (Flonidan and Iskraemeco) General info, Statement</b>  |      |               |
|---|------|---------------|
| <b>A. FlonIskra</b>   |      |               |
|    |      |               |
| <b>B. Flonidan</b>  |      |               |
|    |      |               |
| <b>Company Organisation &amp; Management</b>  |      |               |
| 1. General Manager (name, phone, e-mail)  |      |               |
| 2. Supply Chain Manager (name, phone, e-mail)   |      |               |
| 3. Company location (address, country)  |      |               |
| <b>C. Iskraemeco</b>  |      |               |
|    |      |               |
| <b>Company Organisation &amp; Management</b>  |      |               |
| 1. General Manager (name, phone, e-mail)  |      |               |
| 2. Supply Chain Manager (name, phone, e-mail)   |      |               |
| 3. Company location (address, country)  |      |               |
| <b>D. Presentation of the idea &amp; project and its impact</b>   |      |               |
| <p>This questionnaire aims to realize transparent supply chain practices for smart meters.<br/>         Hereby, we gain valuable information on labour conditions and the materials used, as well as exclusion of potential scarce, toxic or conflict materials. Additionally our aim is to trace the components and materials back to the country and source of origin.</p> <p>We have joined the Fair Meter Initiative; an open network to raise sustainable practices in the smart meter roll out. Principles concerning undisputed raw materials, responsible and transparent supply chain practices, energy neutrality, circular economy, as well as co-creation and reciprocity to stakeholder demands should provoke that the next generation smart meters will be sustainable.</p> <p>We have decided to align our energy and effort to analyze our supply chain and within time improve our social impact and produce Fair Smart Meter. This is one of the aims of our sustainable development and we would like to kindly ask you to work together with us as our stakeholders towards more sustainable supply chain where we avoid participating in events where environment, people and economies are being exploited beyond reasonable, ethical and legal lines.</p> |      |               |
| <b>E. Date of sending the questionnaire</b>   |      | Date:         |
| <b>F. Contact person for the questionnaire</b>  |      |               |
| For Flonidan  |      |               |
| Function  | Name | E-mail, phone |

*Table A 3. "What & Why" sheet in FlonIskra's supplier questionnaire. Adapted from supplier questionnaire – anonymized for confidential purposes*

SOURCES & MATERIALS

**1. REACH & RoHS (2)**

**Compliant with REACH Directive:** Registration, Evaluation, Authorisation and Restriction of Chemicals Directive (December 18, 2006)

LINK: <http://echa.europa.eu/web/guest/regulations/reach/legislation>,

List of SVHC substances: <http://echa.europa.eu/candidate-list-table> .

**Why REACH:** REACH is a regulation of the EU, adopted to improve the protection of human health and the environment from the risks of chemicals. REACH addresses the production and use of chemical substances, and their potential impacts on both human health and the environment. REACH places the burden of proof on companies. To comply with the regulation, companies must identify and manage the risks linked to the substances they manufacture and market within the EU.

REACH also addresses the continued use of chemical Substances of Very High Concern (SVHC), a list of 163 substance.

**Compliant with RoHS (2) Directive:** European Directive 2011/65/EU on hazardous substances in electrical and electronic equipment RoHS II

LINK: <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32011L0065&from=EN>

**Why RoHS:** Directive that restricts (with exceptions) the use of six hazardous substances in the manufacture of various types of electronic and electrical equipment. It is linked with the Waste Electrical and Electronic Equipment Directive (WEEE) and restricts the use of the following 6 substances in homogeneous materials: Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls and Polybrominated diphenyl ether.

**2. CONFLICT MATERIALS & REPORTING**

LINK: <http://www.sourceintelligence.com/what-are-conflict-minerals/>

The most common conflict minerals are the raw material cassiterite (for tin), wolframite (for tungsten), coltan (for tantalum), and gold, which all may come from certain mines, whose incomes finance conflicts in the Democratic Republic of the Congo or an adjoining country. Estimates state that mining pays up to 75 % of the conflict wars and has resulted in the death of more than 5.000.000 inhabitants.

This has triggered international initiatives, guidelines & acts on conflict minerals:

- ⟨ Dodd-Frank Consumer Protection Act, USA (2010)
- ⟨ OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas, EU
- ⟨ CFSI - Conflict Free Sourcing Initiative
- ⟨ More initiatives: Save the Congo, The Enough Project, Partnership Africa Canada, The Conflict Free Tin Initiative, Solutions

**What is important for us and what we are asking for:**

- ⟨ Compliance with OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas
- ⟨ CFSI - Conflict Free Sourcing Initiative member
- ⟨ CMRT report; Conflict Minerals Risk Report (template developed by CFSI - Conflict Free Sourcing Initiative)
- ⟨ Membership in any other similar association / compliance with other guidelines / support and initiative in respect to conflict materials
- ⟨ Use of any other similar report/declaration

**Why OECD Due Diligence Guidance for Responsible Supply Chains of Minerals:** It provides detailed recommendations to help companies respect human rights and avoid contribution to conflict through their mineral-purchasing, decisions and practices. The Due Diligence Guidance is for use by any company likely to be sourcing minerals or metals from conflict-affected and high-risk areas and applies international frameworks to due diligence reporting requirements.

LINK: <http://www.oecd.org/daf/inv/mne/GuidanceEdition2.pdf>

<http://www.oecd.org/corporate/mne/mining.htm>

**Why CMRT report:** The Conflict Minerals Reporting Template is a free, standardised reporting template developed by the Conflict-Free Sourcing Initiative. It facilitates the transfer of information through the supply chain regarding mineral country of origin as well as smelters and refiners implicated. It also facilitates the identification of new smelters and refiners to potentially undergo an audit via the CFSI's Conflict-Free Smelter Program.

LINK: <http://www.conflictfreesourcing.org/conflict-minerals-reporting-template/>

**3. RAW MATERIAL, CRITICAL RAW MATERIAL, VIRGIN MATERIAL, RECYCLED MATERIAL**

**Raw material:** Raw material, known as unprocessed material, is a basic material that is used to produce goods, finished products, or intermediate materials which are components for future finished products.

**EU list of Critical Raw Materials:** The European Commission publishes updated lists on critical raw materials. Raw materials are fundamental to Europe's economy, and essential for maintaining and improving our quality of life. Securing reliable and undistorted access to certain raw materials is of growing concern.

LINK: [http://europa.eu/rapid/press-release\\_MEMO-14-377\\_en.htm](http://europa.eu/rapid/press-release_MEMO-14-377_en.htm)

**Virgin material:** Material that has not been previously used, consumed or subjected to processing other than for its original production. It is a resource extracted from nature in its raw form, which has been refined for the first time.

**Recycled material:** Raw or processed material that can be recovered from a waste stream for reuse.

FAIR LABOUR REGULATION COMPLIANCE

**1. ILO – International Labour Organisation:** <http://www.ilo.org/global/lang--en/index.htm>

**Why ILO:** United Nations agency that deals with labor issues (particularly international labour standards), social protection, and work opportunities for all.

ILO standards: [http://www.ilo.org/wcms5/groups/public/-/---norme/documents/publication/wcms\\_318141.pdf](http://www.ilo.org/wcms5/groups/public/-/---norme/documents/publication/wcms_318141.pdf)

ILO document on child labor: [http://www.ilo.org/ipec/Informationresources/WCMS\\_IPEC\\_PUB\\_27555/lang--en/index.htm](http://www.ilo.org/ipec/Informationresources/WCMS_IPEC_PUB_27555/lang--en/index.htm)

**2. FLA – Fair Labor Association Compliant:** <http://www.fairlabor.org/our-work/code-of-conduct>

**Why FLA:** The FLA Workplace Code of Conduct defines labor standards that aim to achieve decent and humane working conditions. It is based on ILO standards and internationally accepted good labor practices. Companies affiliated with the FLA are expected to comply with all relevant and applicable laws and regulations of the country of employment. When differences or conflicts in standards arise, affiliated companies are expected to apply the highest standard.

**3. EICC (Electronic Industry Citizenship Coalition):** <http://www.eiccoalition.org/>

Code of Conduct 5.0: [http://www.eiccoalition.org/media/docs/EICCCodeofConduct5\\_English.pdf](http://www.eiccoalition.org/media/docs/EICCCodeofConduct5_English.pdf)

**Why EICC:** The EICC's Code of Conduct establishes standards to ensure that working conditions in the electronics industry supply chain are safe, that workers are treated with respect and dignity, and that business operations are environmentally responsible and conducted ethically.

*Table A 4." Sheet A - company data" in FlonIskra's supplier questionnaire. Adapted from supplier questionnaire – anonymized for confidential purposes.*

| <b>Supplier/Producer General Info, Statement</b>                           |                        |
|--|------------------------|
| <b>A. Company Organization &amp; Management</b>                            |                        |
| 1. General Manager (name, phone, e-mail)                                   |                        |
| 2. Sales Manager (name, phone, e-mail)                                     |                        |
| 3. Responsible contact person for this questionnaire (name, phone, e-mail) |                        |
| 4. Company location (address, country)                                     |                        |
| <b>B. Company Logo</b>   |                        |
|  |                        |
| <b>C. Statement</b> (please share your company strategy on Sustainability) |                        |
|  |                        |
| <b>D. Contact person</b>   | <b>Date for return</b> |
|  |                        |

Table A 5. "Sheet B - questions on company level" in FlonIskra's supplier questionnaire. Adapted from supplier questionnaire – anonymized for confidential purposes.

|   |               |
|---|---------------|
| Explanations for all the questions, definitions and abbreviations you can find in tab What & Why  |               |
| <b>CONFLICT MINERALS</b>  | <b>Yes/No</b> |
| Do you comply with the Dodd-Frank Act?  |               |
| Have you implemented the OECD Due Diligence Guidance on responsible supply chains of minerals from conflict-affected and high risk areas?         |               |
| Are you a member of the CFSI  |               |
| Do you use the CFSI and their method of CMRT reporting?   |               |
| Are you member of any other similar association / complied with any other guidelines / supporting and initiative in respect to conflict materials |               |
| Any other similar report/declaration/statement  |               |
| <b>LABOUR</b>   |               |
| Is your company a member of the EICC?   |               |
| Do you require your suppliers to be a member of the EICC?   |               |
| Do you apply the EICC Code of Conduct to your suppliers?  |               |
| Are you a member of the FLA?  |               |
| Do you apply the FLA Code of Conduct to your suppliers?   |               |
| Do you adhere to the ILO standards?   |               |
| Do you comply / apply any other labour standards? Please explain and share links, documents.  |               |
| <b>OTHER</b>  |               |
| Please share additional comments, or initiatives that you believe are relevant in light of the above  |               |

Table A 6. "Part 1/2 of "Sheet C- questions on component level" in FlonIskra's supplier questionnaire. Adapted from supplier questionnaire – anonymized for confidential purposes.

|   |  |                    |  |  |   |   |
|---|--|--------------------|--|--|---|---|
| Flonidan have inserted codes for components within our pilot project and we ask you for the following information for these components for which your company is our certified supplier |  |                    | Explanation/ definition/demands of RoHS 2 Directive you find in tab What & Why | Explanation/ definition/demands for substances you find in tab What & Why  | Explanation/ definition/demands of REACH Directive you find in tab What & Why | Explanation of definition of conflict minerals you find in tab What & Why   |
| Component: Please list all the components that you're supplying to Flonidan   | Producer name & location (for the component)<br>(Please fill in if you are outsourcing the production or producing in different locations than your headquarter) | Total weight in mg | Is this component compliant with RoHS 2 Directive; Yes/No.                     | If NO, what is the substance used, what is the amount, is the component treated as ROHS 2 exemption (if so, please state exemption number) | Is this component compliant with REACH Directive                              | Does the component hold any of the conflict minerals: Tin, Tantulum, Tungsten, Gold? How do you proof conflict free sourcing? |

*Table A 7. Part 2/2 of "Sheet C- questions on component level" in FlonIskra's supplier questionnaire. Adapted from supplier questionnaire – anonymized for confidential purposes.*

|  |  |              |   |                                      |  |  |
|--|--|--------------|---|--------------------------------------|--|--|
| Explanation of definition of CFSI you find in tab What & Why | Explanation of definition of Raw material you find in tab What & Why |              |   |                                      | Explanation of definition of virgin material you find in tab What & Why.<br>As we know that % of virgin material is difficult to define on material level of each component, we are interested in % of the virgin material on your production level. If you have more precise information, please share and explain. | Explanation of definition of recycled material you find in tab What & Why.<br>As we know that % of recycled material is difficult to define on material level of each component, we are interested in % of the recycled material on your production level. If you have more precise information, please share and explain. |
| CFSI applicable  | Raw material composition   | Weight in mg | Factory/Smelter name & location of the raw material | Sourcing country of the raw material | % of virgin material within the raw material   | % of recycled material within the raw materials  |
|  |  |              |   |                                      |  |  |

Appendix M  
Assessment on Questionnaire Response

# Flonidan, assessment on questionnaire response

Purpose: Qualitative assessment of the response on our questionnaire.

**Questionnaire is sent out to all suppliers the 3<sup>rd</sup> of March 2016.**

This is:

- Producer of the base meter
- Producer of the index. This producer distributed it to 19 suppliers.
- Producer of the battery
- Producer of display
- 4 producers of plastic parts

All summed up for Flonidan: 27 suppliers have got the questionnaire.

## **Respons (pr. 22-03-2016)**

- Producer of base meter have filled in and returned the questionnaire. But there is a lack of information on sheet B and in sheet C there is a lack of information on the exact raw material used.
- Producer of index have started collecting information from their suppliers.
- 1 plastic part producer has responded with all the needed information.
- 1 plastic part producer has responded with useful information, but no information on exact material composition.
- Producer of display have responded, but with unsufficient information.

## **Conclusion**

The questionnaire is not obvious to fill in the information 'correct'.

There should have been more information on how to fill the data in 'the right way'.

We realise that there should have been a question on the name of the exact name of the raw material and a request of MSDS and technical data sheet. This to be able to make a thorough analysis of both plastics and metals.

We gained most of our information from the analysis Iskraemeco made on our electronical parts than from our suppliers.

Appendix N  
Environmental Assessment of FlonIskra

*Table A 8. FlonIskra's energy consumption on 2013-2015, measured in GJ per unit. Adapted from carbon footprint - anonymized for confidential purposes.*

|      | Energy Use [GJ/unit] |        |
|------|----------------------|--------|
|      | Achieved             | Target |
| 2013 | 0.13                 | 0.13   |
| 2015 | 0.04                 | 0.12   |
| 2016 |                      | 0.12   |
| 2017 |                      | 0.12   |
| 2018 |                      | 0.11   |
| 2019 |                      | 0.11   |
| 2020 |                      | 0.11   |

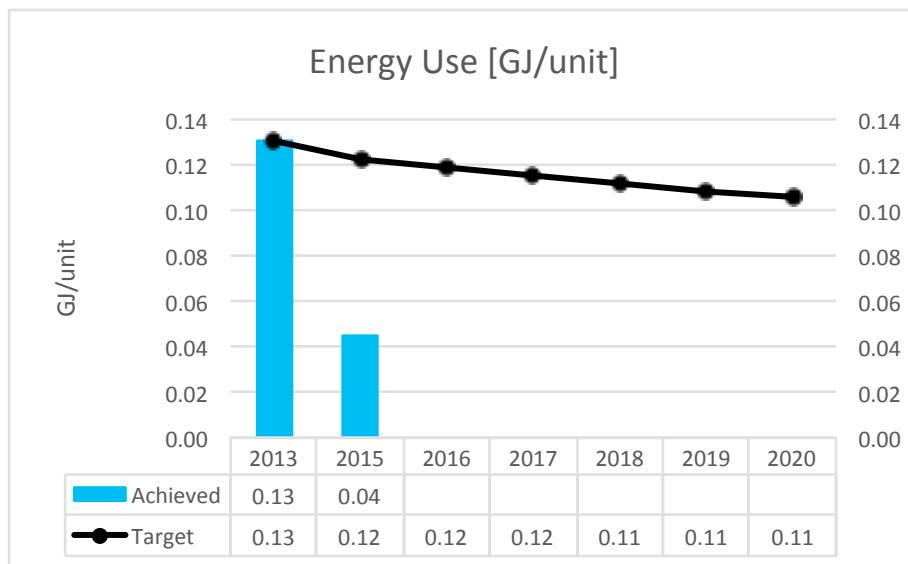
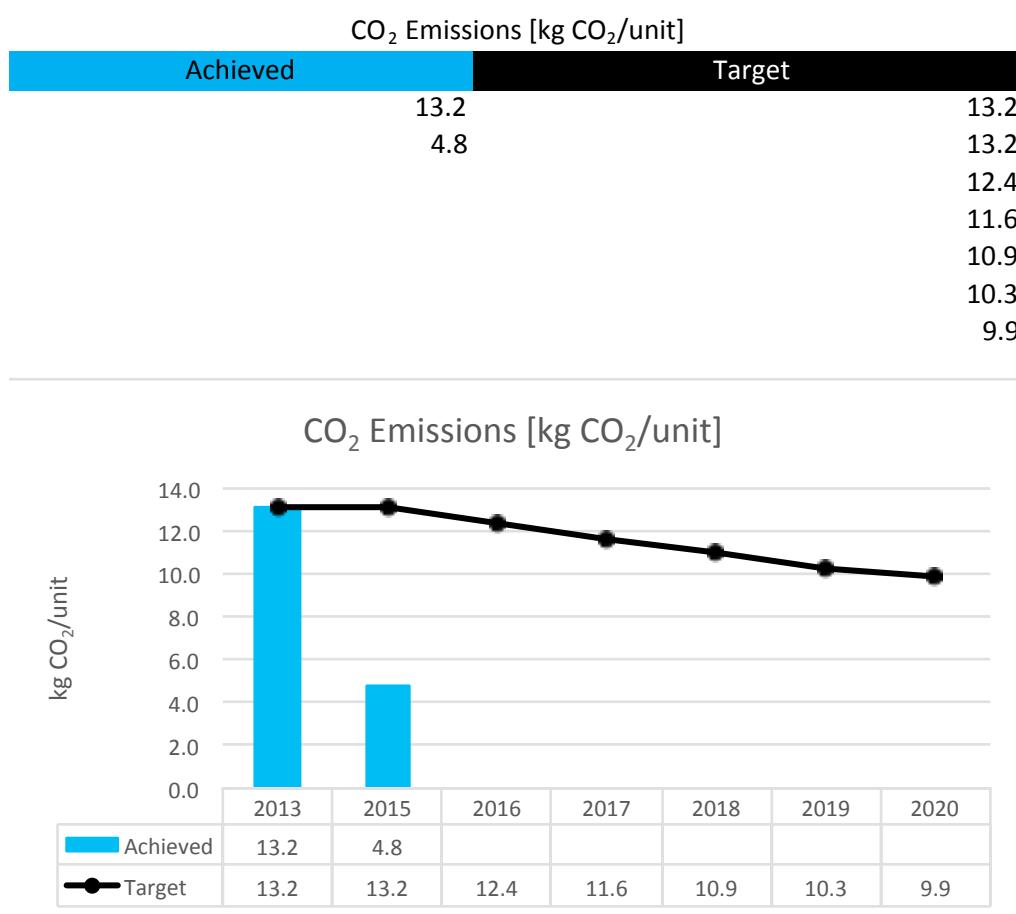


Table A 9. FlonIskra's CO<sub>2</sub> emissions on 2013-2015, measured in kg CO<sub>2</sub> per unit. Adapted from carbon footprint – anonymized for confidential purposes.



*Table A 10. FlonIskra's water consumption on 2013-2015, measured in litres per unit. Adapted from carbon footprint – anonymized for confidential purposes.*

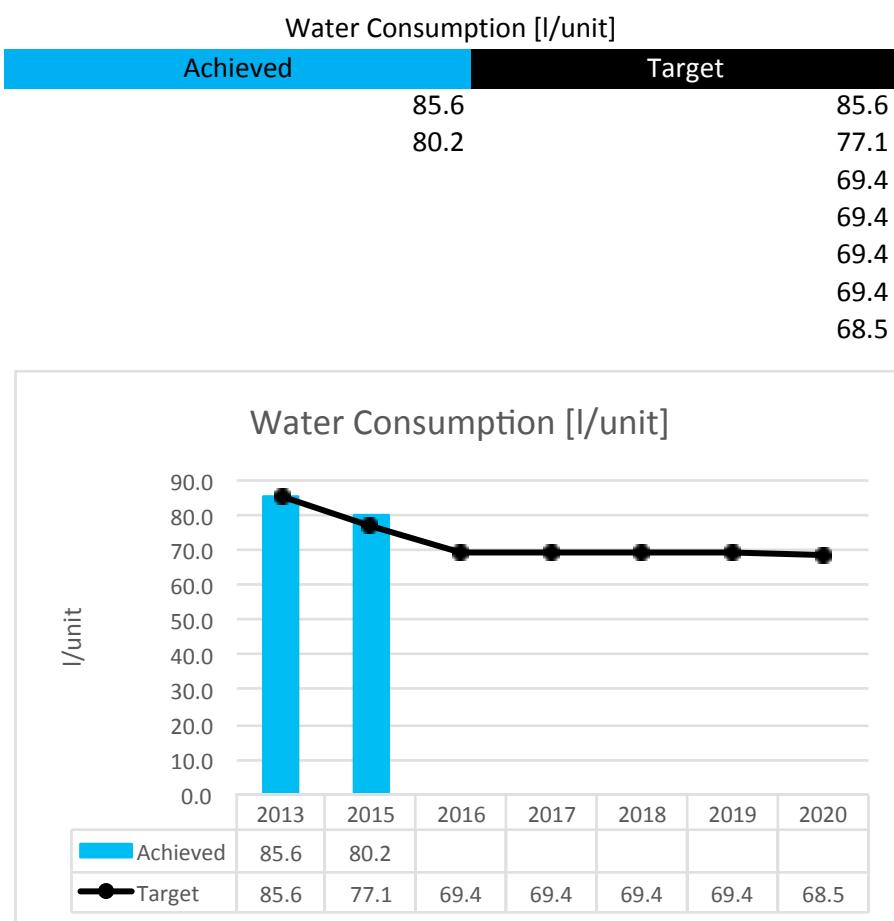


Table A 11. FlonIskra's composition of waste on 2013-2015, measured in grams per unit. Adapted from carbon footprint – anonymized for confidential purposes.

|                           | 2013 [g]     | 2015 [g]   |
|---------------------------|--------------|------------|
| <b>Waste-Total [g]</b>    | <b>1,704</b> | <b>765</b> |
| Recycling/Reuse           | 1,500        | 676        |
| Incineration-General      | 132          | 37         |
| Landfill                  | 40           | 28         |
| Hazardous Waste Treatment | 31           | 23         |
| Incineration-Hazardous    | 1            | 0          |

