



Norwegian University of  
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# How is the Leading Tobacco Firm Adjusting to the Sustainable Development Goals ñ SDG #3 Good Health and Well- Being

Reduced Risk Products and the Public Health  
Potential in Norway and in England

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Globalization

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People smoke for nicotine but they die from the tar.

*Michael Russell*



## Summary

The Sustainable Development Goals (SDGs) have become more important since their implementation and has gained greater attention from large corporations on a global level. The same can be said about Corporate Social Responsibility (CSR) and Creating Shared Value (CSV). Companies tend to be more inclined to respond to customer's opinion regarding both negative and positive aspects of a company's operations.

This study looks at how one of the world's largest tobacco companies, Philip Morris International (PMI), responds to the SDGs, CSR and CSV. With the help of the information provided by the representatives from the Department of Health in England, Philip Morris International, and the Norwegian Institute of Public Health, one can get a better view on how an industry mostly criticized, can perhaps contribute to reducing the smoking prevalence in Norway and in England. In order to understand why governments and the tobacco industry work as they do, the principle of harm reduction is explained. This will shed a light on why new technology, if accepted on a country's market, can possibly reduce the number of non-communicable deaths (NCDs) due to smoking conventional cigarettes.

PMI has dedicated their newest product, the IQOS, to just that: to reduce NCDs, and propose that their product is better fit to reach the goals set by governments, more efficiently than many other options that governments use in the fight to reduce smoking prevalence among their citizens. The IQOS is a reduced risk product containing specialized tobacco and nicotine, so that smokers are less likely to obtain a non-communicable disease. Nicotine is a highly addictive substance, that could be harmful in large doses, but it is not the main source of smoke related diseases.

This study has examined a number of documents, articles, and interviews in order to come to a conclusion whether PMI is adjusting to the SDGs or not, and if they are doing it as an attempt on CSR/CSV.





## **Preface and Acknowledgements**

This Master's thesis is a product of independent research and analysis of the tobacco industry and national governments' public health approach regarding the use of tobacco conducted for the MSc in Globalization: Transnationalism and Culture at the Norwegian University of Science and Technology (NTNU). It was completed at the Department of Industrial Economics and Technology Management (IØT).

The inspiration for this thesis stems from a group project I was a part of during Spring 2017, about the sustainability of the tobacco-giant Philip Morris International. Tobacco has been a cause of death and cancer for far too many people, and has, for most of the time had a bad reputation due to this. However, tobacco is in fact a legal substance, and seeing how the industry is transitioning is quite interesting when taking into consideration that the substance has been used for thousands of years in some parts of the world, while it is relatively "new" in the western part of the world. This study sheds light on how the tobacco industry will continue to have their regular consumers, but are nonetheless being a part of a transition in accordance to the Sustainable Development Goals (SDGs).

First and foremost, I would like to thank John E. Hermansen, Associate Professor, Department of IØT, and Haley Knudson, Assistant Professor, NTNU Department of IØT, for assisting and guiding me through this Master's thesis. I would also like to thank the volunteers at Philip Morris International, the Norwegian Institute of Public Health, the Department of Health in England, and the IQOS-consumers for their help by being interviewed and providing essential information for this study to be completed. I would especially like to thank Dr. Claude Guiron, Head Cardiologist at Philip Morris International Nordics, for his guidance, supervision and expertise on the subject. While working on this study, I worked alongside co-students at MSc: Globalization: Transnationalism and Culture.

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## List of Acronyms

<b>BAT</b>	British American Tobacco
<b>BfR</b>	The German Federal Institute for Risk Assessment
<b>COPD</b>	Chronic Obstructive Pulmonary Disease
<b>DHSC</b>	Department of Health and Social Care, England
<b>EPS</b>	Empty Pack Survey
<b>EU TPD</b>	European Union's Tobacco Product Directive
<b>FCTC</b>	Framework Convention on Tobacco Control (WHO)
<b>FDA</b>	US Food and Drug Administration
<b>FHI</b>	Norwegian Institute of Public Health (Folkehelseinstituttet)
<b>CSR</b>	Corporate Social Responsibility
<b>CSV</b>	Corporate Shared Value
<b>HPHC</b>	Harmful and potentially harmful constituents
<b>HNB</b>	Heat-Not-Burn
<b>HRP</b>	Harm reduction principle
<b>MDGs</b>	Millennium Development Goals
<b>NCDs</b>	Non-Communicable Deaths
<b>NCS</b>	Norwegian Cancer Society
<b>NDH</b>	Norwegian Directorate of Health
<b>NSD</b>	Norwegian Centre for Research Data (Norsk Senter for Forskningsdata)
<b>PHE</b>	Public Health England
<b>PMI</b>	Philip Morris International
<b>RRPs</b>	Reduced Risk Products
<b>SDGs</b>	Sustainable Development Goals
<b>SIRUS</b>	State Institute for Drug Research (Statens Institutt for Rusmiddelforskning)
<b>SWOT</b>	Strength, Weaknesses, Opportunities, Threats
<b>UK</b>	United Kingdom
<b>UN</b>	United Nations
<b>US</b>	United States of America
<b>WB</b>	World Bank
<b>WHO</b>	World Trade Organization







## **1. Introduction**

The Sustainable Development Agenda has sparked a change within most industries, having 17 different goals that will apply to businesses in some way or another (General Assembly, 2015). These goals have been set with the Millennium Development Goals (MDGs) as a precedent, where the goal is to either eradicate or to reduce the different problems in the society and the environment. Most companies can identify with one or more goals, which makes it easier for a business to target and focus on the goal(s) that best applies to their industry. These goals, in the different ways that the businesses apply them within their own business strategy, are supposed to make people aware of the different global problems and to help eradicate or reduce the magnitude of how these problems will impact us in the future.

Philip Morris International (PMI) have publicly explained that goal #3: Good Health and Well-Being is their main priority, while also focusing on other goals that target the rest of their value chain (farming, labor, illicit trade, and so on). This study, however, focuses on the 3<sup>rd</sup> goal, using the IQOS by PMI as the tool to reduce the number of non-communicable deaths (NCDs). In order to understand why one of the biggest tobacco companies decided to invest a large amount of money in lower risk tobacco products, can be seen in the light of Corporate Social Responsibility (CSR) or Corporate Shared Value (CSV), which will be discussed further on in this study. The principle of harm reduction has been a central term in this study, as the government are reluctant to advertise new product on a market as just that – while the industry and other public organizations are, more often than not, agreeing that this principle leads the way to a smokefree future.

According to the different interviews done in relation to this topic, most agree that harm reducing products are essential to at least try to get smokers to quit using conventional tobacco, and then in the future try to help them quit any nicotine-containing products altogether. Therefore, it is necessary to include the principle of harm reduction, in order to try to understand why the tobacco industry, and others, believe that the IQOS and other low-risk-products should be sold to adult smokers. As this study will show, along with the different documents and endorsements from separate interviewees, it seems to be an approach that has the potential to save a tremendous amount of lives.

This study contains several comprehensive reports that show that such an approach is needed, and this study tries to manage this information in a way that makes it easier to understand, as well as giving the approach a try, so that less people die due to tobacco-related illnesses.

## **1.1 Research Question and Structure of Study**

In order to develop a pragmatic and reasonable approach to the current transition within the tobacco industry, this study seeks to answer the following questions:

1. How is Philip Morris International adjusting their business and production in accordance to the Sustainable Development Goal #3: Good Health and Well-Being, and;
2. What is the public health potential of reduced risk products, the IQOS, in Norway and in England?

The first chapter (1) introduces the study, and provides the most essential background information on the Sustainable Development Agenda; PMI; the IQOS; the research question and structure of this study; and the research model for this study. Chapter 2 is about the method used for this study; the literature searches and how the author was able to gather the information needed to complete the research. Ethical issues are also within this chapter, as the topic for this study is controversial for some. Chapter 3 focuses on the theories and concepts central to the study, as well as the criticisms to the different theories and concepts. Sustainability is a central theme, and will also include information on the targets and goals essential to PMI – and how they wish to use the IQOS to adjust to a more sustainable future. Chapter 4 is where relevant articles and information relevant to this study, as well as the interviews with the English government, Research Director Karl-Erik Lund at the Norwegian Institute of Public Health (FHI), and Dr. Claude Guiron at PMI. The Norwegian government declined to be interviewed, which hopefully has not affected this study due to the information found on the government's website and what has been provided by FHI. In order to get a more personal view of how the IQOS affect the actual smoker, an interview with 9 different consumers in Norway was made. In chapter 5 the relationship between PMI and the different theories and concepts is analyzed, as this is deemed the most proper way to see how the company adjusts to the different theories using the IQOS. In the chapter on results (6), the discoveries from the analysis is presented. Chapter 7, the discussion, looks at the validity and reliability of the material used and provided by the different actors, as well as looking at what could have been differently in this study. In

chapter 8, recommendations are provided on how the government should act in the future in regards to the harm reduction principle, as well as admitting that there should have been more independent research done – something that might be the case in the future, thus making it easier for future students to research such a controversial topic. The concluding chapter (9) looks at all of the information provided in the study, and tries to come to a conclusion on whether the IQOS has a public health potential in Norway and England, or not.

This modern transition within in the tobacco industry is a complex, if not a contradicting one, where tobacco companies are starting to focus on the health and well-being of their consumers. The public health sector is skeptical towards such a transition, and deems all products containing tobacco as unhealthy – which, in essence, it also is. However, smokers who are not able to quit smoking, or do not wish to quit smoking – but should due to bad health – need to be able to choose from a variety of less harmful products in order to quit altogether. The governments suggest the use of nicotine patches, gum, etc., but a factor that is often neglected when taken into account by those who do not smoke, is the ritual of smoking. Having a stick between your fingers as well as being able to inhale the product. Electronic cigarettes are nicotine mixed with a liquid, in order to create a vapor. However, this too might not be enough for some consumers. The IQOS by Philip Morris International is a similar technology, only to have a specially treated tobacco that is heated in order to created vapor. This product allows the consumer to get the same experience, or the most similar experience to smoking a conventional cigarette, as the IQOS copies the paper filler; the tobacco taste; the way the nicotine is delivered; and the timing of the conventional cigarette – but with a substantially lower levels of HPHCs and a higher satisfaction rate compared to other harm reducing alternatives. This study therefore intended to present the background of this transition and the IQOS, and to make it understandable to both consumers and the public sectors, in order to make the IQOS more available to the consumer rather than being shut down by governments as “*another* tobacco product.”

### 1.1.1 Research Model

Figure 1 is the model reflecting this study, in order to prepare the reader for what is to come throughout this research study.

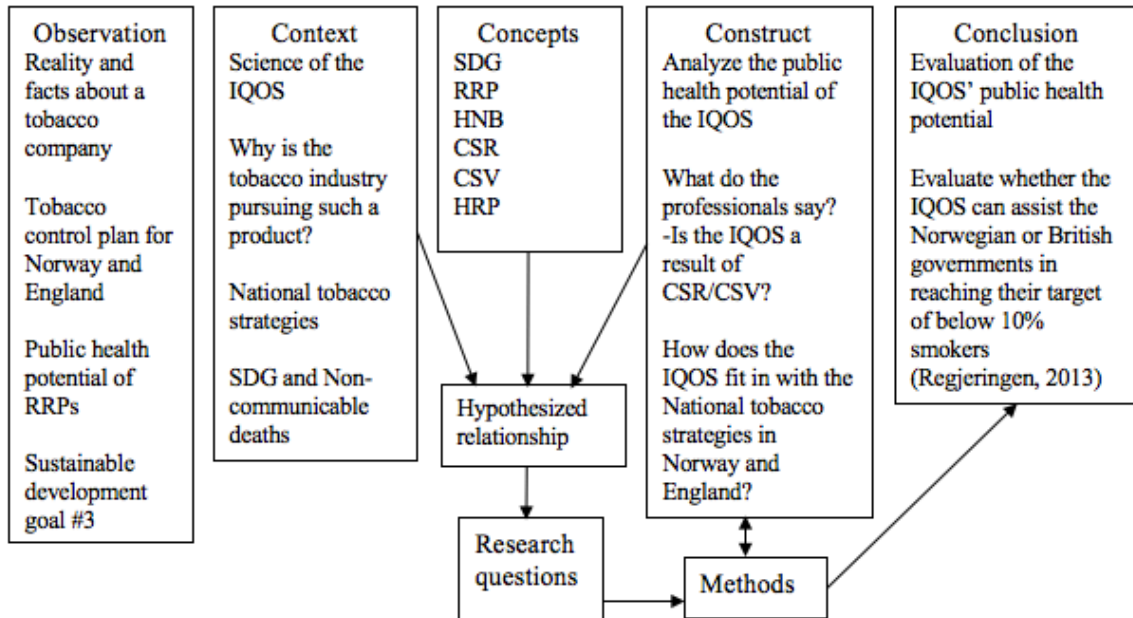


Figure 1 Research Model

#### Observation

The research model shows the process behind this study. What is the reality and facts behind a tobacco company, in this case, PMI? In order to research properly what the intentions and benefits were for PMI to invest such a large amount of capital into a new tobacco-product, it has been essential to look at their communication report on progress, as well as their own websites. The hypothesis focuses on two countries, Norway and England, and how their regulatory measures are, today, and whether these governments are looking at other options that will enable their vision of a smoke-free future. By doing so, one must also look at the concept of harm reduction, as well as realizing that different consumers have different wants and needs. Although conventional tobacco is harmful, the addiction should not be viewed in a black and white concept, but rather as a risk continuum that presents the different levels of harm – where it is better if a consumer uses a less harmful tobacco product, rather than continue using a harmful tobacco product because he or she is unable to quit altogether. This is what leads to the concept of public health potential, which is the essence of this study – that the case product – the IQOS – is able to provide satisfaction in customers, but with a lower risk so that the consumers are not as prone to different illnesses produced by conventional tobacco. Because of

the claimed public health potential of HNBs by the industry, this study looks at SDG 3: Good Health and Well-Being, where tobacco stands for the majority of non-communicable deaths according to the WHO. The tobacco industry and PMI are both devoted to work towards the goal of reducing NCDs by 2025 – although PMI’s own goal is to have a smokefree future by 2030 (PMI, 2018a).

### *Context*

In order to understand PMI’s goal of a smokefree future; the IQOS; and the public health potential of RRP, there are certain contexts in which one must view these objectives in the light of. What is the science behind the IQOS – how long has PMI worked on HNBs and what lies behind the innovation of IQOS? PMI has spent a tremendous amount of money on ensuring the success of this product, both for the consumers, as well as their shareholders. The IQOS is, ideally, a product designed for a market segment of people who are not able to quit smoking and those who do not wish to quit but has to. This is just the beginning of a new, smoke-free, era – at least that is the goal. With this aspect in mind, national strategies (Norway and England’s) both consider the harm of new, potentially less harmful, tobacco products, but only the British government provide brochures and information on TV with concrete advice to their smoking population. Both the Norwegian and the English government refer to WHO’s report on NCDs in their respective national tobacco strategy, therefore the NCDs and SDGs are a vital part of the context of this study.

### *Concepts*

In order to understand, research, and explain the hypothesis, certain concepts are needed. For this study SDG, RRP, HNB, CSR and CSV are the central concepts that will provide the author with background and understanding as to why PMI created the IQOS, and whether it has a public health potential or not. The study also looks at whether PMI created the IQOS solely to make money, or out of the “goodwill of their heart”. In theory, PMI do not need to make a less harmful product for their consumers, as WHO estimates that there will be a continued increase of smokers by 2025 regardless. Therefore, it is interesting to see if PMI use the concept of CSR or CSV in order to reach the SDG goal #3 by 2025 (2030 in their own goals).

### *Construct*

In the construct-section, the public health potential of the IQOS will be analyzed accordingly with the numbers presented by the tobacco control strategies by Norway and England, as well

as the number of smoking prevalence as presented by WHO. In order to do this, it is essential to not cling to the traditional feelings towards the tobacco industry: that they are mostly interested in selling tobacco at the cost of people's lives. It will be necessary to look at the facts presented, not to put different consumers together and examine them as the same type of people – that they are able to quit “cold turkey”, as this is not the case for many. In theory, there is a public health potential to all nicotine-products that are less harmful than the conventional cigarette, such as nicotine patches, nicotine gum, e-cigarettes and so on. However, what these products have in common is that they do not combust – the same is the case for HNBs.

### *Conclusion*

In the conclusion, an evaluation of the facts is presented on the public health potential of the IQOS. The evaluation also looks at whether the IQOS can assist both the Norwegian and the British government's attempt at lowering the percentage of smokers to below 10%, as it is a product that smokers can switch to rather continuing using conventional cigarettes. In order to get this far, different methods have been used to reach a conclusion to this hypothesis. Interviews with professionals from the Norwegian Public Health Institute, the British government and PMI has provided three sides to a story – where they more or less correlate, or to the very least, have the same end goal: to reach a smokefree future.

## **1.2 Purpose of Study**

Burning tobacco is already a well-known substance that kill, and as stated by the World Health Organization (WHO), “tobacco kills more than 7 million people each year” (WHO, 2017, n.p.). Out of those deaths, approximately 6 million die due to the direct use of tobacco, while almost 900 000 are non-smokers who are exposed to second-hand smoking (WHO, 2017). The majority of smokers, which counts for 80% out of the world's almost 1 billion smokers, live in low- and middle-income countries (WHO, 2017).

Several studies show that it is the smoke of tobacco, e.g. when one lights a cigarette and then inhales, that releases the carcinogenic toxins from which consumers develop cancer and other diseases from. This can also be applied to second-hand smokers who are close-by those who smoke the conventional cigarette. An RRP, however, does not burn the tobacco – it heats it. Thus releases a lot less of those harmful toxins to the consumer as well as those around him or her.

In order to successfully scale back the number of deaths caused by the use of conventional tobacco, a consumer needs to be able to have a wider set of less harmful alternatives that can compete with conventional cigarettes. Nicotine is highly addictive, and after years of smoking – so is the ritual and the *feeling* of smoking. The IQOS is a new alternative which can provide the consumer the most similar experience to that of a conventional cigarette, and are therefore a realistic alternative to help consumers to quit smoking. Not only is this less risky than the conventional cigarette – it also does not affect second-hand smokers as there is no smoke.

The purpose of this study is to analyze different studies behind this product and the public health potential of the IQOS in both Norway and England. Behind this analysis lies also the fact that PMI has made a sustainable transition in accordance to the SDG #3, which also needs to be analyzed.

### **1.3 Background**

In this section, background information is provided on what this study will entail. The case company for this study is Philip Morris International, and it is their product – the IQOS – that has been studied whether it has a public health potential in Norway and in England. The IQOS is a product often classified as a *heat not burn*-product, or as a *reduced risk*-product, which is also explained further on in this chapter. The last section in this chapter shows how Philip Morris International and the World Health Organization view smoking prevalence, with the former's solution to at least try to reduce that number.

#### **1.3.1 Who is Philip Morris International?**

Philip Morris International (PMI) is one of the leading tobacco manufacturing companies in the world. PMI is made up of a board of directors, and trades on the New York Stock Exchange among others. The company stems from when Mr. Philip Morris opened up a tobacco and cigarette-shop on Bond Street in London in 1847, and has since been expanded as well as changed location of their headquarters to the US (PMI, 2017a). PMI was under Altria Group in the US until the early 2000s, where they then decided that PMI would do best without the restrictions and regulations of the US government (Associated Press, 2007). Currently there are over 80 000 people employed at PMI, where among 400 of these are scientists (PMI, 2017b). PMI owns six of the top 15 international brands, including the number one brand *Marlboro*, and approximately 150 million consumers divided upon these 15 brands (PMI, 2017b).

### 1.3.2 What are Reduced Risk Products?

Reduced risk products (RRPs) are products designed to provide the consumers with the same satisfactory needs that otherwise would be delivered to them by a product that have the potential to cause harm when used. In this study, the IQOS – a product designed by PMI – is an example of a product within that category. The IQOS is a tobacco-product that contains lower risk when used than the conventional cigarette. Due to PMI’s vision of a smoke-free future – scientists, engineers and technicians are dedicated in developing a less harmful alternative to those who wish to become healthier without giving up nicotine completely. The RRP’s are a testimonial to PMI’s biggest transition in their history, where a tobacco company is dedicated to provide products for their consumers that are a lot less harmful than conventional cigarettes, and eventually stop selling cigarettes altogether (PMI, 2017b).

### 1.3.3 What is IQOS

IQOS is PMI’s main RRP, having invested over \$3 billion since 2008. Since its launch, over 5 million consumers have made the switch from conventional cigarettes to the IQOS (PMI, 2018a). This product is only intended for those who are already smokers, and not former smokers or those who have never smoked before. Figure 1. shows what an IQOS-device looks like.



Figure 2 IQOS (Dutch Tobacconist, 2018)

The technology behind IQOS lies in *heating* a specially treated tobacco, versus burning the tobacco – which is how most of the toxins get released from the tobacco. A conventional cigarette burns at over 600°C, which is where it starts to create a smoke where the consumer



inhales a mix of more than 6.000 constituents, where about 100 of these are classified as harmful or potentially harmful constituents (HPHC) (Public Health England, 2018). The majority of HCPCs are made when the tobacco burns. The IQOS, however, works at a much lower temperature, maximum 350°C, thus releasing a true taste of the tobacco – with a reduction of HPHC in average of 90-95% less than what is otherwise found in the conventional cigarette (PMI, 2018c). What separates the IQOS from the conventional cigarette is that it is *heated* and not burned, also referred to as a heat-not-burn-product (HNB) and reduced risk product (RRP).

In figure 2. Wan (2017) shows what the different components of the IQOS look like. The IQOS consists of three parts, a heated tobacco unit (looks like a mini-cigarette, called HEETS or HeatSticks), a holder, and a charger (PMI, 2018c). In order to use this, the consumer inserts a heated tobacco unit into the holder then wait for it to warm up the HEETS before it can be inhaled. One unit usually lasts for about 6 minutes or 14 puffs before it is finished, then the consumer withdraws the unit and then put the holder into the charger to recharge it for the next session (PMI, 2018c). The HEETS are a specially treated tobacco product, designed to only warm the tobacco, and not being able to burn it. As a safety measure, the HEETS contain an inner aluminum-foil that prevents it from burning. The HEETS also have a hollow area between the specially treated tobacco and the filter, to cool down the air that the consumer inhales (Wan, 2017). The charger is able to charge the IQOS-holder up to 20 times, before that too needs to be recharged.

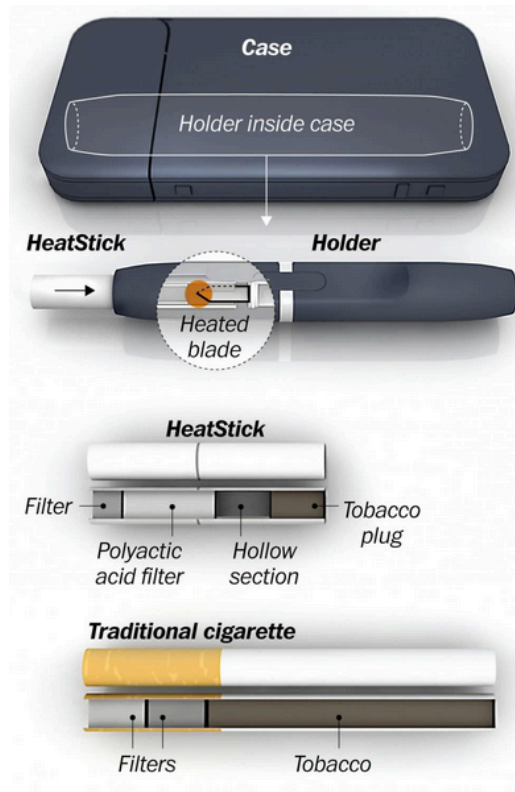


Figure 3 What's inside the IQOS (Wan, 2017).

Out of PMI's smokeless products, the IQOS is the most advanced, and has been launched in 38 countries. It was first launched in Japan in 2014, where the IQOS now holds more than 13.9% of the tobacco market (PMI, 2018c). According to William Wan (2017), Philip Morris said that in Japan, 72% of the users of conventional cigarettes quit entirely and converted to IQOS after testing the product. The demand for IQOS in Japan was so overwhelming, that PMI had to limit the number of devices sold due to the fact that they were not able to produce a satisfying amount of HEETS fast enough (Wan, 2017).

There is a lot of skepticism regarding PMI's claim that this product has 90-95% less HCPCs. While PMI is open about their science – everything has been published on their own website [pmiscience.com](http://pmiscience.com) and on [clinicaltrials.gov](http://clinicaltrials.gov) as well as sharing their findings at more than 50 international conferences each year – a lot of the public still hold regards to the past-PMI as well as the industry in general, when smoking was claimed to be “healthy” (Wan, 2017). PMI has never claimed that the IQOS is without a risk, and will continue to say that the best option is to quit smoking altogether. But there are many consumers who do not have the will or the wish to quit smoking, therefore there needs to be a substitute to the conventional cigarette that will produce the same flavor, taste, and experience to the smoker in order for he or she to be able to quit smoking.

Some researchers support PMI’s effort to produce a product which is claimed to be having lower risk than the conventional cigarette. As Jonathan Foulds, a smoking cessation expert at Pennsylvania State University in the U.S. said to The Washington Post, “If you have a company willing to shift to a less harmful product, is that something we should be getting in the way of?” (Wan, 2017, n.p.). And on the other side, Michael Lavery, an industry analyst said, “If you can find a way to keep your consumer alive longer, (...) you’ll make more money off them. It’s a better business model” (Wan, 2017, n.p.). Both these views need to be taken into consideration as to *why* PMI has created such a product, and whether the IQOS has a public health potential despite the reasoning behind the innovation. The IQOS does, nonetheless, contain nicotine – a highly addictive substance that could pose danger in large doses, especially for the growth of fetuses.

**1.3.4 How is This Going to Help Smokers Becoming Healthier?**

The World Health Organization (WHO) estimates that by 2025, there will be over a billion smokers in the world (Bilano et al., 2015). All of these smokers should thus be able to choose between less harmful alternatives to the conventional cigarette. Table 1, by the WHO, shows the different prevalence numbers in different regions and gender in 2010 and 2015 (WHO, 2015). As table 1. shows, there is estimated a general 3,7% decline in smoking prevalence among men on a global scale; 2.6% among women on a global scale; and 18% decline in both genders on a global scale. This is over the course of *fifteen years*. However, taking the world’s population growth into consideration, the number of smokers are estimated to grow.

*Table 1 Current smoking prevalence (%) by region and gender in 2010 and 2025 (WHO, 2015)*

Region	2010			2025		
	Male	Female	Both	Male	Female	Both
<b>AFRO</b>	23.2	2.5	12.8	34.7	1.6	18.1
<b>AMRO</b>	24.1	14.2	19.0	16.3	8.6	12.3
<b>EMRO</b>	35.1	3.1	19.5	45.3	2.5	24.6
<b>EURO</b>	40.3	19.9	29.6	31.3	15.9	23.3
<b>SEARO</b>	33.1	2.9	18.2	27.5	1.2	14.5
<b>WPRO</b>	49.4	3.6	26.8	43.3	2.4	23.2
<b>GLOBAL</b>	36.9	7.3	22.1	33.2	4.7	18.9

In order to appeal to these smokers, PMI has found a less harmful way to use tobacco without combustion, the IQOS. The harm reducing technology the IQOS has can deliver the expected taste and sensory experience a smoker desires from conventional cigarettes. This type of technology makes it more desirable for smokers to want to quit smoking conventional cigarettes, and instead switch to a lower risk alternative (PMI, 2018b). As figure 3. shows, PMI’s approach to reducing the level of harm on the population, one needs to look at the individual reduction of risk times consumers that switch.

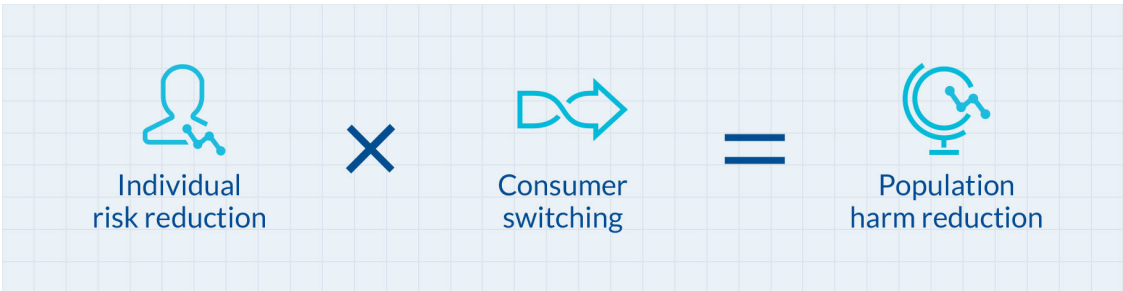


Figure 4 Strategy for harm reduction (PMI, 2018b)

For the RRP to have public health potential, a large number of smokers need to make the switch from the conventional cigarette to an RRP. It is not sufficient to simply develop and put RRP on the market, they need to be competitive enough for the smokers to transition and actually stop smoking permanently. In order for these consumers to be aware of such products, national governments need to acknowledge the health benefits of harm reduction and view this transition within the tobacco industry with a modern outlook rather than excluding the industry.

## 2. Methods

The interest from this study came from an indirect affiliation of the author, that works at PMI, as well as having done group research on the company during the Spring 2018 at NTNU for a term paper. This study gathers information that already exists on the subject, and combined with experiences from PMI, contributes to the existing research on tobacco. It also provides knowledge for those who are reluctant to have other than negative opinions regarding the industry, due to the industry's history. This chapter looks at how the material for this study was discovered and processed. Most of the information has been published, but there will be some unpublished material from the interviews in this study. The ethical issue of this study is mostly because it is about an industry most people do not appreciate. However, had this study looked at the public health potential and the principle of harm reduction on sources of NCD-related products, such as sugar, salt and alcohol, which can make people obese and thus die due to overweight, the response might have been different.

### 2.1 Literature Review

For this study, both published and unpublished work has been used. When researching the background material, *tobacco*, *heat-not-burn*, *harm reduction*, *public health* and the different theories: *CSR*, *CSV*, *SDG*, to name some, were key words in finding articles and journals that have been used for this study. Databases such as JSTOR and Google Scholar has been of great use in finding relevant material, as well as ensuring that the articles that have been used, are peer-reviewed. When searching for other articles (such as news articles), the search engine Google was commonly used. As this subject is relatively new, news articles were used because they were most likely to discuss the subject of heat-not-burn-products. Articles published by the Norwegian Institute of Public Health (FHI), Public Health England (PHE), and other organizations in England have been used, as well as the national tobacco control strategies of both England and Norway. The articles regarding tobacco in England was provided by the interview subject from the Department of Health in England.

Prior to the interview with Karl Erik Lund, the author received the report on "*Evaluation of Harm Reduction as a Strategic Element in Tobacco Work*," in which a lot of information was obtained. In this report, FHI has used several other studies and information that were not easy to find otherwise. This report acted as a base for this study, due to the amount of quality information and other aspects otherwise not thought of. After the examination of this report, it

was easier to find information that ought to be included in this study. It also provided a better understanding prior to other interviews.

This study is important as there is little to no information published regarding the concept of harm reduction in Norway and in England. Public Health England (PHE); The German Federal Institute for Risk Assessment (BfR); the US Food and Drug Administration (FDA); The National Institute of Public Health, Japan; and China National Tobacco Quality Supervision and Test Centre, Zhengzhou, have all published independent research verifying PMI's technical data regarding HNBs (Guiron, 2018). PHE's study has been the only one relevant to this study's context, but it goes to show that the topic of harm reduction is on the rise. One can easily find a massive amount of literature regarding tobacco, public health, the countries in question, etc., but by combining these variables one cannot find much relevant existing material. This study is also important as many are misinformed by the consequences of smoking conventional tobacco, as well as the health advantages of switching to less harmful options, and what these options are. This study aims to bring a clearer understanding of what the present tobacco-alternatives are, as well as providing the reader with enough information to make an educated decision on the concept of harm reduction and reduced risk products available to smokers.

## **2.2 Interviews**

The interviews for this study were conducted using qualitative methods. Two groups of interviewees were made for this study. The first group consists of representatives from the English Department of Health and Social Care, PMI Nordics, and the Norwegian Institute of Public Health. All of these interview subjects were handed a form of consent approved by the Norwegian Centre for Research Data, where they signed and gave permission to use their full name, job title, place of work, as well as approving that the interview was recorded for the full purpose of using it in this study. The recording will be deleted as soon as the project is completed. The representative from the Department of Health (DHSC) in England withdrew the consent of using their name, and will be referred to as the representative of DHSC. The second group of interviews were completely anonymous, only asking for the Norwegian IQOS-consumers' age, gender, and their opinion on the different questions for this study, and was thus not presented a form of consent. Combining the findings from the interviews with those from the literature search has been essential to this study.

For this study, several archetypal interviews were conducted: meeting the interview subjects face-to-face or by telephone (England), in order to get different perspectives on the topic of harm reduction and the IQOS (Bryman, 2012). This way, the study was able to gather information and perspectives from the English government, PMI Nordics, IQOS-consumers, and the Norwegian Institute of Public Health. In order to conduct a qualitative interview, an interview guide was provided to the subjects, which could differ depending on who the subject was. The interviews with the representative in England, at FHI and PMI Nordics were semi-structured, as the interview guides were structured with its questions, but allowed for a more relaxed setting where the interviewer could expand on the questions when interviewing (Bryman, 2012). The questionnaire for the IQOS-consumers consisted mainly of their experience of the product, and their history with smoking conventional tobacco. The questions for this group of interviewees were more structured as the result of the interviews for their individual experience with the IQOS, and not a professional manner on harm reduction and nicotine-products, as with the other group of subjects. The other interview subjects were asked questions relevant to their occupation and how they represented the government/company/organization. To see the different interview guides, see the appendix.

### **2.3 SWOT-Analysis**

The evidence discovered during this study, as well as the research question of whether there is a public health potential of the IQOS in Norway and in England, made it necessary to make a SWOT-analysis. A SWOT-analysis analyzes the different internal (strengths, weaknesses) and external (opportunities, threats) factors of an objective to a company. In this case, it analyzes the public health potential of the IQOS in Norway and in England. This analysis will be used as a way to tie all of the information presented in this study together and is presented at the end of chapter 5.

### **2.4 Ethical Issues**

The topic of this study is a controversial one, where those who are anti-tobacco find it hard to see that quitting smoking is not a matter of black and white. There is a risk continuum of the different products containing nicotine, and how these products can help a smoker quit smoking conventional tobacco. By elevating the subject so that more people are informed, and thus able to make informed decisions rather than base them on a moral or emotional reasoning, more people will have the opportunity to switch to a lower risk product – either on the road to quit

smoking altogether, or at the very least, use a product that will not harm the smoker's body (or affecting those exposed to second-hand smoking) as much as the conventional cigarette do.

The WHO's Framework Convention on Tobacco Control has a set of different articles that governments follow. The Norwegian Ministry of Health and Care Services withdrew from a planned interview due to Article 5.3., which states that they should "Establish measures to limit interactions with the tobacco industry and ensure the transparency of those interactions that occur," (WHO FCTC, 2008, p.3) and because of the author's indirect ties to the industry. This is understandable to some degree, but the interview subjects were chosen based on how relevant they were to a research study conducted at Norway's largest university – which made it hard to understand the ethical issues the Ministry might have had. The Department of Health and Social Care in England were happy to participate in an interview, as well as explaining that many governments misunderstand the principle of Article 5.3.



### 3. Theories and Concepts

The purpose of the study is to find out and discuss whether RRP's have a public health potential. To discuss this hypothesis, several theories are used to show the benefit for both the consumers as well as the case company. PMI has established that the Sustainable Development Goal #3: Good Health and Well-being is their main focus out of the 17 goals. This goal works as a motivation for both PMI and other competing companies to strive towards reaching their goal of being able to offer a lower risk product to smokers who are not able to, or do not wish to, quit smoking. This will also motivate the company to use the harm reduction principle in order to reduce the number of non-communicable deaths caused by the consumption of tobacco.

Corporate social responsibility (CSR) and corporate shared value (CSV) will be used as two similar, but slightly different theories, in which the company focus on the benefits they can produce for the society, and at the same time produce benefits from these actions themselves. In this study, CSR is mentioned because it is a well-known concept, while CSV is still relatively new and many have yet to understand it. This study also examines whether CSV is a better fit for PMI, rather than having CSR as a part of their business model. CSR will be a large component of most companies who acknowledge the power of consumers, and thus the negative impact the company could face if they are reckless in their environment. However, the hypothesis is leaning more towards a CSV-angle in which businesses have to develop products that benefit the consumers without neglecting the interest of different stakeholders and the company in general. PMI's approach towards this is the development of the RRP product, IQOS. IQOS' benefits for the consumer is a lower risk of harm, while at the same time, it will continue to benefit the company as they will be able to thrive and make money, while satisfying their customers' needs for tobacco and nicotine.

The principle of harm reduction, according to Harm Reduction International (HRI), goes as follows:

*Harm reduction refers to policies, programmes and practices that aim to reduce the harms associated with the use of psychoactive drugs in people unable or unwilling to stop. The defining features are the focus on the prevention of harm, rather than on the prevention of drug use itself, and the focus on people who continue to use drugs.*

*Harm reduction complements approaches that seek to prevent or reduce the overall level of drug consumption. It is based on the recognition that many people throughout the world continue to use psychoactive drugs despite even the strongest efforts to prevent the initiation or continued use of drugs. (HRI as cited by Lund et. al, 2017, p.18)*

Consumers are then offered alternatives (e.g. e-cigarettes, the IQOS) that differs from other alternatives (e.g. nicotine gum) that did not work for them, but with a substantially lower risk of harm compared to the “original” product (e.g. conventional cigarettes). What is meant by not working is that the other alternatives do not 1) satisfy the consumer’s needs for nicotine intake, 2) satisfy the consumer friendliness of the product at hand, or 3) replicate the desired product the consumer wishes he or she had, but having been forced to quit due to health related issues.

### **3.1 Sustainability**

In 2015, the 2030 Agenda for Sustainable Development was adopted by the United Nations (UN) General Assembly. The implementation of this Agenda is historic in that it is such a comprehensive plan to ensure a sustainable future for the people and the planet. The UN calls for all countries and stakeholders to cooperate in this collaborative effort to reach the targets by 2030. The Agenda focuses on the five p’s: people, planet, prosperity, peace and partnerships – of which we see reflecting across all of the 17 goals.

#### **3.1.1 Sustainable Development Goals**

The 2030 Agenda for Sustainable Development consists of 17 goals, with 169 targets, which builds upon the previous Millennium Development Goals (MDGs) in the hopes of achieving and addressing what the MDGs could not (UN General Assembly, 2015). The Agenda is meant to be a guide to governments and businesses all around the world to contribute with their efforts to make the planet more sustainable. It was adopted by the UN General Assembly on September 25<sup>th</sup> 2015. Although an ambitious plan to reach each of these goals by 2030, the collaborative effort seen this time around by active countries and companies are inspiring to others to take part.

##### **3.1.1.1 Good Health and Well-Being**

SDG goal #3 addresses all aspects of health priorities, while seeking to ensure good health and well-being for all humans at every stage of life. Tobacco has long been known to cause certain

types of cancer, as well as cardiovascular and respiratory diseases. In order to be able to better focus on non-communicable diseases – such as those inflicted by the direct and second-hand use of tobacco, WHO created the Framework Convention on Tobacco Control (FCTC). FCTC represent about 90 per cent of the global population, having been ratified by 180 parties (UN, 2017a). The percentage of smokers over the age of 15 dropped from 23 per cent in 2007 to 21 per cent in 2013, showing some progress – but not enough (UN, 2017a).

*By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and wellbeing” Target 3.4, (UN General Assembly, 2015, p.16).*

Reducing the use and exposure of smoke is critical to be able to meet the target proposed of reducing premature deaths from non-communicable diseases by one third by 2030 as stated in target 3.4. In 2015, over 1 billion people smoked tobacco, with the majority of them being men.

In figure 5 one can see the estimated probability of dying from non-communicable diseases such as cardiovascular disease, cancer chronic respiratory diseases or diabetes between the age of 30 and 70 in 2000 and 2015 (UN, 2017a). The UN shows numbers of premature deaths (those who die before the age of 70) caused by either one of these diseases having decreased from 23 per cent to 19 per cent from 2000 to 2015, and are being named as one of the four main causes for dying (UN, 2017a).

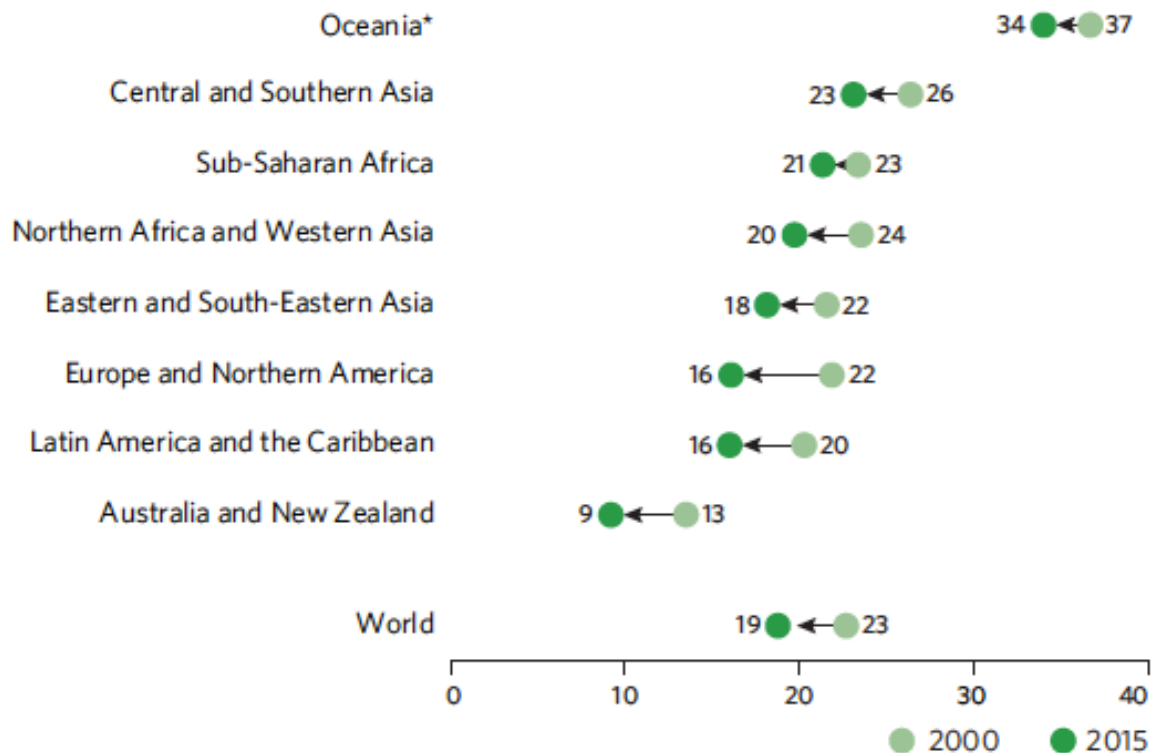


Figure 5 Non-communicable diseases percentages (UN, 2017b)

### 3.1.2 Criticism of the Sustainable Development Goals

The SDGs have been well-received by most, and implemented by many. However, there are some critics that argue that the goals contain too much complexity for them to be achieved by the due date (Kumar, 2017). The complexity might be too much for these critics, but most people applaud the comprehensive way the goals and their targets have been shaped in order to tackle the global issues. Kumar (2017) argues that the world itself is complex, and in order to be able to deal with these issues properly, the goals need to be complex as well. Research Fellow in the Department of Anthropology at London School of Economics, Dr. Jason Hickel (2015), says that he believes there could be a chance of people ignoring the goals, as they lack creativity because they are so similar to the MDGs, that the SDGs are based upon. Hickel (2015) proposes several points to criticism of the SDGs: (1) contradiction of growth; (2) that growth does not reduce poverty; (3) inequality is ignored; (4) the drivers of poverty is unaddressed; and (5) the mismeasurement of poverty.

When the SDGs contradict growth (1), in Hickel's (2015) opinion, it is because they aim to stop global warming at 2 ° Celsius, which reflects industrial growth and that this somehow needs to stop. At the same time, the SDGs aim to reduce poverty, but this goal (#8) is based upon the

old models of industrial growth – the same that has made global an issue. In Hickel’s (2015). own words, “the SDGs call for both less and more at the same time” (n.p.) The SDGs also make growth out to be the main tool in which we can reduce poverty (2). He continues to argue that the SDGs do so, because it would allow the leaders to focus on that, rather than to distribute the already existing resources needed to reduce poverty in a fair way (Hickel, 2015). According to Hickel (2015), it would take approximately 207 years using the existing of strategy, and expand the global economy 175 times, in order to be able to reach the proposed goal of eliminating poverty – “In other words, the SDGs are committed to shelving the problem until 2029” (n.p.). (3) Poverty is a result of the inequality between the rich and the poor, where only one target (10.1) states that the SDGs will work towards an income growth of the bottom 40% of the population with a rate that is higher than the average in the different countries (Hickel, 2015). This kind of inequality is basically ignored by the SDGs, and with only one target dedicated to reducing this, as well as not being a binding commitment after 2029, there is not much implying that the level of inequality will be reduced. The drivers of poverty are not properly addressed (4), but rather asks for more involvement of the World Trade Organization (WTO) as well as a more liberal trading – the two components that are the biggest causes of poverty (Hickel, 2015). This caused for another 150 million people being forced to starvation because of the massive increase of food prices because of a liberal trade market. The SDGs also refuse to ask for a debt cancellation, although the debt of the developed world consists of more than \$700 billion *each year* (Hickel, 2015). On the mismeasurement of poverty (5), Hickel (2015) criticize how the SDGs have used discredited number of people living below the poverty line at \$1.25 a day, when in reality it is closer to \$5 a day. He says this is because it would be the only measurement that would allow the SDGs to “eradicate” poverty by 2030, and then reach that goal. If they had used the correct measurement of \$5 a day, it would cover more than 4.3 billion people – more than 60% of the world, and thus not be able to eradicate poverty that the SDGs claim able to do that (Hickel, 2015).

Regarding the specific goal for this study, SDG #3: Good Health and Well-Being, the World Economic Forum (WEF) have provided some criticism on the matter. Erica Penfold at WEF lists four things that make complicate the current SDGs regarding health (#1: No Poverty; #3: Good Health and Well-Being; #6: Clean Water and Sanitation) (2015). Penfold (2015) argues that the current targets for SDG #3 are too broad, and not specific to any special context of health. Although the SDGs build upon the MDGs, the scope of the health goals make it hard for the supporting states to accomplish. Penfold (2015) argue that the MDGs provided a better

focus on how to eradicate poor maternal health, poverty and hunger as main contributors to bad health. The time frame (15 years) of the SDGs are also unrealistic for most of the developing countries, especially in Africa (Penfold, 2015). The challenge that many African states meet include poverty, HIV/AIDS, poor healthcare, as well as corruption and political agenda within each country. The budget to achieve the SDG health goals is listed as a third reason as to why the SDG is not properly made. The current goals require a large sum of money in order to be reached, which many developing countries simply do not have (Penfold, 2015). Sovereignty, limited domestic resources and the differences between the rich and the poor also contribute to the challenge of reaching the SDGs health goals.

Penfold (2015) continues, “the negotiations were framed by developed states and multilateral organisations. It was described as a developed world initiative with developing states reliant on donor support” (n.p.). Having developing countries being dependent on either developed countries or aid agencies does not help the developing countries creating an independent, sustainable future (Penfold, 2015). While this was not the only reason as to why the MDGs were not met, when goals were too ambitious and unrealistic, it put a pressure on the agencies and other multilateral organizations – which led to these actors withdrawing their support for certain countries. Penfold (2015) also argues that the MDGs had a simplicity to them, that made it more encouraging for the different actors to reach. By using “targets” as the SDG does, it can lead to disheartening the developing countries and their donors if they do not reach these.

### **3.2 Corporate Social Responsibility**

Given the changes of social consciousness over the years, corporate social responsibility (CSR) has grown and evolved both in concept and span. In modern times, CSR has become a known language and perspective that stakeholders communicate to businesses in which they are expected to do more for the community, than make money and obey the law (Caroll, 2015). The concept of CSR started gaining momentum in the early 1970s when the United States (US) federal government responded to 1960s issues with different strategies to tackle the particular problems. The Environmental Protection Agency (EPA), Consumer Product Safety Commission (CPSC) among other divisions, were created to ensure safety and equal treatment for workers and the consumers, as a response to public demand at the time (Caroll, 2015).

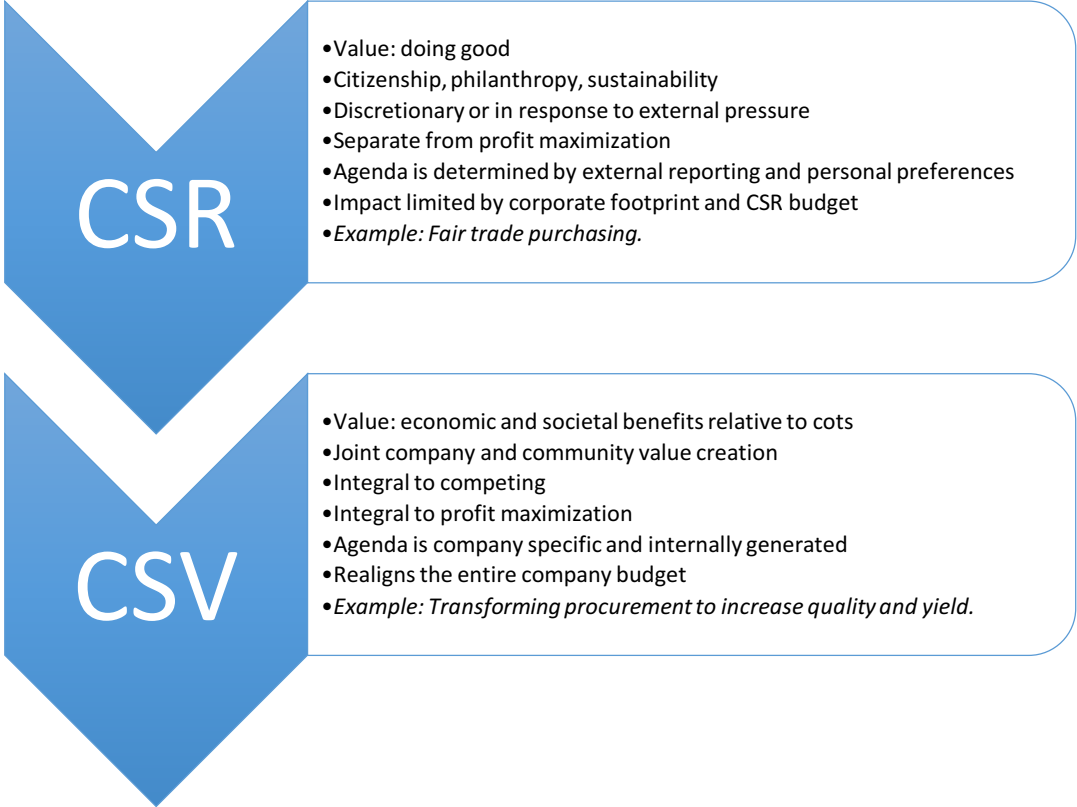
As companies expanded and became international corporations, CSR followed suit. The most certain path in gaining legitimacy for an enterprise was to become socially responsible, especially in developing countries. When the challenge of CSR was made to be what the companies did for themselves, such as their owners and investors, rather than what they did for the stakeholders “outside” of the company (consumers and the environment), the investors became more visible and voiced their opinion of change. For a long time, CSR has meant what a company can do for the community that they are in, where they otherwise might have had a negative influence. This could result in giving back to communities in order to repair the damages that have been caused by the business. More often than not, a company will try to repair its damages due to bad publicity and having neglected their stakeholders, in order to make money – which then could have back-fired in order for the company to engage in CSR-activities (Caroll, 2015).

According to Rangan, Chase and Karim (2015), businesses are facing an increasing pressure in dressing up CSR activities as a business discipline. Expecting a business to deliver results on every CSR initiative distracts from what ought to be done: to coordinate the company’s purpose and values with the social and environmental activities it performs. Rangan et al. (2015) present a model of three theaters in which a company performs its CSR activities. Theater 1 is where a company focus on philanthropic measures such a donating money or equipment to a community, but this action is not designed to produce profits or improve a business’ performance (Rangan et al., 2015). Theater 2 consists of improving the operational effectiveness within the business, where the company would provide social or environmental benefits in ways that it would also support the company’s operations in the value chain, thus improving the company’s efficiency and effectiveness (Rangan et al., 2015). Theater 3 is how a company transform their business model in order to do good in social and environmental matters (Rangan et al. 2015). In theater 3, the company does not need to produce a major initiative, as most are narrow initiatives focusing on market segments or specific products that will have the potential to adjust the impact a company has on society and the environment, as well as their own financial performance.

In order for a company to succeed in its CSR activities, it is important that the top management is behind these initiatives, and support the causes. A company should ideally also establish a position focusing solely on integrating initiatives in all theaters, from philanthropy to the business transformation, in order to ensure that continued communication and coordination

between the key players of each activities (Rangan et al., 2015). Table 2. shows what Rangan et al. (2015) meant the differences between CSR and CSV looked like.

Table 2 The difference between CSR and CSV (Porter & Kramer, 2011)



**3.2.1 Criticism on Corporate Social Responsibility**

One of the first criticisms of CSR is that there is a lack of a universal definition to the concept. It seems as if everyone has some sort of their own definition, which makes it hard to follow CSR guidelines and critics properly (Hopkins, 2005). This problem makes businesses focus more on making money, and let academia sort out the discussion instead. It also makes it easier for companies to look at CSR as a mere philanthropic act, while other companies disregard the concept as a whole (Hopkins, 2005). Others do, however, view CSR as a corporate strategic framework. Some argue that CSR should be termed responsiveness rather than responsibility, as that assumes that it is an obligation. By being responsive to the social demands, a business is more inclined to take part and doing what needs to be done, rather than just deciding what to do (Hopkins, 2005). Some also argue that CSR is just another PR-stunt that is taken to woo the audience and strengthen their reputation. Hopkins (2005) also says that it is easy to make a grand gesture in the sense of CSR, for example, closing down a sweat-shop in Bangladesh, or



publish a CSR report on progress (Hopkins, 2005). This tend to fade out the longer a business implements the concept of CSR, although it might not be embedded in the organization as a whole. Protests and campaigns also seem to be the driving force behind a company's decision to be more socially responsible, where the company then in turn does what the protesters and campaigners wish, and then continue business as usual. CSR has also been seen as another term for corporate philanthropy, where the business gives a direct contribution to the society. Although this is more often not the case, when the two terms are confused, businesses tend to lean towards "filling in the gaps" that the governments do, which is not what is expected by the CSR concept (Hopkins, 2005). Philanthropy does not help a business make profit, while all CSR activities can be linked to improve a company's bottom line. Milton Friedman is often mentioned as a critic to CSR, and is cited in Hopkins's (2005) criticism where he implies that businesses' only concern is making profit, not about social issues (Hopkins, 2005). However, governments' fund to help, for example, third world countries is not enough, and it is therefore only logical that businesses take a larger part in helping other humans where public funding does not reach.

CSR is also being criticized as a sham due to companies lack of ability to self-regulate, based on the fact that CSR is not a legislated act. Because it is mainly voluntary, companies can misreport incidents within the firm thus leading to a "failed" attempt at CSR (Hopkins, 2005). Hopkins (2015) then ask whether CSR will disappear or continue to be a well-known concept for businesses who wish, or need to, contribute to the society: it seems as if CSR is here to stay, but will most likely evolve over time and transform into different concepts without disappearing completely.

### **3.3 Creating Shared Value**

Creating Shared Value (CSV) is one of the most recent terms being used in CSR discussions. Although the concept has not been around long enough to know if it will stay, the concept benefits both the company and the community on which the company depends on and affect to one extent or another. CSV strengthens the tie between social and economic progress that both parties can benefit from (Porter & Kramer, 2015). By providing direct economic incentive of social contributions by a company, the company will no longer feel *obligated* by the community to do good, but will do so as it will also benefit the company and its shareholders.

According to Porter and Kramer (2011) the capitalist system is under attack. Due to the lack of trust the public have in certain industries, elected officials set policies that undermine the competitiveness and disables the potential economic growth that these industries can contribute to. Nowadays, most companies are stuck in the CSR-mindset, where the social issues are at the periphery of the business, not the core (Porter & Kramer, 2011). Porter and Kramer (2011) suggest three key ways identified as to how businesses can create shared value opportunities: (1) To enable local cluster developments; (2) redefine the productivity in their value chains; and (3) reconceive their products and markets.

Porter and Kramer (2011) say, “Companies must take the lead in bringing business and society back together” (p.4). In order to do so, companies must be able to create economic value in such a way that it will also create value for the society by addressing the different challenges and needs they are faced with, which is the bottom line of shared value (Porter & Kramer, 2011). The principle of shared value does not rely on social responsibility, sustainability or philanthropy – as can resemble the concept of CSR – it is a new and improved way of achieving economic success while also doing good. In order for such thinking to penetrate the minds of corporate leaders and the like, the government must learn about the concept of shared value, and how to regulate businesses so that they enable shared value rather than working against it due to the historic distrust in certain industries. Businesses and governments have each assumed that the other side is an obstacle in order to pursue their goal, and have thus acted the way that they have. However, shared value understands that the social needs, rather than just economic needs, define the markets for businesses. And governments need to enable businesses so that they can achieve their economic expectations, as well as fulfilling the society’s needs. According to Porter and Kramer (2011), businesses need to act as businesses rather than charitable donors, as is often expected of them, and when doing so, the business will be the best source of addressing the urgent issues that the society is facing.

### **3.3.1 Criticism of CSV**

Porter and Kramer (2011) are well-known for popularizing the concept of CSV, by saying that capitalism is under attack, and by learning how to create shared value, a business will be able to transform social problems into relevant business opportunities for a corporation. However, Crane et al. (2014) means that the concept of CSV is naïve in ways that it ignores the tension between economic and social goals, as well as about the challenges of a business compliance as it is based on a superficial belief the society has of corporations in communities. CSV does

have many great aspects, but is less likely to be able to deal with harsher issues such as human rights or corruption, in the same way as CSR, and can be seen as a response of reaction rather than one of a transformation to the crisis of capitalism (Elkington, 2011, Crane et al. 2014).

In table 3 one can see the different strengths and weaknesses according to Crane et al. (2014) The strengths of CSV do focus on many of the important aspects seen from a business point of view. The CSV approach has been welcomed by many leaders in large corporations such as Coca-Cola and Nestlé, as well as being mandatory reading in a wide range of courses at different business schools and the like. By being embraced by larger corporations, CSV has been able to show a wide understanding of corporations’ social responsibility, although this might be due to Porter and Kramer’s appealing language to business leaders as well (Crane et al., 2014). CSV has been able to show corporations that social and environmental challenges can be met as real opportunities, as these corporations then can use the challenges as strategic targets to improve their business and revenue.

*Table 3 Strengths and Weaknesses of the Concept of CSV as told by Crane et al. (2014)*

<b>Strengths</b>	<b>Weaknesses</b>
CSV successfully appeals to practitioners and scholars	CSV is unoriginal
CSV elevates social goals to a strategic level	CSV ignores the tensions between social and economic goals
CSV articulates a clear role for governments in responsible behavior	CSV is naïve about the challenges of business compliance
CSV adds rigor to ideas of “conscious capitalism” and provides an umbrella construct for loosely connected concepts	CSV is based on a shallow conception of the corporation’s role in society

However, the weaknesses of CSV are important to not undermine, even if the strengths have helped in some circumstances. CSV is presented as a new concept, although it bears similarity of its “predecessor” CSR, stakeholder management and social innovation (Crane et al., 2014). This could only be used as an argument because Porter and Kramer (2011) talk down the concept of CSR in a way that would suit their own intentions for CSV, as well as not acknowledging the already existing literatures on stakeholder management and social innovation (Crane et al., 2014). As early as in the 1970s, authors described social responsibility for corporations as a way businesses could create social programs in order to create profits for their business (Crane et al., 2014). More recently, other literatures also acknowledge that there are ways that CSR can be used strategically in order to make business-related profits by

supporting the core activities of the business (Crane et al., 2014). Porter and Kramer (2011) also acknowledges in their article, *Creating Shared Value: How to reinvent capitalism – and unleash a wave of innovation and growth*, that CSR can be other things than just cost, challenge or charity for a firm – that it can make opportunities, inspire innovation and a competitive advantage for the firm (Crane et al. 2014).

Crane et al. (2014) says that the concept of CSV ignores the tension between social and economic goals in which it fails to provide adequate trade-offs between the two goals, as well as any negative impacts stakeholders may perceive. It seems that Porter and Kramer (2011) have merely chosen to ignore such problems, and focus on win-win situations without concerning the outcomes that might create a dilemma for the stakeholders, "...[Porter and Kramer's (2011)] promise of the shared value concept are distortions at worst and optimistic at best" (Crane et al., 2014, p. 136). Porter and Kramer (2011) also seem to simplify the pressure within a business to fulfill both goals in social and environmental context, with a disregard that certain businesses cannot focus equally on both goals. A business with a CSV-mindset might invest more in communicating that the complex problems the business faced has been transformed into a win-win situation for both the business and the society/environment, while in reality the problems might not have been fixed and the stakeholders could have been neglected due to the corporation's investment in CSV. This in turn could lead to corporations focusing on minor problems with fancy communication strategies, rather than solving larger problems in the society (Crane et al., 2014). However, CSV is not alone in neglecting to acknowledge the tensions between the goals of the society/environment, CSR and stakeholder management are also prone to do so. It is suggested that CSV might be a more sophisticated version of greenwashing rather than a strategy for the common good. Porter and Kramer's (2011) concept of CSV also suggest a biased view on how a business can reconceive markets and products, leaving a number of questions unanswered, especially in industries that produce products that are seen as questionable good for a society. One of the industries mentioned is the tobacco industry, where the innovation in this industry may have been created to share value, but at its core the product continues to have negative relations with society (Crane et al., 2014). How can organizational integrity then be claimed, if a tobacco company produces fair trade tobacco or less harmful tobacco, when the rest of the corporation continues to produce the products containing carcinogenic and addictive products (Crane et al., 2014)? Porter and Kramer (2011) chose the cases that speak to their CSV-concept, and disregard other products that are at the core of a company and its markets. CSV is based on a misconception that in order

to re-make capitalism, businesses need to transform their thinking, with no disregard to the strategy models that should be transformed in order to make a business better. Only CSR and capitalism is discussed as the problems that businesses face, as well as not taking the financial markets or business compliance into the equation. According to Crane et al. (2014), CSV cannot be used to support the idea that a firm's purpose needs to be redefined because Porter and Kramer (2011) mainly focus on specific products and projects of a firm, rather than the firm as a whole.

### **3.4 Sustainability within Philip Morris International**

At the beginning of this study, the report, "Communication on Progress 2016" was the only available document showing PMI's transition and how they are adjusting to the SDGs. In May 2018, PMI published a new report: "Sustainability Report 2017". Therefore, this study will look at both the previous report, as well as the newly published one. The criticism will gather criticism on both reports.

#### **3.4.1 Communication on Progress 2016**

PMI published their annual Sustainability Report: "Communication on Progress" for the first time in 2015. This study looks at the report with the same name from 2016, which looks at which SDGs align with the business as their main goal, as well as other goals they hope to make an impact on. This includes sustainability regarding the consumers' health; the impact the company has on tobacco farming and the farmers; the impact the company has on the environment, and several other important aspects. However, this study will focus on how PMI approaches SDG 3: Good Health and Well-Being as their main goal, while the report also includes SDG 2, 8, 12, and 16 as priority due to their work along the whole value chain, while the remaining 12 goals are identified as having the least impact on – but still considered to be important to the businesses that can identify with them (PMI, 2017b).

There are four main non-communicable diseases (NCDs) acknowledged by the United Nations (UN), in other words, four avoidable causes of premature deaths as can be seen in figure 6. Tobacco has been identified as one of the reasons behind cardiovascular diseases, cancer, and chronic respiratory diseases. From 2000 to 2015, the risk of dying due to a NCD between the

Risk of dying between ages of 30 and 70  
from one of these four NCDs  
fell from 2000 to 2015



Figure 6 Non-communicable deaths (UN, 2017b)

ages of 30-70 fell from 23% to 19% - not enough if we are to reach the 2030 target (UN, 2017b). The section “Our business transformation” within the report focus on goal no. 3 and describes in detail how the company’s business vision aligns with the goal, as well as applying the tool to fill in the voids that are unable to be handle solely on tobacco regulatory measures.

The timeline of PMI’s attempts to create a product that is accepted by both the scientific community and the consumers is long. Currently, they have four platforms of products that are either containing tobacco but are not burned, or do not contain tobacco. The IQOS is found under platform 1 of heated tobacco products. This product has made it through the past several attempts where the company faced technological drawbacks and lacked consumer acceptance (PMI, 2017b).

PMI’s stakeholders question the company in many ways that those outside of the company also does. Especially as they belong in such a controversial industry, and has decided to do the complete opposite of what they have been doing for decades: commit to a smokefree future (PMI, 2017b). According to their 2017 annual report, PMI had already shipped more than 36 billion heated tobacco units (PMI, 2018c). PMI has thus far invested more than 3 billion USD in smokefree products; planning to invest almost another 2 billion USD in the developments of such products; and shipped close to 8 billion smokefree products in by the end of 2016 (PMI, 2017b).

From 2008 PMI have engaged over 400 scientists and experts to work exclusively on technology designed to develop a lower risk product for the consumers (PMI, 2017b). Their scientific programs align with the standards of the pharmaceutical industry as well as being guided by the US Food and Drug Administration (FDA). Their research is being posted on their own websites, and consists of laboratory, behavioral and clinical studies in order to be able to assess the harm of their smokefree product (PMI, 2017b). There are currently several ongoing clinical trials, the results from these trials will in the future be able to contribute knowledge on how the IQOS affects the user (clinicaltrials.gov, 2018a; 2018b; 2018c). These trials are new, and will unfortunately conclude after this research study has been concluded.

As previously mentioned in this study, the IQOS is backed by industry-based evidence to produce an average of 90-95% lower levels of HPHC than the smoke from a conventional cigarette, due to the fact that it does not generate smoke. In PMI's clinical studies, the smokers who participated reduced their exposure to 15 toxicants over a two one-week period and two three-week-period of testing the products (PMI, 2017b). The IQOS does not affect the indoor air quality or produce any disadvantages to second-hand smokers because the vapor consists of water and glycerol, which according to the WHO are also subject to a wide range of non-communicable diseases.

In order to assess individual risk and population harm posed by tobacco, PMI has a seven step approach to eradicate the risks and harms (PMI, 2017b). First (1) they make sure that the product design is created in a way that manufactures the appropriate quality, and that the product is reliable to the consumers who then realizes the potential of using a lower risk product. The aerosol chemistry and physics (2) are being analyzed in order to continually evaluate whether there are new potentially harmful compounds produced by the HNB, as well as to make sure that it is without combustion. After the product has been developed, the scientists perform a standard toxicology assessment (3), where robust laboratory techniques are being used in order to assess whether the product has a lower risk than the conventional cigarette. This is done by looking at cells and organs, how they have been affected and whether they are damaged due to the use of HNB. Then they do a systems toxicology assessment (4) to compare the changes in a smoker's body between smoking and cessation, and by switching to a smokefree product while developing smoking-related diseases. Rats and mice are used in the research before the clinical trials (5) where adult smokers, in accordance to Good Clinical Practice, participate in the studies. Here they examine whether a smokefree alternative reduce the smoker's exposure to toxins in comparison with continued smoking of conventional tobacco. This phase is important in order for the company to be able to make the claims that it has. One of the last steps is to conduct perception and behavioral studies (6) in order to assess the message the product sends to consumers, how the information and risk about the product is comprehended and how the product can be used as a substitute for adult smokers. The final step is when the product has reached the market, namely a post-market study and surveillance (7). This study is to understand how the product is being used, and who it is aimed at. The goal is to not attract young smokers or people who have never smoked before, or have already quit

smoking. More clinical studies are conducted, in order to see and evaluate the health outcomes by switching to a HNB rather than continue smoking or quitting smoking entirely (PMI, 2017b).

Figure 7 shows that the WHO estimates close to 1 billion more smokers by 2025 (counting those from 15 years of age and older), when taking population growth by around 70 million people each year into the equation (PMI, 2017b). Today there are already almost 1.1 billion smokers around the world who use some kind of combustible tobacco product. In 2010, the projected smoking prevalence was around 22.1% and have declined constantly for several decades. However, the WHO estimates that it will continue to decline at a pace of 0.21 percentage points each year, resulting in it taking close to 100 years before the society is smokefree.

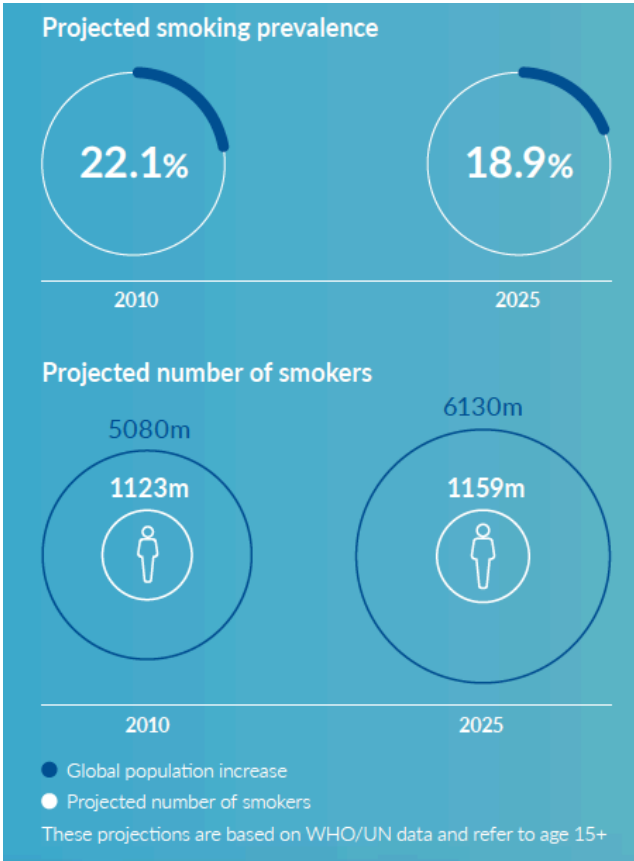


Figure 7 Projected number of smoking prevalence (PMI, 2017b)

The member states of the WHO aim to reduce the use of tobacco by 30% by 2025, as compared to the prevalence numbers from 2010 (PMI, 2017b). PMI’s ambition is a leading one in the industry, aiming for a smokefree future by innovating and creating products that can help smokers quit smoking conventional tobacco. The goal accordingly to the SDGs is to reduce the



number of smokers of conventional tobacco produced by PMI by 30% and that these switch to smokefree products by 2025 (PMI, 2017b). These predictions are solely based on the current situation, and does not calculate a possibility of PMI growing their market share by targeting smokers of competing brands to their smokefree products, which would then raise the predictions of how many smokers that would switch to smokefree products. Figure 8 shows the projections made by the company itself, based on today’s market share as well as being able to sell smokefree products on the different markets (currently they are only allowed on 38 markets, and more under way).

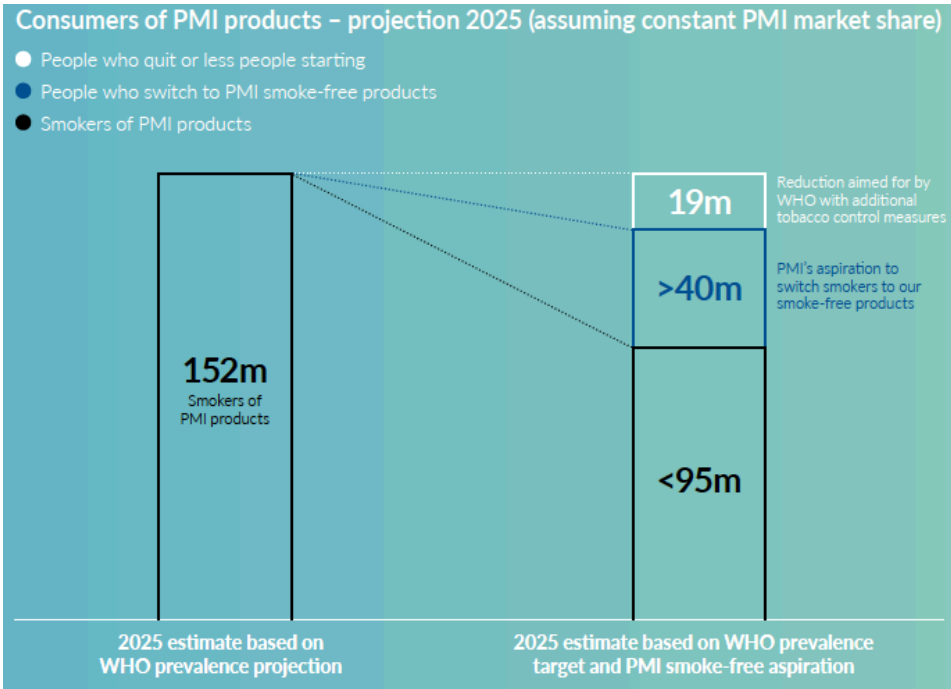


Figure 8 Future projections of PMI smokers (PMI, 2017b)

### 3.4.2 Sustainability Report 2017

This report builds upon the previous report, Communication on Progress, where PMI underlines that their long-term vision is to create a market where smoke-free product replace the conventional combustible cigarettes as soon as possible, so that it will benefit the adult smokers, the society, the company, and the shareholders (PMI, 2018a). For such a large company, the concept of sustainability means that they are creating a long-term value where they minimize negative external factors that are associated with the products they sell, how they operate their business, as well as their value chain (PMI, 2018a). Since the launch of the IQOS, more than 4.7 million adult smokers have made the switch to the IQOS since its launch, resulting in a daily switch of 10.000 smokers everyday (PMI, 2018a). Out of the 150 million adult consumers

of PMI’s products, about 36 billion smoke-free products were distributed and sold to these smokers who wanted or needed a less harmful nicotine and tobacco product (PMI, 2018a). Although the best option is to never start smoking, or to quit if one is smoking, it can be hard to do so. And as nicotine is addicting and not without risk, the experts on the field agree that the primary cause of NCDs is generated by the combustion and inhaling of conventional cigarettes (PMI, 2018a). The IQOS and other smoke-free products are not the first attempt to create a less harmful option to smokers. As previous products did not satisfy the needs and desired of the consumers, the current situation is that the advances in science and innovation has made it possible to create a product that will fill in the gap of those smokers (PMI, 2018a). Many of PMI’s stakeholders have posed questions regarding where the smoke-free products will fit in their product portfolio, and whether the product is intended for only the developed countries. PMI’s responded that their “... business vision is to replace cigarettes with less harmful, smoke-free products as soon as possible” in 2016 (PMI, 2018a). As one can see in figure 9, 13% of their total net revenue stems from the sale of smoke-free products from 2014-2017.

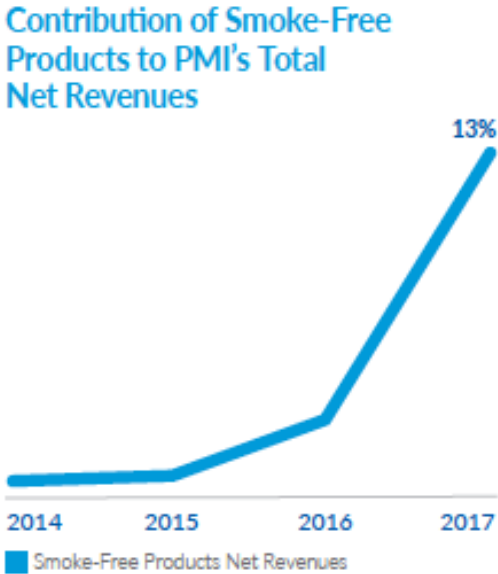


Figure 9 PMI's net revenues based on the sales of smoke-free products (PMI, 2018a).

The studies thus far have led to a substantial adjustment within the tobacco industry, as shown in table 4.

Table 4 Scientific progress on the IQOS (PMI, 2018a).

Scientific evidence supporting the potential of RRP	Reduction of impact on both consumers and those around them	Improved oral hygiene with consumers
There are no combustion generated by the IQOS.	Less smell.	Better breath.
The vapor that the IQOS produce, contains on an average 90-95% less toxicants compared to the conventional cigarette.	No ash.	Less unpleasant taste after smoking, than by using conventional cigarettes.
Reduced exposure to 15 toxicants when switching to the IQOS (based on two clinical studies, two one-week, and two three-week long studies).	No risk of the <i>Heets</i> burning.	Reduced discoloration of teeth.
	No negative impact on indoor air quality, thus not being a source of second-hand smoking.	

The topic of having PMI focusing on such a large transition within the tobacco industry are often met with skepticism, leading to a type of rhetoric that often can misrepresent the changes within the company in the media (PMI, 2018a). When such rhetoric is in use, the public is prevented from comprehending the full scope of the information and public policy related to RRPS and HNBS. By countering inaccurate information provided to the public, PMI have published more than 200 smoke-free-product-related studies since 2008, in several large journals, such as the American Journal of Physiology, Nature Biotechnology and Regulatory Toxicology and Pharmacology (PMI, 2018a). 150 scientific conferences around the world have been presented with PMI’s results during the past two years; published in over 45 book chapters and articles in peer-reviewed journals (PMI, 2018a). Later in 2018, PMI will also share the data from their non-clinical and clinical studies (PMI, 2018a). PMI are also supporting the work of the Foundation for a Smoke-Free World, where they agreed to contribute \$80 million per year over the next 12 years, starting in late 2017 (PMI, 2018a).

The process of getting smokers to switch to the IQOS rest on both the development and manufacturing of smoke-free products and being able to convince smokers that they should switch to less harmful products. However, some countries have more lenient regulatory

environment for novel tobacco products than others, which is one of the reasons as to why some countries were able to receive the IQOS on their markets before others (PMI, 2018a). According to PMI (2018a), it takes about one to two weeks before a consumer is able to make a complete conversion to the IQOS, this has led to PMI deploying field coaches who have been trained to help and teach adult smokers who wish to quit smoking conventional cigarettes about the IQOS.

Currently, the IQOS is available in 38 countries (PMI, 2018a). In Japan, the transformation has been massive, and were not expected to be as big as it was by PMI. Office buildings have created IQOS lounges in common areas, which has been well-received with the tenants. A traditional Japanese Inn operating from 1191 also decided to make their inn completely smoke-free in order to avoid fire hazards, and now rents out IQOS-devices to guests during their stay (PMI, 2018a). These are some of the examples of how the IQOS has transformed the society in Japan.

### **3.4.3 Criticism on Philip Morris International's Progress on Report 2016, and the Sustainability Report 2017**

PMI have come a long way, having transformed its business from being a company denying the health concerns linked to smoking tobacco, to becoming a company that will focus on selling smoke-free products (Kaye, 2017). Leon Kaye (2017) writes about how PMI have been criticized for aggressive tactics in countering anti-smoking campaigns around the globe, the latest being in Uruguay – in which case an international court ruled against the tobacco company in 2016 as a response to the massive global protest. The current report does not mention this incident, but the report does show the realities PMI is facing both politically as well on the different markets (Kaye, 2017). PMI does acknowledge that the IQOS contain nicotine and can be addictive, but this business transformation shows that the company can balance their needs as well as support the different countries public health decisions (Kaye, 2017). Even if PMI's goal is that every adult smoker switches to use IQOS, or quit entirely, it is unlikely that the company will stop marketing their other harmful products in the nearest future (Kaye 2017). Kaye (2017) concludes that there will always be a tobacco-critic who is able to find information in their report “worth an eye roll or two,” but to “give the company credit for striving to be part of this global conversation on sustainability and responsibility” (n.p.)

### **3.5 The Norwegian Cancer Society**

Smoking cigarettes is the main cause of lung cancer – the type of cancer that kills the most people in Norway (The Norwegian Cancer Society, 2018). According to the Norwegian Cancer Society (NCS) (2018), over half of those who smoke conventional tobacco over an extended period die because of that, either of lung cancer, COPD, or cardiovascular disease. About 3000 Norwegians get lung cancer every year, and approximately 2000 of these die because of it (NCS, 2018). NCS (2018) refers to a study made in 2018, where Nordic research scientists estimates that by 2045, 95.000 Norwegians could be saved if they did not smoke conventional tobacco. Nicotine is a more addictive substance than other more harmful substances such as heroin and cocaine, and it can be extremely difficult to stop using products containing nicotine when you have already started using it (NCS, 2018). It is the nicotine that makes a person addicted to such products, not the tare (NCS, 2018). The nicotine makes walls in the veins contract, and thus makes the blood pressure rise (NCS, 2018). This presents a burden to the heart and the veins. The use of nicotine during pregnancy could lead to irregular heartbeats with children; Sudden Infant Death Syndrome (SIDS); and other difficulties in newborns and fetuses that could be avoided when not using nicotine during pregnancy (NCS, 2018).

#### **3.5.1 Criticism of the Norwegian Cancer Society**

In an answer to the Norwegian government, the Norwegian Cancer Society (NCS) believes that the government's suggestions regarding the new regulation of e-cigarettes accordingly to the European Union's Tobacco Products Directive are sensible (NCS, 2016). They support the Ministry of Health and Social Care decision regarding the e-cigarette, but want to underline the importance of health warnings – that it says explicitly that it is not a product for non-smokers (NCS, 2016). However, they need to decide whether they are for or against the principle of harm reduction. On their webpage, they claim that snus – a lower risk nicotine-containing product – can cause pancreatic cancer (NCS, 2018). Although a study from the Karolinska Institute in Stockholm, Sweden, found no correlating evidence that those who use snus are more likely to obtain pancreatic cancer – based on a study with 424.000 Swedish men over the course of several years (Hotvedt, 2017). Of course, there might be other types of cancer that could be related to the use of snus – but the risk of obtaining cancer due to smoking conventional tobacco is, based on current evidence, still a lot higher than other lower risk tobacco-products. Nicotine is still a highly addictive substance, and it is recommended to not start using any nicotine products. The NCS continuously claim that there is not enough research made on the subject,

which leads to the following question: when is it enough to show that smokers who cannot quit smoking conventional tobacco on the day, should switch to less harmful options?

## **4. Case and Empirical Data**

This chapter will look at the different articles, documents, and interviews that has been used in this study. As mentioned earlier, FHI's report on harm reducing tobacco products has been an important basis for this study. This will also be reflected in the following subchapters.

### **4.1 The International Council for Science's "A Guide to SDG Interactions: From Science to Implementation"**

The implementation of the Sustainable Development Goals (SDGs) in the 2030 Agenda for Sustainable Development in 2015 was historic as it provided 17 goals and 169 targets. These goals and their targets are expected to be addressed by governments and organization in the hopes of meeting the different challenges that humans face every day. Although it is voluntary, it stands as a framework that ought to help the different actors in creating a strategy on how to implement these goals as they fit on a national and regional level (Griggs et al., 2017). The general aim of the SDGs is to provide global prosperity and human dignity for all, while also making sure that the Earth's ecosystem and biophysical processes are intact (Griggs et al., 2017). The authors also underline that the goals are not going to be achieved on their own, it is implicit that in order for one goal to be achieved, one must succeed in the interlinked goal as well. For example, one cannot reduce poverty without also reducing inequality as those two problems are often a result of one another.

The targets used for the purpose of this study consists of:

Target 3.3 aims at ending different epidemics such as AIDS, tuberculosis and other highly deadly communicable diseases by 2030; target 3.4 aims at reducing premature deaths from NCDs by 2030; and target 3.2 aims at ending preventable deaths of children under 5 years of age and newborns by 2030 (UN, 2016). Target 3.5 aims at strengthening the prevention of use of harmful substances; target 3.a aims at strengthening the implementation of WHO's FCTC in all countries (UN, 2016). Target 3.b aims at supporting research and development of medicines and vaccines for communicable and non-communicable diseases (especially in developing countries); target 3.c aims at increasing the education of health workforce (especially in developing countries).

This report examines the different relationships between different goals. For this study, however, only the goals interconnected with goal #3 will be discussed. The authors made seven

categories in which they score the interactions of the SDGs: indivisible (+3), reinforcing (+2), enabling (+1), consistent (0), constraining (-1), counteracting (-2), and cancelling (-3) (Griggs et al., 2017). Below are the scores for the between the different targets within SDG #3:

Table 5 Interactions between SDGs (Griggs et al., 2017).

Targets	Key Interactions	Score	Policy Options
3.2 ← 3.3, 3.4	By reaching the targets for NCDs as well as communicable diseases, will help reduce the maternal mortality rates.	+2	Governments and other actors could assist in reducing the prevalence of NCDs such as diabetes, as well as reducing the risk factors, such as obesity which can lead to diabetes. To eliminate the prevalence of smoking during pregnancy for expecting mothers. And to focus on the control of different infectious diseases in medical environments.
3.3 ← 3.5, 3.a, 3.b	By controlling tobacco, reducing substance abuses and exposure to other hazardous chemicals will help reduce infant mortality rates connected to NCDs	+2	Regulatory measures enforced by the government will prevent exposure to hazardous chemicals, as well as tobacco use.
3.b, 3.c → 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 3.a	With a strong health workforce, accompanied with a supportive research infrastructure, it will benefit all of the other health targets.	+2	Governments and other actors need to invest in the health workforce and research infrastructure.



## **4.2 The Norwegian Perspective on Tobacco Control and Harm Reduction**

The national tobacco strategy for Norway was made from 2013-2016, and the new version should be available after this study is concluded, during the Fall of 2018. This study will thus focus on the current strategy (2013-2016), even if some of the information might be outdated. The Norwegian government published a strategy on NCDs over the period 2013-2017, which looks at NCD-related illnesses, such as tobacco and diet (MHSC, 2017). The Ministry set equal targets on the use of tobacco, and the use of salt in the Norwegian population: that both is to be reduced by 30% by 2025 (MHSC, 2017). The Ministry chose a common approach to reduce the four major NCDs. Their ambition is to reach the goal of a 25% decrease in premature deaths due to NCDs (MHSC, 2017). To reach their goal, the Ministry presents several different measures, maintaining high levels of taxes on tobacco products is one of them. They also want to ensure smoke-free arenas; that smoke-free arenas exist; that non-smokers are not subjected to secondhand-smoking; and to further develop an extensive offer to those who need help quitting smoking (MHSC, 2017).

Norway has since the 1960s been leading the tobacco preventive work in Europe, while also being the first country to sign WHO's Tobacco Convention in 2003 (Regjeringen, 2013). In 2010, Norway was ranked as number 3 out of 31 European countries on the measures against tobacco as recommended by the World Bank (WB), scoring high on tax, ban on smoking in public places and a ban on ads, but scored lower on campaigns through mass media as well as providing help to quit smoking (Regjeringen, 2013). Approximately 5000 Norwegian men and women die every year of illnesses caused by the use of tobacco, having lost, at an average, about 11 years of their lives (Regjeringen, 2013). In order to create a future without tobacco, the sitting government at the time meant they had to succeed in two areas: to make those who smoke quit, and to prevent that non-smokers start smoking. Both are equally important, as is it to protect children and those who do not smoke from being affected by secondhand smoking (Regjeringen, 2013). At the time the strategy was written, there were about 28% who smoked in Norway, whereas 17% smoked on a daily basis. The Norwegian government looked to other countries who have managed to lower the percentage of daily smokers to 10% with the use of different tools such as taxation, stop-smoking-campaigns, regulations and help to smokers who need to, or wish to, quit smoking (Regjeringen, 2013).

Smoking leads to several well-known illnesses such as cardiovascular diseases, Chronic Obstructive Pulmonary Disease (COPD), and cancer. Most of the cases of lung cancer in

Norway could have been prevented if no one smoked, still, there are about 700 000 daily smokers in Norway (Regjeringen, 2013). While there has been a decrease in smoking, the use of snus has had an increase. The Government look to other western countries such as Sweden and the UK, where the share of smokers was significantly lower than in Norway in the year of 2010 (Regjeringen, 2013). The goal of the current tobacco strategy is to prevent that children and youths start smoking tobacco or use snus, that those who already do gets help to quit, and that the rest of the Norwegian population who do not smoke do not get exposed to secondhand smoking (Regjeringen, 2013).

Figure 9 and figure 10 show the decrease of share of daily smokers among men and women between 1973-2011 between the age of 16-74 and 16-24, respectively. As one can see, there has been a significant decrease in the smoking habits in Norway since 1973: in 1973 51% of men and 32% of women used tobacco on a daily basis (Regjeringen, 2013) In 2011, there were approximately an equal amount of men and women who smoked on a daily basis, 17% (Regjeringen, 2013). In addition to this, about 11%, or 450 000 Norwegians, smoke on occasion (Regjeringen, 2013). This group of “occasion-smokers” have been stable at about 10% the last 30 years, even if the share of daily smokers has decreased (Regjeringen, 2013).

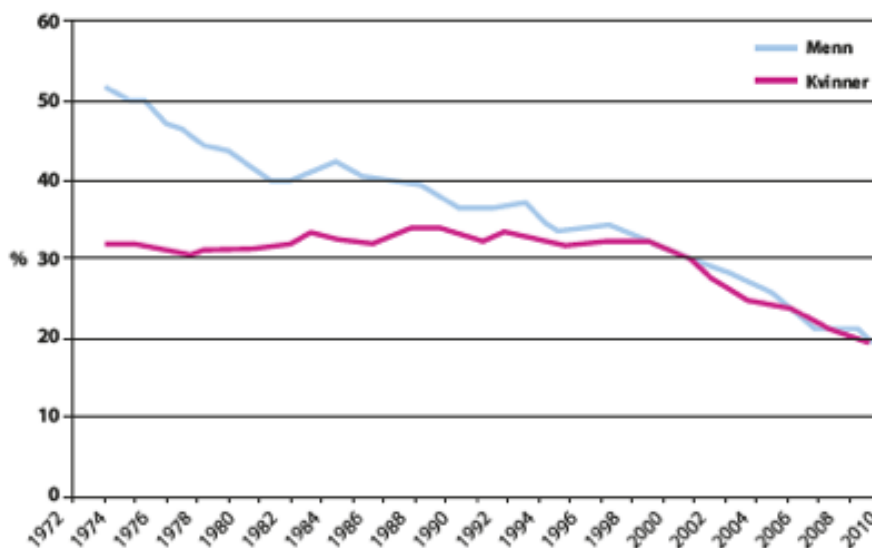


Figure 10 Share of smokers (men and women) between the ages of 16-74, from 1973-2011 (Regjeringen, 2013)

Figure 10 regarding the smoking habits of Norwegian youths decreased at an even larger rate compared to the general smoking population in the same period of time. This can be explained by reasons such as the use of snus, as it is more common to use snus nowadays than it is to

smoke. In 2011, the share of smokers in this age group was at 11% in 2011, a decrease from about 45% (Regjeringen, 2013).

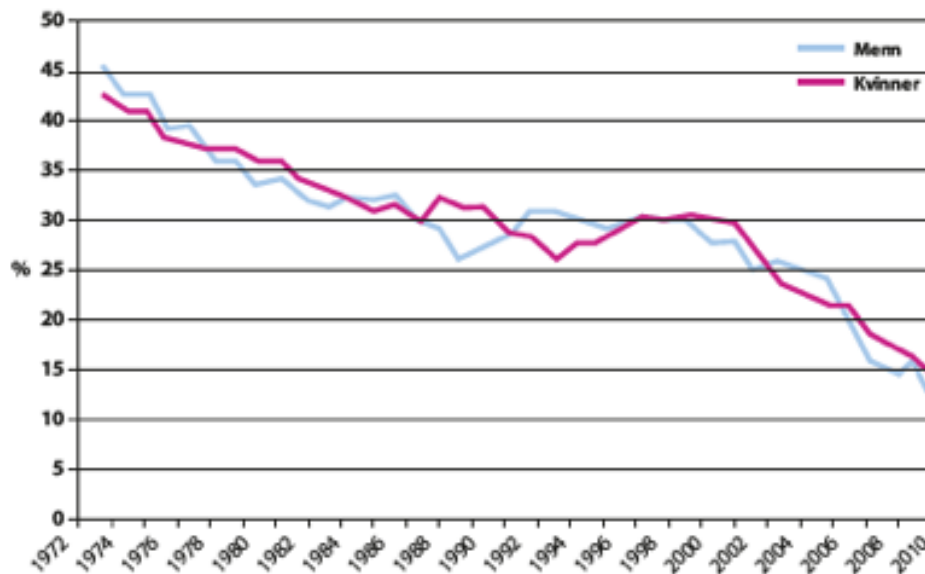


Figure 11 Share of daily smokers (men and women) between the ages of 16-24, from 1973-2011 (Regjeringen, 2013)

E-cigarettes are mentioned as a relatively new tobacco product, and is being advertised as a tool to help quit smoking. An e-cigarette contains ampoules with nicotine in different levels of strength, but can also be nicotine-free. The e-cigarette is used the same way as conventional tobacco, by inhaling the liquid as to receive nicotine through vapor. A nicotine ampoule equals about 10-15 cigarettes, depending on the strength of the ampoule (Regjeringen, 2013). However, the WHO said in 2009 that there was no documented effect of using e-cigarettes as a way to quit smoking conventional tobacco, and that there needs to be more research before such a conclusion can be made (Regjeringen, 2013) The WHO were also worried that e-cigarettes could be a way in for non-smokers to start smoking conventional tobacco. In Norway (at the time when this strategy was written) it was illegal to produce, import and sell e-cigarettes (Regjeringen, 2013).

The Norwegian government has proposed changes (Prop. 142L) to the Norwegian Tobacco Act, based upon the European Union's Tobacco Products Directive (EUTPD, 2014/40/EU) to make sure it is up to date and follows the progression of the tobacco market, research and the international development on the field (Ministry of Health and Care Services (MHSC), 2016). In the Prop. 142L, the Norwegian Directorate of Health (NDH) refer to their own report from

2015, that there is a need to improve the regulation of e-cigarettes – which used to be illegal on the Norwegian market up until a couple of years ago. NDH also points out that there is likely to be a difference on how e-cigarette can affect the individual vs. the community: Even though it is recommended to quit using tobacco altogether – for the individual, there will most likely be less harm involved by transitioning to less harmful products than the conventional cigarette (MHCS, 2016). The NDH thus gave their recommendation to raise the ban on nicotine-containing e-cigarettes; and that e-cigarettes should gain market access (MHSC, 2016). At present time, this has been accomplished. This proposal was accepted, and the principle of harm reduction is now a part of the Norwegian Tobacco Act. E-cigarettes with nicotine are now allowed on the Norwegian market. How much the Prop. 142L will mean in practice is currently unclear.

The State Institute for Drug Research (SIRUS) also provided a report on harm reduction to Prop. 142L on the EUTPD from 2014. They researched whether e-cigarettes would be able to pose the same threat as the conventional cigarette, as well as looking at the risk continuum of the different products (MHSC, 2016). As a negative aspect, SIRUS said that there is a possibility that non-smokers will become attracted to the use of e-cigarettes; the possibility that the use of e-cigarettes on smokers – who otherwise would have been able to quit smoking altogether – will hinder them in quitting smoking; and that there will be a dual-use of both conventional cigarettes and e-cigarettes (MHSC, 2016). On the positive side, SIRUS said that e-cigarettes could contribute to smokers quitting smoking conventional tobacco and other nicotine-related products altogether; and that dual use could result in smokers quitting smoking conventional cigarettes and only use e-cigarettes (MHSC, 2016). According to SIRUS, it is also hard to establish that the e-cigarette would have a so-called “gateway-effect” on youths and non-smokers onto conventional cigarettes (MHSC, 2016).

The WHO made an assessment of the preventive work that the Norwegian Health and Care Services had done thus far, and concluded on these areas that (Regjeringen, 2013):

1. The tobacco preventive work has lost its drift the past couple of years, and that the resources currently in use are not sufficient enough.
2. Norway quit running campaigns on mass media outlets, even though these measures are highly effective tools in reducing smoking in all social groups of smokers.
3. There are still separate rooms for smokers at airports, contrary to the guidelines set by the Tobacco Convention.

4. Children are relatively unprotected against secondhand-smoking when at home.
5. There are barely any stop-smoking-services, even though this was highly prioritized in the tobacco strategy for Norway in 2006-2010 (Regjeringen, 2013).

The WHO also made a list of recommendations at the same time. Some, but not all, are listed below (Regjeringen, 2013):

1. Establish a licensing system in order to regulate the sale of tobacco products.
2. Use image-warnings on tobacco products, also smokefree products.
3. Have a more active cooperation with non-profit organizations.
4. Monitor the tobacco industry's activities on a national and international level.
5. Reduce the tax-difference between conventional tobacco and smokefree tobacco.
6. The Health Department should establish a stronger national leadership on tobacco preventive work, including more resources (Regjeringen, 2013).

Norway, among other countries, have set different levels of taxation on tobacco products with the goal of making smokers quit smoking due to the high cost of maintaining such a lifestyle. When the first taxation on tobacco was made in 1915 in Norway, it was to bring in more revenue to the state, but today it is to be used as an argument to quit smoking – although the state's revenue from tobacco taxes was at 7,4 billion NOK in 2010, with estimation of reaching higher numbers in the years to come (Regjeringen, 2013). The Government's argument was that when the prices are high, the demand for the products would go down. And these taxes would have a higher effect in groups with low education and low income. An estimation was made that with a 10% price increase would reduce the general consumption of tobacco at about 5%, but almost 15% among youths (Regjeringen, 2013). Empty Pack Survey (EPS) is a study conducted by MS Intelligence for the tobacco industry all over Europe. Their study consists of looking for cigarettes and packages on the streets, in order to understand their origin. In eight Norwegian cities each year, MS Intelligence's study is engaged by the Tobacco Industry's Joint Office (TIJO), and they map the unregistered consumption of conventional cigarettes in Norway. Unregistered consumption refers to the share of conventional cigarettes that are being smoked in Norway – but have been bought outside of the Norwegian borders, thus not being subjected to taxes (TIJO, 2017). The report from 2017 shows that 44% of the conventional cigarettes that are being smoked in Norway stems from non-domestic sales, including counterfeit non-domestic packages as well as domestic counterfeit packages (TIJO, 2017). Norway has the highest prices on conventional cigarettes in Europe, which leads to consumers buying non-

domestic products – that in many cases are counterfeit, and can contain non-regulated substances that could harm the smoker more than what the conventional cigarette does. In other words, higher taxes on conventional cigarettes not only harm those who buy counterfeit products; it does not reduce the amount of smokers as desired by the government; and the amount of taxes lost to non-domestic sales is enormous.

The strategy set certain goals for 2016 that would help reduce the share of smokers in Norway. Among them were that children and youths born after the year 2000 would not start using snus or smoke tobacco; the share of children and youths (16-24 years of age) would not be more than 6% (it was 11% in 2011); and that the strong increase of use of snus would stop (Regjeringen, 2013). The misconception about the danger of smoking among youths are tremendous, and they tend to underestimate the power of nicotine addiction and how that will affect them. Over 70% started smoking before they turned 20 years old, 50% started smoking before they turned 18 years old, and over 80% of smokers regret that they ever started smoking (Regjeringen, 2013). WHO classifies nicotine addiction as an illness, and in a study it shows that 10% managed to quit smoking after a year of using placebo; 16% managed to quit smoking with the help of nicotine-containing products (gum, patches, e-cig); and 18% managed to quit smoking with the help of the nicotine-drugs bupropion and varenicline (Regjeringen, 2013).

#### **4.2.1 The Norwegian Institute of Public Health’s Answer to the Norwegian Ministry of Health and Care Services**

In December 2017, the Norwegian institute of Public Health (FHI) published a requested report by the Norwegian Ministry of Norwegian Health and Care services: *Evaluation of Harm Reduction as a Strategic Element in Tobacco Work*<sup>1</sup>. This report is to aid the Ministry in their making of a new Tobacco Control Plan in 2018.

The request went as follows:

*The Department has asked the Norwegian Institute of Public Health to illuminate different perspectives on ‘tobacco harm reduction’ in a way which reflects the international discourse in the area, and will briefly reflect on which implications this can have on the tobacco strategy’s goals and instruments. We request that the*

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<sup>1</sup> Karl Erik Lund was the main author of this report, but had input from 13 other researchers at FHI, who were not mentioned in the report. The citations for this section will then refer to Lund as the author of the report.

*knowledge which is available so far on the use of harm reducing products is briefly summarized, both with respect to scope, recruitment of non-smokers in different countries, the products' role in stopping smoking, and if possible, that it is discussed how different political choices will be able to affect current and future generations' dependency on tobacco and nicotine products (...)* (Lund et al., 2017, p.5).

In other words, the Ministry requested different perspectives on harm reduction (1), research on harm reducing nicotine products (2), and what the different political choices would have an effect on the smoking prevalence of both today's smokers (3), as well as tomorrow's. Harm reduction, in the public health context, is to offer alternative substitutes to consumers who are using, are at risk of beginning to use, harmful activities or consumption (Lund et al., 2017). These products are not entirely without a risk, but they are less hazardous to the smoker – as well as those in proximity to the smoker. There are several alternatives to help a smoker quitting by reducing harm, such as nicotine containing medicines, snuff, e-cigarettes, and combustion-free products (Lund et al., 2017). According to Lund et al. (2017), a policy on harm reduction can in practice be based on either letting such products compete alongside conventional tobacco on the market; providing a competitive advantage to less harmful products so that smokers are more inclined to choose these products over conventional tobacco; or to inform the public of the harm difference between conventional tobacco and reduced risk products (RRPs). Either one of these policies could also bring with them an unwanted side effect of making it easier for smokers to continue with their habit as these less harmful products meet the smokers' needs in places where smoking is prohibited (such as at work, public places, airports etc.). These products could also lead to nicotine dependency in young people, or for those who stopped using conventional tobacco, but continued using a less harmful nicotine product, as well as these products could be become an entry for non-smokers into the world of smoking conventional tobacco (Lund et al., 2017).

Based on politics, the decisions on such products needs to be calculated based on the expected health benefits against the risk factors as previously mentioned. How many smokers would benefit from such a harm reduction policy; how many would end up with the negative side effects; what is the degree of harm of the less harmful tobacco products (such as e-cigarettes, heat-not-burns, snus etc.); and how heavy of a nicotine dependency would be serious in comparison to the effects of harm (illnesses, cancer) based on smoking conventional tobacco.

With these factors in mind, it is realistic to imagine whether a policy which allowed such less harmful products on the market and how much of a disease burden it would have versus an overall health benefit for the public health compared to a restrictive policy (Lund et al., 2017).

The first (1) part of the Ministry's request was about the different perspectives on harm reduction. As mentioned earlier, harm reduction policy can be handled in three different ways, as to make less harmful products more attractive to smokers than conventional tobacco is today. The concept of harm reduction can be a modern approach in the authorities' upcoming tobacco strategy, if they choose to introduce a goal of reducing tobacco-related harm while also working towards a smoke-free future, which is advised (Lund et al., 2017). In December 2016, the Norwegian Parliament did, however, permit nicotine-containing e-cigarettes onto the Norwegian market, which shows that the government does not have a completely strict 0-vision in their tobacco preventive work. There are also reasons to believe that the government is opening up for the use of lower risk nicotine products. The principle of harm reduction has been accepted in other risk behavior groups, such as opiate use for drug users (injection rooms, syringe distributions etc.) among others (Lund et al., 2017). The need for new tools in the tobacco preventive work, such as harm reduction, is supported by the almost 50 years of information, sales regulations, increase in taxations and so on – without having provided the desired decrease in smoking-related illnesses and deaths (Lund et al., 2017). Almost 600 000 people in Norway still smoke, and the share of smokers are unlikely to drop below 10% the next decade (Lund et al., 2017). Of the 600 000 smokers, about 25% of those are categorized as “*hard-core smokers*” with no intentions of quitting, and having a high dependency on nicotine (Lund et al., 2017).

However, there are always two sides to such ideas: one who support the principle of harm reduction, and one who needs more evidence in order to back such a claim. Those in favor of harm reduction believe that a product's taxation and strength on the market should reflect the level of harm, and to use restriction accordingly to how harmful a tobacco product is (for example: most harmful to least: conventional cigarettes – x – y – z – nicotine patches) (Lund et al., 2017). Those who are against the harm reduction principle believe that there should be a policy that eliminates all use of nicotine for personal uses, and that to grant lower risk products a competitive advantage on the market will have negative effects that outweigh the benefits. These beliefs are based on not having enough evidence that can reassure that lower risk products actually can and will stop smoking, and not lead to smokers using both options (Lund et al.,



2017). This is also known as the precautionary principle, to be safe rather than sorry when, and if, future research show evidence that less harmful tobacco products (today) are, in fact, not as risk free as we currently believe them to be.

The second (2) part of the Ministry's request was to research the harm reducing nicotine products available. Ever since 1986, there has been nicotine containing medicines, gum, patches and inhalers available on the market to smokers who wanted to quit smoking. The research on these substitutes show that about 16% of smokers were able to stay smoke-free after a year of using such products, while 84% went back to smoking conventional tobacco within the observation period that this study was conducted in (Lund et al., 2017). In that sense, for every smoker who is able to quit by using these products, another 5-6 are not able to quit smoking. The Royal College of Physicians added snus to the list over harm reducing products in 2007. While also making a case that there was a difference in harm between snus and conventional tobacco, snus was regarded to be a possible solution to the public health problem in Norway (Lund et al., 2017). Among men, 63% of those who used snus reported that they had been former smokers, while around 37% used snus alongside smoking (Lund et al., 2017). The share of people without smoking experience increased from 21% to 37% from 2003, but there is little chance that the use of snus will ever reach the same proportions of smokers as it did for men in the early 1960s (Lund et. al, 2017). Even though snus was never considered a substitute to stop smoking, it has become the most used method to do so as one can see with the parallel of growth in using snus to the reduction of smokers (Lund et al., 2017). There is a higher rate of smoke cessation among those who used snus, than among those who did not use snus as a method to quit smoking, but used nicotine-containing medicines instead.

The interest in harm reducing options can be credited to the growth of e-cigarettes. The product stems from the consumers themselves, with no connection to the tobacco industry. It was first in 2012 that the industry came on the market with their own version of e-cigarette – a market now largely dominated by tobacco companies (Lund et al., 2017). Based on Norwegian calculations, among 50 000 (1.1%) Norwegians use e-cigarettes on a daily basis, while another 120 000 (2.4%) use it occasionally (Lund et al., 2017). Out of current users of e-cigarettes, only 3.6% have not smoked conventional tobacco in the past, while 4.7% of former e-cigarettes users have not smoke conventional tobacco before (Lund et al., 2017). The majority of vapers are above 42 years of age, and previous users older than 41 years. The longest conducted study of e-cigarettes in the US show that the majority of users among youths (12-18 years of age) does

not result in regular use (Lund et al., 2017). About 1.1% in this age group reported that they used e-cigarettes on a daily basis in 2016, and only 0.2% of those who had tried e-cigarettes said that they used the product on a regular basis (Lund et al., 2017). This shows that most of those who try e-cigarettes among younger people do not end up using the product on a daily basis. In the UK, between 4-14% of youths had tried e-cigarettes, but only 0.1-0.5% of these used e-cigarettes on a weekly basis or more often (Lund et al., 2017). There is, however, a great deal of evidence from vapers that shows that e-cigarettes reduce their need for conventional cigarettes; help them stop smoking; and is a good replacement for the conventional tobacco. This kind of information is not given enough credit when in question of whether e-cigarettes are a product that can help smokers quit (Lund et al., 2017). However, there is not enough research behind the use of e-cigarettes when trying to quit smoking, and the different producers do present this product as a substitute to conventional tobacco – not as a way of quitting. The lack of research is due to the fast paced transformation of e-cigarettes, where a study regarding a first generation e-cigarette, might not apply to a newer version. The studies that have been conducted do, however, claim the same results: that e-cigarettes can help with reducing or quitting smoking (Lund et al., 2017).

Then there is the product category of *heat-not-burn* (HNB), nicotine and/or combustion-free products. These products are made mostly by tobacco producers who already make conventional cigarettes, or by producers who do not make these products, but cooperate with such companies. PMI applied to the Federal Drug Administration (FDA) in the US to sell the IQOS in the US as a modified risk tobacco product (MRTP), and HNBs are expected to have about 30% of the nicotine market in the US by 2025 (Lund et al., 2017). Other countries, however, have already tested the market for HNBs, such as Japan, South Korea, Switzerland, Italy, Russia and Canada (as of November 2017). The research behind such products are mainly done in industry-owned facilities, and only a few third party studies show that HNBs can provide the consumer with the same level of nicotine as conventional cigarettes does. These studies do show that there is a far lower concentration of nitrosamines, carbon monoxide, formaldehyde and other carcinogenic substances in HNBs, but there are no studies published on the effect these products have on quitting smoking (Lund et al., 2017).

The third (3) part of the Ministry's request, was to find out how the different choices in politics will affect both the future and current generations' addiction to nicotine and tobacco. There is a possible dilemma that by providing a competitive advantage; market access; and information

regarding RRP will provide an incentive to people in a society, who otherwise would not use these types of products, to start using such products (Lund et al., 2017). Policy makers should, however, calculate the benefits versus the disadvantages of the different groups (smokers, potential smokers, and non-smokers) when deciding upon a reduced risk approach to their tobacco regulations. The health benefit of those who smoke, or might start to smoke, conventional tobacco – compared to the health consequences of non-smokers who might start using such products. The precautionary principle may be misused in situations like these, where policy makers can decide on harm reducing policies based on moralism, emotions, political ideology or social mood (Lund et al., 2017). Decision theorists advise against such actions, as the precautionary principle should only be used after the benefits and disadvantages have been weighed up against one another. Thus a precautionary principle might very well result in costs for the government, as they might rule against reduced harm products that could otherwise reduce the number of smokers who get an illness or die due to the continuation of smoking conventional tobacco because of the lack of other similar reduced risk products (Lund et al., 2017).

Michael Russell, a psychiatrist who is considered the originator of the concept of harm reduction is quoted saying, “[nicotine replacement products] will also need health authority endorsement, tax advantages and support from the anti-smoking movement if tobacco use is to be gradually phased out altogether” (as quoted by Lund et al., 2017, p.18). Russell is also quoted saying that the policy makers need to understand that it is because of nicotine that smokers use tobacco, without it there would be no smokers, and would therefore be more likely to give up on conventional tobacco if there were nicotine-containing products that suited their needs available to them (Lund et al., 2017). Table 6 shows the different arguments between those who are against harm reducing products, and those who are for, by Ken Warner at the Society for Research on Nicotine and Tobacco:

Table 6 The difference between those against or for harm reducing products as shown by Ken Warren (Lund et al., 2017).

<b>Issue</b>	<b>Proponents</b>	<b>Opponents</b>
<i>Long-term nicotine addiction</i>	Acceptable if eliminate smoking (switch)	Not acceptable (quit)
<i>Regulation, taxation</i>	Should be proportionate to harm potential	Should be restrictive for all nicotine products
<i>Impact on smoking cessation</i>	Potential to help millions switch	May delay/reduce quitting
<i>Primary information dissemination</i>	To inform smokers on safer alternatives	Fears about gateway effects, dual use, renormalization of smoking
<i>Risk perspective</i>	Should be contrasted to cigarettes	Risk from the product itself (do-no-harm principle)
<i>Degree of risk reduction</i>	Huge (>95%)	Unknown, no safe lower limit
<i>Innovation perspective</i>	Death toll requires novel products	Precautionary principle
<i>Tobacco/e-cig companies</i>	Open to work with them. It's the product that matters	Not to be trusted. The manufacturer matters.
<i>Product attractiveness</i>	Should create high likeability among smokers	Should be made dissuasive to never-smokers.

To conclude the Norwegian perspective on harm reduction and the possibilities this principle has on the public health of Norway, the government has decided that it will be included in the upcoming tobacco strategy that is expected during the Fall of 2018.

#### 4.3 The British Perspective on Tobacco Control and Harm Reduction

England's vision is to be able to create a smoke free generation, which will be deemed as accomplished when the national smoking levels are below 5% (DHSC, 2017). By the end of 2022, the goal is to reduce the popularity of smoking among 15 year olds from 8% to 3% or less; as well as reducing smoking among adults from 15.5% to 12% in England (DHSC, 2017). The government also wishes to help consumers quit smoking by allowing new and innovative technologies that produce less harm to the consumer, as well as maximizing the availability of such safer alternatives to those who need them (Department of Health England, 2017). According to the Department of Health (DHSC) (2017), smoking is still the single largest cause of deaths that can be prevented, where there are 7.3 million adult smokers in England and more than 200 casualties a day due to smoke-related illnesses.

Smoking is a habit that most find hard to get rid of. And in order to be able to help smokers quit smoking, they need to be able to try different alternatives in search of what alternative suits them the most. According to DHSC, the least effective method to quit smoking is to quit without the use of assisting products (DHSC, 2017). There were about 2 million consumers in England who turned to e-cigarettes in order to quit smoking, and succeeded, while another 470,000

consumers used e-cigarettes as an aid to quit (DHSC, 2017). There is no arguing that the best option for one's health is to quit smoking altogether, but the evidence shows that e-cigarettes are significantly less harmful than conventional tobacco. The UK government is realistic in the pursuit of lowering the share of smokers by supporting consumers who wish to quit smoking by adopting the use of new and less harmful products containing nicotine (DHSC, England, 2017).

#### **4.3.1 Public Health England**

Public Health England (PHE) is an autonomous organization as well as an executive agency at the British Department of Health and Social Care, where it provides evidence-based information regarding the nation's wellbeing, health, as well as to reduce health inequalities of the citizens of UK (PHE, 2018). They also provide information to the public, Parliament, and specific industries to mention some.

In February 2018, PHE published an independent expert e-cigarettes evidence review, a report that covered the use of e-cigarettes among youths and adults as well as the use of heated tobacco products (also known as RRP). This report confirmed what both PMI and British American Tobacco (BAT) has claimed, that RRP such as heated tobacco (IQOS), poses only a fraction of the risks that one otherwise can find in smoking conventional cigarettes (PHE, 2018).

The report supports the claim that switching completely to vaping from smoking the conventional cigarette will produce great health benefits to those who are not able to quit nicotine altogether. In the UK alone, e-cigarettes could contribute that more than 20.000 smokers could successfully quit using tobacco (PHE, 2018). However, a study in relation to the report, says that several thousands of current smokers in England believe that vaping is as harmful as smoking conventional tobacco – and that as many as 40% of smokers have not even tried to use an e-cigarette, possibly due to this fact alone, or other factors (PHE, 2018). Further on, less than 10% of the current smokers do not understand that most of the harms to one's health are not caused by nicotine, but the toxins created when the tobacco itself burns (PHE, 2018). The evidence from PHE's report also show that there is no concern about e-cigarettes being a “gateway drug” to the most harmful product in the industry, the conventional tobacco. This evidence is based on the declining rates among youths in the UK, where regular use of e-cigarettes is not common and if it is, it is almost only restricted to those who have smoked conventional tobacco in the past and are trying to quit or use less harmful products (PHE, 2018).

Director of Health Improvement at PHE, John Newton, said in the report that in England alone, there are almost 79.000 deaths a year due to smoking, and every minute someone is admitted to the hospital because of their smoking habit (PHE, 2018). PHE's evidence find that vaping is at least 95% less harmful than smoking the conventional tobacco – and yet more than half of the smokers are either lacking information about vaping, or believe that it is just as harmful to vape as it is to smoke (PHE, 2018). This leads to thousands of smokers either dying due to smoking, or having to live the rest of their lives with a condition that hinders them at living their lives as healthy human beings.

Professor of Tobacco Addiction, Ann McNeill, at King's College London had a similar statement, "People smoke for the nicotine, but contrary to what the vast majority believe, nicotine causes little if any of the harm" (Public Health England, 2018, n.p.). Professor of Health and Policy at the University of Stirling and Chair in Behavioural Research for Cancer Prevention at Cancer Research UK, Linda Bauld, says the research shows that less than 1% of youths who have never smoked conventional cigarettes before use e-cigarettes, while youth smoking continue to decline (PHE, 2018).

PHE ends the report by calling on current smokers and other actors to take in the evidence, and act on it, "Anyone who has struggles to quit should try switching to an e-cigarette and get professional help" (PHE, 2018). By combining the use of e-cigarettes as well as getting professional help the chances of succeeding to quit smoking is higher than other options, according to PHE. The new Tobacco Control Plan for England is also pioneering in being committed to make safer alternative available to smokers, as this plays an important part in their national ambition of generating a smokefree future for England (PHE, 2018).

To conclude the British perspective on the principle of harm reduction, it shows that England is a bit ahead of Norway, having had e-cigarettes on the market for a while – as well as introducing the IQOS and other HNBs on their market for the purpose of making different products on the risk continuum available to their smoking population.

#### **4.4 Case data**

In order to get a balanced view on the tobacco industry's attempt at producing RRP as well as getting the governments to accept the products as a viable alternative to increase the public health in both Norway and in England, it has been important to interview all three parts of this hypothesis.

The first interview was in February 2018 with the Norwegian Institute of Public Health (FHI) where Karl Erik Lund, Research Director at the institute, was willing to provide both an interview as well as a recent report on the subject, "*Evaluation of Harm Reduction as a Strategic Element in Tobacco Work.*" This report was ordered by the Norwegian Ministry of Health and Care Services, and conducted by Lund and several other researchers at FHI (Lund, 2018).

The second interview was in March 2018 with Dr. Claude Guiron, Cardiologist and Head of Scientific Engagement Nordics at PMI. Dr. Guiron provided insight on RRP from the business-side of this study's hypothesis.

The third interview was in March 2018 with a Tobacco Control Lead at the Department of Health and Social Care in England. England has gotten further in regards of e-cigarettes and heat-not-burn-products. This is mainly due to the European Union's Tobacco Product Directive, where the member states follow the directive, but are able to make their own sovereign decisions when they deem necessary.

##### **4.4.1 Tobacco and Health in Norway**

This section analyzes the interviews with FHI; the Department of Health in England; and the interview with a handful of IQOS-users in Norway.

##### **4.4.2 The Norwegian Institute of Public Health**

Karl Erik Lund was studying social economics when he started working on the tobacco-field by mere chances. In 1986, he got a part-time job where he was assigned to study the smoking habits in Norway. This led to Lund applying for a Ph.D.-fund from the Norwegian Cancer Society, where he also started working later on. He also received a postdoc-fund at the same place, and has since worked on the topic of tobacco and related fields (Lund, 2018).

The interest regarding the tobacco field is divided in two, academia and anti-tobacco activists. Within these two groups there are different status regarding the harm reduction principle, among 50/50 are for or against it, according to Lund (2018). Three steps are advised when deciding how adult smokers should have access to information about RRP: market access, regulating the products according to what level of harm they contain, and information to the consumer – “they need information in order to make a switch” from conventional tobacco to less harmful products, says Lund (2018).

Lund (2018) says they are currently working on how to best market the RRP to only attract current smokers who are not able to quit, or who need a lower risk product, rather than misleading the youth non-smokers into believing there is no harm in these RRP. The idea is to market the RRP on cigarette packages, by having a small box where information on where to find information on RRP etc. will be provided. Lund (2018) also says that healthcare professionals should be informed about the RRP in order to provide patients with the correct information in order to help them towards a lower risk future, or the ultimate tobacco free future.

However, the current tobacco strategy in Norway does not mention anything regarding the principle of harm reduction, although the government has approved a change in the Tobacco Act which will include this principle, as well as including harm reduction in the upcoming tobacco strategy that is expected to be published during the Fall of 2018. Their current strategy has a 0-vision, where the goal is to get smokers to quit, just like that (Lund, 2018). Almost a black and white approach, rather than focusing on those who have difficulties in quitting by using the already existing lower risk products (nicotine patches, gum, snus). Lund (2018) advises that the new strategy, due later in 2018, should include a larger span of this principle, rather than the appendix-part it seems to be getting as of today.

Regarding whether Lund believes the tobacco industry’s attempt at lower risk products is due to CSR or CSV, he cannot say. If this is only rhetoric from the industry, time will tell. But he believes it is hard for consumers to believe that the industry does anything other than ensuring profit for their business. As Lund (2018) says, when a company sues a country for banning marketing of cigarettes, then try to get a lower risk product onto that same market – it is hard to believe they are doing it out of pure goodwill.



FHI, to Lund's knowledge, have not, and will not, include SDGs into their analyses. He believes that research studies lose when politics and governments are involved in the analyses done. Research studies need to be independent, and follow the course of how it is conducted (Lund, 2018).

As a final question to this session, Lund was asked whether he believes that the RRP in mind, IQOS, does in fact have a public health potential in Norway. He does. All nicotine products with a significant lower potential of harm should have access to the tobacco market. IQOS has the opportunity to satisfy a segment of smokers that e-cigarettes do not reach (Lund, 2018). There should be several alternatives on the market, that will be able to fit the different segment of smokers who need different alternatives in order to quit smoking. The IQOS can be an addition in the arsenal of the harm reducing target, Lund (2018) concludes.

#### **4.4.3 Interview with Philip Morris International Nordics**

Dr. Claude Guiron is a cardiologist and Head of Scientific Engagement at PMI Nordics. He worked 9 years at a university hospital in Stockholm, Sweden before he started working in the pharmaceutical industry. It was here he was approached about a job in PMI as Head of Scientific Engagement. Guiron (2018) was intrigued by the offer, as PMI uses a scientific method for their research that is similar to that of the pharmaceutical industry. The two industries follow a step by step method that describe the potential for harm that different product could have. Guiron (2018) saw that RRP had a great potential of saving lives, and thus he began working at one of the world's largest tobacco companies.

Guiron (2018) says that the majority of the harms that occur to smokers are caused by the close proximity one has to the combustion of conventional cigarettes. Approximately 100 of the substances found in cigarette smoke are either harmful, or are potentially harmful according to the FDA (Guiron, 2018). A conventional cigarette combusts at around 400-800 degrees, where these toxins are created. However, what smokers want from smoking is the nicotine, the flavor and the ritual of holding something in one's hand as well as inhaling – which is what keeps smokers smoking (Guiron, 2018). The IQOS provides all of that, but are heated to approximately 300 degrees, which then produce less of the toxins already known to cause a range of different illnesses and cancer (Guiron, 2018). Because the IQOS is heated, there is no smoke – only vapor that contains nicotine, glycerol, flavor from the tobacco, as well as only 90-95% less harmful substances than what can be found in cigarette smoke. PMI's researchers

use rats and mice in their studies, to be able to understand what happens to the cells in a smoker’s body when smoking (Guiron, 2018). They try to use a minimum of mice and rats, and when they do, they use them to their full extent. They were even awarded a price from PETA due to their humane use of rats and mice for research purposes (Guiron, 2018).

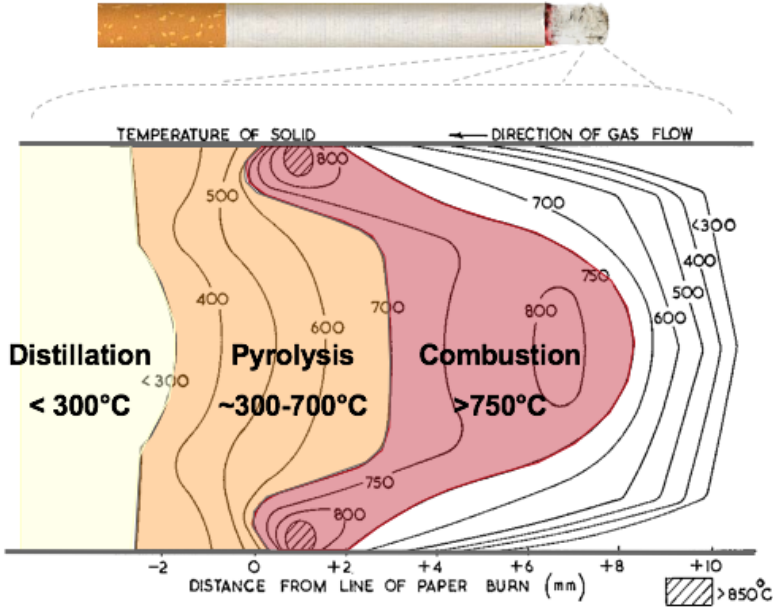


Figure 12 Temperature variations within a conventional cigarette (Baker, 1975)

In the toxicology studies, the scientists tested the rodents in three categories: with IQOS, pure (filtered in order to ensure the absolute purest form of) air, and smoke from a conventional tobacco (Guiron, 2018). One group is exposed to only IQOS; another to only air; and the other is only exposed to smoke. After the animal tests were completed, volunteer smokers participated in the study, which lasted for about 3 months. These clinical studies have a similar setup as the one’s conducted by the pharmaceutical industry (Guiron, 2018). In the clinical studies the subjects were randomize into groups: one where the participant switched to IQOS, another group where the smoker continued to smoke their own cigarettes; and a final one where subjects abstained from smoking during the duration of the trial (Guiron, 2018). Figure 13 and 14 show the particles present in air and conventional cigarettes; and air and *HeatSticks* (figures provided by Guiron 2018). The scientists then followed up on the subjects for these 3 months, and took blood and urine samples as to examine the levels of toxins in the subjects. The group who abstained from smoking is the control group. Many of the subjects that were randomized to abstain from smoking found it hard to quit, which was expected. All subjects were, however, followed to the end of trial. The primary analysis between the groups were done on a per-

protocol basis i.e. subjects actually following the randomized intervention. Guiron (2018) says that there was a huge difference between those who used IQOS and those who smoked conventional tobacco, while the levels of many toxicants in those who used IQOS were getting in close proximity to those who quit smoking in the same period of time. With IQOS, there was less harm on the cells and organ systems in the animals, and less toxins in the subjects' blood samples. However, Guiron (2018) says, one cannot be completely certain on the level of risk for harm until longer term data is available, but the totality of the evidence to date points to IQOS likely being less risky than continuing smoking cigarettes when a smoker switches to it completely. So what will happen with the health indicators of those who use IQOS? In the three month studies one could see an improvement of indicators of inflammation; the cholesterol levels in their blood; toxins contributing to cancers; and lowered parameters of coagulation (which could contribute to heart attacks) in their blood, (Guiron, 2018). Nicotine is not risk-free but has not been associated with cancer or as Chronic Obstructive Pulmonary Disease (COPD). In essence nicotine is addictive, but it is not the cause of major smoking related diseases (Guiron, 2018). It is at the combustion degree of 400-800 degrees where the majority of toxins is formed, and this is something the IQOS avoids. However, Guiron states and advises that the absolute best option is to never start smoking, or to quit altogether if one smokes.

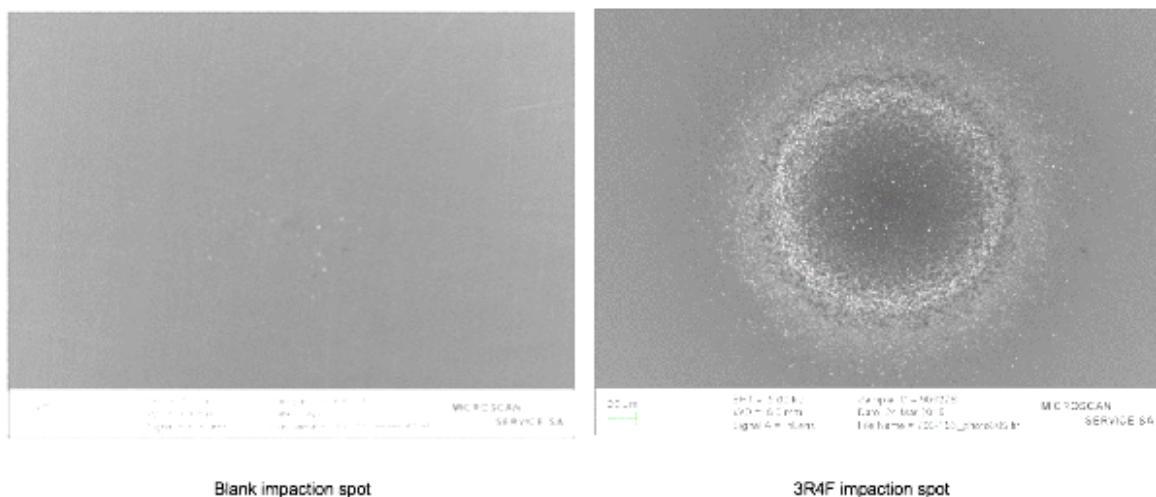


Figure 13 Scanning electron microscopy for 3R4F (cigarettes) compared to air

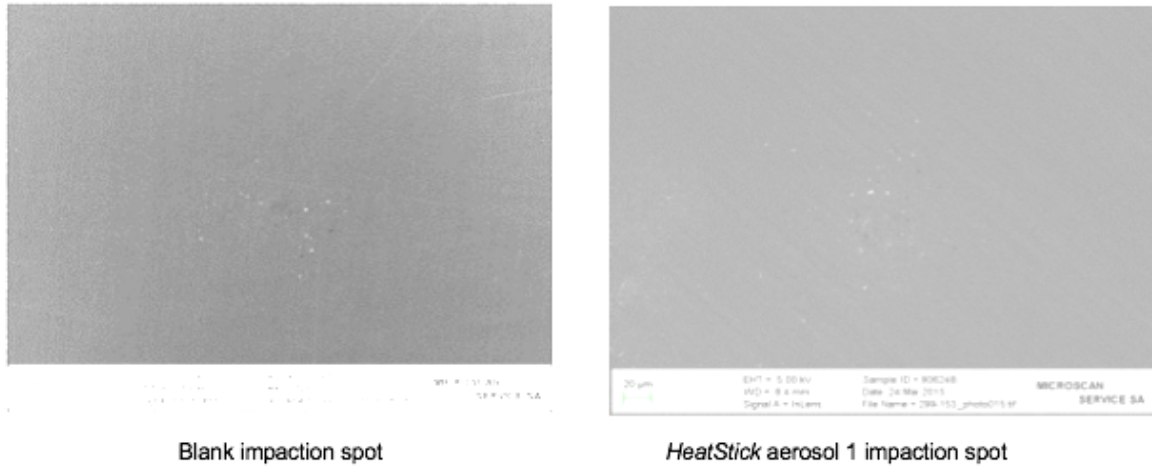


Figure 14 Scanning electron microscopy on HeatStick aerosol compared to air

The Heets are made up of specially treated tobacco that will ensure vapor rather than smoke. Glycerol is added to ensure that the smoker will not inhale particles that are too big that they can get stuck in the throat and cause coughing and nausea (Guiron, 2018). The tobacco is cut extensively into a fine powder that is mixed with a binding agent and glycerol so that it becomes sort of like a dough. This dough is then chopped into thin tobacco-looking leaves, and therefore looks different from fine-cut tobacco that you find in conventional cigarettes and roll-your-owns (Guiron, 2018). Figure 12 shows what *Heets* looks like.



Figure 15 Heets: What the specialized tobacco looks like on the inside, along with the aluminum that prevents combustion

Guiron (2018) says that as of January 2018, the market share of IQOS was at 16% in Japan, where 70% of the IQOS users had quit smoking conventional cigarettes. He compares the approach to the shift to el-vehicles. In Norway the government has created free parking spots, lower taxes on both the el-vehicle as well as the electricity to fuel them in order to motivate the citizens to get more environmentally friendly cars (Guiron, 2018). In Sweden they have not used the same approaches, and approximately 50% of car buyers in Norway buy environmentally friendly cars, as opposed to 5% in Sweden (Guiron, 2018). The government can here be seen as an important player in the process towards a smoke-free future – this is not something the tobacco industry can handle on their own. If the government wants a quick shift away from cigarettes they need to adjust their tobacco control strategy accordingly, to make RRP's more attractive to consumers, as well as allowing producers to advertise in some way to the smokers who do not wish to quit smoking, or cannot do it on their own, that these smokers are able to obtain a safer option to get nicotine (Guiron, 2018). Is it realistic to stop nicotine products from being sold on a short term basis? It is an addictive substance that will take time to phase out from the society, but until then there needs to be alternatives that are far less harmful than the conventional cigarette (Guiron, 2018). He believes that the IQOS should be sold in grocery stores and other places where conventional tobacco is sold. Those who do not wish to quit smoking are not likely to go to a pharmacy to get less harmful products to replace the cigarettes (Guiron, 2018). It could also be an idea to not regulate the IQOS under the new plain pack-regulation (which will be enforced by July 1<sup>st</sup>, 2018), as well as allowing some sort of advertisement so that the consumers can become aware of the product. In conclusion, Guiron (2018) says that he hopes that the government gets better educated on the concept of harm reduction, and will be willing to cooperate with the industry. Both the government and the industry wants the same, to reduce NCDs and to create a smoke free future.

#### **4.4.4 Interview on Tobacco and Health in England**

As opposed to the Norwegian Ministry of Health and Care Services, the Department of Health and Social Care (DHSC) in England were willing to participate in an interview regarding the subject of public health potential of RRP's. The representative who was interviewed works in the tobacco control policy team at the Department (DHSC, 2018).

The concept of harm reduction and tobacco preventive work that the government undertakes in England is influenced by the European Union's Tobacco Product Directive (EU TPD). In July

2017, the British government published its Tobacco Control Plan for England (DHSC, 2017). Within this plan, it welcomes the development of products that have the potential to reduce the harm of tobacco. The plan aims to create a smoke free generation and for smokers who cannot or do not want to quit nicotine use, to encourage them to use safer alternatives to smoking such as e-cigarettes. Whilst recognizing their potential benefits in terms of reducing harms to smokers it takes these concerns about e-cigarettes and novel tobacco products seriously. It made a commitment to monitor the impact of regulation and policy on e-cigarettes and novel tobacco products in England, including evidence on safety, uptake, health impact and effectiveness of these products as smoking cessation aids, to inform our actions on regulating their use.

As HNBs such as *Heets* are being classified as novel tobacco products in England and the wider UK, there has been little independent research on these relatively new products on the UK market on their harm reduction potential, whereas e-cigarettes have been around for several years with a greater wealth of research. The latest PHE evidence review states that, although not risk free, e-cigarettes have shown to be a lot safer than smoking conventional tobacco, and has been an effective tool to use when trying to quit smoking (DHSC, 2018). To help people quit smoking, in England they provide a set of different tools designed to help smokers quit smoking, such as therapy, medicines, nicotine replacement treatment and alternatives, such as the e-cigarette, as well as local stop smoking services (DHSC, 2018).

There are two HNB-products on sale in the UK: Heets to be used in the IQOS device from PMI and Kent Neopods from the iFuse device produced by BAT. They are classed as novel tobacco products and defined in UK legislation under the Tobacco and Related Products Regulations 2016. All tobacco products in the UK are taxed. However, heated tobacco is currently at a lower rate of tax compared to roll your own and cigarette tobacco. The UK Government consulted on the future taxing of heated tobacco through a consultation and provided its response to this matter to consider creating a future specific taxing category for heated tobacco in future legislation (Her Majesty Treasury, 2018).

In terms of HNB-products' claims on harm reductions, the evidence is mainly provided by the tobacco industry research. In terms of assessing their harms in comparison to conventional smoking, the DHSC asked the Committee of Toxicity to investigate this, who reported their findings in December 2017 (Committee on Toxicity, 2017). The evidence suggests that heat not burn products still pose a risk to users. There is likely to be a reduction in risk for cigarette

smokers who switch to heat not burn products but quitting entirely would be more beneficial. The PHE evidence review published in 2018, also had a chapter on heat not burn, which came to the same conclusion and that further independent research should be made to assess the harm reduction claims. The DHSC has accepted this evidence and adopted it as policy.

In tobacco industry defense both PMI and BAT do not claim that their products are risk free, that their products *could* cause harm, but nonetheless less harm than smoking conventional cigarettes. There is limited long term knowledge about HNBS in England, but looking at Japan – where they ban e-cigarettes but allow HNBS – one can see that at least the IQOS are popular, in South Korea as well (Tabutchi, Gallus, Shinozaki, Nakaya, Kunugita & Colwell, 2017; Birr, 2018). The majority of what the UK does regarding tobacco control and regulation stems from the EU TPD. As outlined in the Tobacco Control Plan for England, the UK Government will review where the UK's exit from the EU offers opportunities to re-appraise current tobacco and e-cigarette regulation to ensure this continues to protect the nation's health.

The local stop smoking services in England provide information and help to smokers who wish to quit smoking but need guidance on how to succeed. These services do not recommend heated tobacco products but some do recommend e-cigarettes to smokers who wish to quit.

At present in addition to other stop smoking provisions e-cigarettes can be recommended as a successful tool to quit smoking, as they are not a tobacco product. Over time, as more independent research regarding HNBS can prove the same risk factors as the industry itself claims, health professionals may start recommending them to those who cannot quit smoking, as they can currently have the conversation about by using e-cigarettes (DHSC, 2018). This would be a good alternative, as many smokers use both e-cigarettes and conventional tobacco. As a representative from the government, the interviewee could not say whether they believed that the IQOS or HNBS had a public health potential in England as the evidence is limited from the lack of independent research (DHSC, 2018). There are some concerns around youth appeal to such products of the gadgetry like the IQOS, that could attract non-smokers due to the appealing design, and from there start smoking (DHSC, 2018). However, they are regulated as novel tobacco products under the UK Tobacco and Related Products Regulations 2016 as set out by the EU TPD, and come under tobacco advertising restrictions too, and with sales of heated tobacco restricted to over 18s only, their appeal should be limited.

#### 4.4.5 Interview with IQOS-consumers

In order to get a consumer perspective on the product and the health benefits, 9 subjects were interviewed on their experience as an ex-smoker, and currently an IQOS-user. The questionnaire involved questions on age; sex; smoking habits; health disadvantages with the conventional cigarette and health advantages by using the IQOS; differences between the IQOS and the conventional cigarette; whether the subject had tried to quit smoking before, and if that is still the goal; and lastly if they believed, in their personal opinion, if the IQOS had a public health potential in Norway. Appendix 4 shows the answers and questions from the IQOS-consumers in Norway.

The subjects interviewed were on average 45 years old, where the youngest was a 27-year-old female, and the oldest a 70-year-old male. None of these were young non-smokers before introduced to the IQOS. The oldest of the participants had previously smoked conventional tobacco for more than 50 years, approximately 6 years for the youngest participant. All but three participants had previously tried quitting smoking with no effect until they tried the IQOS. According to the participants, the IQOS allow them to use the product indoors – due to the ban on public smoking, as well as being frowned upon to smoke indoor in private – as the IQOS would not affect other non-smokers in the room, as well as not harm youths. Curiosity and the information they obtained about the IQOS led them to give it a try. On average these participants have used the IQOS for almost a year, and most have experienced health benefits in their breathing and coughing compared to when they used conventional tobacco. One of the possible downsides, is that they believe it taste sweet compared to what they were used to. For others, this is a positive side-effect, as to leave behind the foul smell of tobacco, that often stay behind in clothes when the smoker has finished smoking a cigarette. Others believe it taste the same as conventional tobacco, while others believe it has a cleaner and fresher taste. About half of the participants do not miss smoking conventional cigarettes, while others miss the taste – but believe that the consequences of smoking such products weigh less than switching to the IQOS. Most of the participants like the IQOS as is, while one participant believe it is a hassle to clean the device; another think a single *Heets* should last longer than it does; one wishes the sweet taste of the IQOS could be abolished; and the other experience the *Heets* as warmer than a combustible tobacco. Only one had seen health professionals in the past in order to quit smoking. This was to get the prescription on nicotine gums, a product that was not sold in regular grocery stores until 2003 (Lund et al., 2017). All of the participants, but one, are satisfied with their current situation as an IQOS-user. All of the participants believe the IQOS



have a public health potential in Norway, defending their opinion based on their past smoking habits, and their ability to make the switch to less harmful products. As the IQOS is not on the Norwegian market yet, and the closest market to get the product including the *Heets*, is located in Denmark, there are few users in Norway. Nonetheless, the opinion of the users is still viable, and reflect the common consensus that are found in countries where IQOS is sold.



# 5. Analysis

In this chapter the relationship between PMI and sustainability; PMI and CSR; PMI and CSV; PMI in Norway; PMI and FHI; PMI in England; and IQOS and the principle of harm reduction is analyzed. This was deemed as the most suitable approach that would connect the different theories, methods, empirical evidences with PMI and IQOS.

## 5.1 Philip Morris International and Sustainability

PMI published their Sustainability Report: Communication on Progress in 2016. This report looks at which SDG aligns with the business as main goal, as well as other goals they hope to make an impact to. This study focuses on PMI’s main goal from the SDGs, #3: *Good Health and Well-Being*, but the report also includes SDGs #2, #8, #12, and #16 as priority, while the remaining 12 goals are identified as having the least impact on – but still considered to be important to the businesses that can identify with them (PMI, 2018a). Figure 13 depicts the different opportunities PMI has when focusing on sustainability, as well as how to implement their new business model that will transform both the company as well as the industry. As with many other companies, becoming sustainable creates access to new markets and capital; inspires innovation of new products; improves the company’s value. While it does not exactly improve the perception of the current conventional cigarette, having IQOS increases the brand value of the company. Sustainable companies also attract new talents; enforces the position the company already has in the industry, and will increase operational and security efficiency within the company.

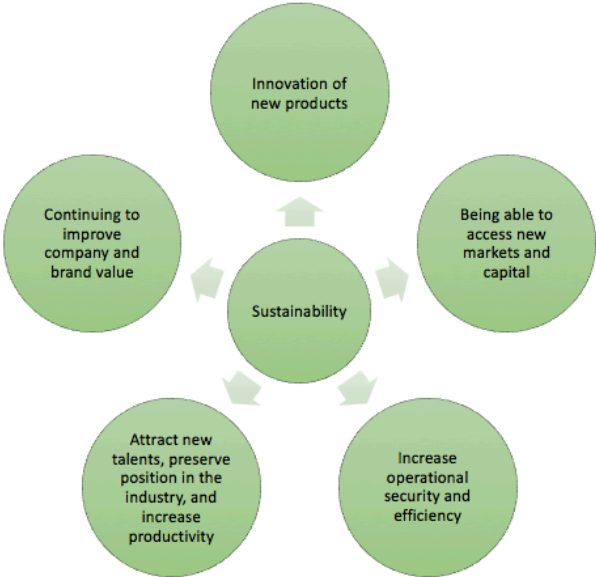


Figure 16 Opportunities PMI Have When Becoming Sustainable

In the case of IQOS, sustainability led to the innovation of a new product, with new markets and capital; attracting different professionals that would work on the IQOS as a brand and product, as well as becoming more efficient regarding tobacco farming for the making of Heets. The IQOS itself leads to the SDG #3: Good Health and Well-Being, where this product can help reach the target of reducing premature deaths as a reduced risk product.

The member states of the WHO are aiming at reducing the use of tobacco by 30% by 2025, as compared to the prevalence numbers from 2010 (PMI, 2018a). And although countries are regulating the tobacco market in their native country, taxing the different tobacco products available, and taking other measures such as enforcing a standardized tobacco packaging legislation – such numbers are not realistic to achieve on their own. The tobacco industry needs to take part of such a transformation in order to be able to reduce the numbers of smokers, as well as the non-communicable deaths each year caused by smoking tobacco.

Competitors of PMI, such as BAT, are also producing similar smokefree products. This stimulates the competitiveness within the industry, leading to innovation and consumer adoption that could result in an even faster pace of reducing smoking prevalence globally than the one's predicted by the WHO. It is also clear that strict regulations on tobacco is essential to smoke cessation in each country, however, in order to get as many as possible to quit – or use lower risk products – governments should be able to provide the information that is needed to its smoking citizens in order for them to switch, and possibly quit smoking. A necessary part when introducing RRP, is they are properly regulated accordingly to the science and evidence behind these products, so that they are made available to smokers, as well as made more economically desirable for them to make the switch. Such an approach, along with strict regulation, can help reducing the smoking prevalence more effectively and faster than the conventional way of regulating the tobacco market (PMI, 2018a).

PMI is met with skepticism towards their goal of transforming the tobacco industry. Their answer to that is that their “goal of developing and commercializing less harmful products to replace cigarettes is completely aligned with the expectations of smokers, society and our shareholders” (PMI, 2018a, p.16). In figure 14 one can see the different levels of sustainability within PMI. This has been done in order to understand how to tackle the different needs and challenges that customers, communities and the company faces. IQOS is a product of reconceiving the needs that customers have, due to the harm and risk by smoking conventional

cigarettes. Sustainability within PMI all boils down to the products they sell and the problems they solve using different tools to do so. A smoke free future is the goal they have at the end of their sustainability vision, and although IQOS is only one part of that, it is several components within the concept of IQOS that needs to be sustainable as well for the product to be completely sustainable (such as tobacco farming, value chain etc.). By realigning the business practice around sustainability provides greater purpose to the company and to capitalism itself. When businesses are allowed to act as businesses, rather than charitable donors, the business can be a greater force of power when addressing the different needs and pressing issues that we face in our society. The business will then have the ability, resources and the brilliance to create and progress while also create economic value for the company.

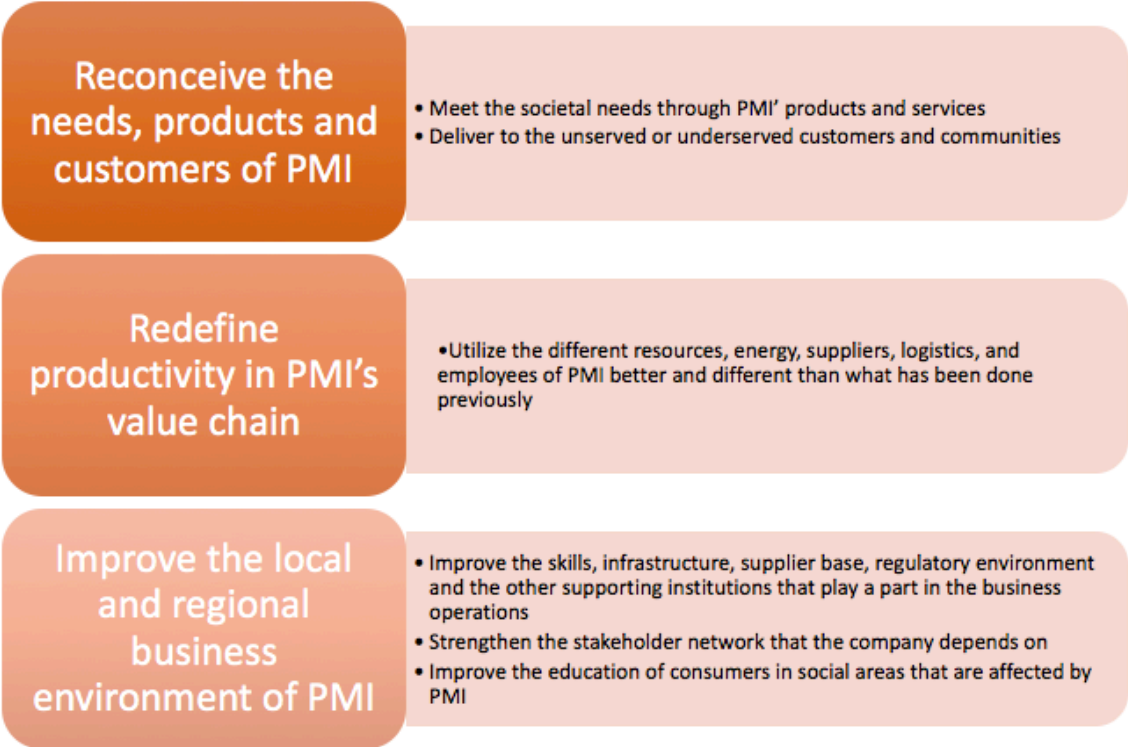


Figure 17 The Different Levels of Sustainability at PMI

PMI is already experiencing a positive effect to their market share in Japan by commercializing IQOS to replace the cigarette. In Japan, the majority of IQOS users were previously smokers of conventional tobacco produced by the competing brands, as e-cigarettes are banned here (DHSC, 2018). In addition to the possibility of increasing their market share with IQOS, the profit margins of HNBs are the same, or better, than the profit margins of conventional cigarettes due to the differences in excise taxes (PMI, 2018a). The goal of a smokefree future

can be achieved at a faster pace if the tobacco industry as a whole work together on RRP. A comparison on this matter, can be seen in the oil industry, where Statoil in Norway leads the transformation from an oil-driven nation, to a nation who focus on renewable resources for energy use. The more industries work together on a common goal, the more technological innovation there will be because of competition. PMI are also willing to share the license to their HNB technology to other tobacco companies, as can be seen with Altria, where they have gotten the exclusive license to sell IQOS in the US. Such partnerships are not out of the question for other companies – as long as PMI sees licensing as a positive business partnership and that it would contribute to the goal of a smokefree future (PMI, 2017).

PMI has shown social consciousness in many areas, including farming, human and labor rights, and now, the health of their consumers. The IQOS by PMI, have shown to have 90-95% less carcinogenic toxins than conventional tobacco. This can thus be seen as an attempt by PMI to get on the good side of their stakeholders, to show that the tobacco industry is not all bad, in order to continue to make revenue for their investors. But can the development of RRP and the IQOS be seen as only a CSR initiative? Did PMI make a product in order to help their consumers switch to a healthier alternative to the conventional cigarette with the consumers' health in mind only, or is this development more a product of shared value that will benefit both the consumer as well as the company?

PMI is adjusting to the SDGs in the way that they are able to, by minimizing the impact that negative external factors have on the products, value chain and how they operate their business. With over 10.000 smokers switching to the IQOS on a daily basis, the market share of the IQOS is on the rise, currently sold at 13% of PMI's own net revenues. Especially in Japan, where the regulations allowed Philip Morris Japan to launch in several cities, allowing the IQOS to be a product sold on a national basis, rather than in key cities. Several millions of Japanese smokers have made the switch, which has led to a transformation in the society. Having resorts renting out IQOS to guests in order to reduce the fire hazard, or allowing employees use IQOS in designated lounges, helped smokers making a switch rather than continuing smoking conventional cigarettes. Regulations are more often than not, the biggest problem for tobacco companies when launching a new product. Although PMI acknowledges that the governments need to have in place strict regulations that will prevent non-smokers from starting to smoke, in this case, it seems as if it would be a positive transformation in the smoking prevalence in Norway (as England has a longer history of selling both the IQOS and e-cigarettes). As

mentioned by the representative from England, in PMI's newest report they also said that they are supporting the Foundation for a Smoke-Free World with \$80 million per year, so that they can produce independent research on smoke-free products and the like. PMI acknowledges that the industry often is met with harsh media coverage and inaccurate information shared on the world wide web, but are working to correct the wrongs, in order to provide the public with the accurate information needed to make the switch to less harmful tobacco products, or to quit altogether. However, the dilemma here is that the company is using money earned by selling, among other things, combustible tobacco – to help fund a foundation that aim to “right the wrong” already caused to some extent by the combustible cigarettes.

### **5.1.1 Philip Morris International and The International Council for Science’s “A Guide to SDG Interactions: From Science to Implementation”**

In the guidebook to SDG interactions by the International Council for Science, not all of the implementations are applicable in relation to the public health potential of the IQOS and the general health aspect of this study. Following are three interactions deemed necessary to mention in the case of health and the IQOS.

#### ***How Targets 3.3 and 3.4 Interact with Target 3.2***

Target 3.3 aims at ending different epidemics such as AIDS, tuberculosis and other highly deadly communicable diseases by 2030; target 3.4 aims at reducing premature deaths from NCDs by 2030; and target 3.2 aims at ending preventable deaths of children under 5 years of age and newborns by 2030 (UN, 2016). According to the International Council for Science, the interaction of these targets will help reduce the maternal mortality rates. In the case of IQOS – although *all nicotine-consumption during a pregnancy is harmful* – some smokers are still unable to quit, or lacking the information of how harmful it can be to their unborn child. It is also harmful to expose children to secondary smoking, but sadly, some people are simply not able to focus on quitting using conventional tobacco. The International Council for Science suggests that governments and other actors help in the fight against NCDs (Griggs et al., 2017). This could be reducing the risk factors such as an addiction to smoking conventional cigarettes, which could lead to NCDs such as cardiovascular disease and lung cancer. They also suggest that the smoking prevalence among expecting mothers to be reduced. The IQOS, as mentioned earlier, with its 90-95% less harmful substances, could help lower the risk of NCDs in smokers in general, as well as expecting mothers and the harm they might impose on their unborn children – as well as reducing the exposure of toxins among young children.

### ***How Targets 3.5, 3.a and 3.b Interact with Target 3.3***

Target 3.5 aims at strengthening the prevention of use of harmful substances; target 3.a aims at strengthening the implementation of WHO's FCTC in all countries; and target 3.3 aims at ending different epidemics like tuberculosis and AIDS (UN, 2016). The International Council for Science suggest that the key interaction of controlling tobacco, reducing other harmful substance abuse as well as reducing the exposure to hazardous chemicals will assist in decreasing the infant mortality rates associated with NCDs (Griggs et al., 2016). In order to reach such goals, governments need to implement and enforce regulatory measures that will prevent the exposure to, and use of, harmful substances. This can especially be seen in both England and Norway, as they both have strict laws regarding tobacco: the taxes on the products, where it can be sold, making it illegal to smoke in public places (restaurants, bars etc.); having standardized tobacco packaging that are supposed to make cigarettes and other tobacco or nicotine-containing products less appealing to the consumers; as well as other laws and regulations that might make smokers less likely to continue using such product. In theory, all of these measures are good – but it neglects to see smokers as individuals who need individual options to help quit smoking. Some of the regulatory means imposed by a government are most likely not going to help all smokers to quit smoking, or to use less harmful tobacco-products. Here governments need to evaluate the level of risk of each product, and decide whether they need to phase out the use of tobacco over an extended period, rather than making all tobacco-products equally hard to get (due to price for example), and thus making the consumer continue using the most harmful product, rather than seeing the benefits in other less harmful tobacco-products (such as snus, e-cigarettes or the IQOS).

### ***How Targets 3.b and 3.c Interact with Targets 3.1- 3.9 and 3.a***

Target 3.b aims at supporting research and development of medicines and vaccines for communicable and non-communicable diseases (especially in developing countries); target 3.c aims at increasing the education of health workforce (especially in developing countries). The targets 3.1-3.9 + 3.a all aim at ensuring good health for all on different aspects (UN, 2016). The International Council for Science suggest that the by having a strong health workforce it will benefit all other targets due to the research infrastructure (Griggs et al., 2017). The suggestions made by the Council, is that governments and other actors invest in the research infrastructure and health workforce so that the other targets within SDG #3 can be met. This can be seen by PMI, when they invest and continuously try to improve their HNBS so that people are less exposed to the harmful toxins otherwise found in conventional tobacco.



According to the International Council for Science's scorecard, by contributing to these key interactions among the targets in SDG #3, a government or actor, are reinforcing the goal (score +2 on each interaction). A positive contribution to ensuring good health and well-being for all, in other words.

## **5.2 Philip Morris International and Corporate Social Responsibility**

Social consciousness has varied in term and form for several years. The more aware consumers became on what their products were made of, and by, as well as what risks it could pose to their own health or the environment, CSR were able to gain momentum. As a company who wants to remain well-liked by its consumers, and to preserve their legitimacy, they started to do more for the society and become more socially responsible in the fields that they could. One of the examples provided by PMI is the difference of CSR and sustainability within tobacco farming. In a CSR perspective, they would only pay higher prices to farmers for the same products they are already receiving, and to become certified as a fair trade company for the raw materials.

By looking at PMI's transformation into aiming at a smokefree future with the IQOS (and not including the other aspects such as agriculture and labor), one can establish that the company is best suited in a theater 3 scenario. In order to succeed in such a scenario with the IQOS in mind, it is crucial for PMI to demonstrate a superior social value for their external stakeholders, as well as maintaining their current bottom-line targets by producing and selling their brands of conventional cigarettes. Such initiatives in theater 3 scenarios are often risky for a business, but if successful, the initiative can transform a company's net positive contributors into the well-being of a society (Rangan et al., 2015). Rangan et al. (2015) says that "every business should ask (themselves): Does our fundamental business enhance society? Do any of our products and activities diminish that goal, and if so, how can we mitigate or reverse them?" (n.p.). If one had asked the top management of PMI these questions 10-20 years ago, they probably would not have been able to either answer truthfully, or have an answer that would have been consisted with today's society's ideal of how a company should act. Take Marlboro for example, the World's number 1 selling brand – a conventional cigarette that probably have cause a lot of premature deaths along its time – this brand does not correspond with PMI's goal today – to reduce the percentage of NCDs and to become a smokefree company. IQOS does that, although not without risk. But this is a step forward for an industry that has been condemned by so many people. It is unrealistic to believe that the tobacco industry will just

shut down overnight – a consumer is smoking out of his or her own free will, but when PMI is focused on transforming the industry (and having done well thus far), one can say that they correspond with the questions asked by Rangan et al. (2015).

CSR has been criticized by many, among them Milton Friedman, who believed that businesses should not be responsible for what happened outside of their business, as long as they were able to make profit for their shareholders. This can be seen both ways as true. But in modern times, a company would be focusing on their shareholders by doing CSR, as consumers demand that in order to continue buying their products. Others may explain this as pressure on the businesses, that CSR is forcing businesses to take part in the society and to contribute due to the threats of not being legitimate in the eye of the consumer if they do not comply. However, due to the lack of a universal term of the concept of CSR, it is hard for businesses to do the right thing according to the different eyes of the audience. Where some might think that a business is performing well, others might mean that it is not directed at the desired problem, or that the business is not doing enough. In the case of PMI, their new and innovative product, IQOS, that contain less harm than the conventional tobacco could be seen as some sort of an attempt at CSR. Consumers and the affected families of tobacco-related NCDs might have urged the company to pursue a new direction of selling tobacco. But as the product has been produced and sold in over 30 markets, the case of PMI seems more to resemble sustainability and CSV rather than CSR on its own. As some critics argue, CSV is just a more elaborate version of CSR, in which case it could be true and also be similar in the different ways one chooses to define the concepts. But for this study it is classified as two different concepts – but that CSV has its roots in CSR.

### **5.3 Philip Morris International and Creating Shared Value**

Porter and Kramer (2011) suggested three ways a company can create shared value. As the case of PMI is looking more like sustainability and CSV, the company will gain several advantages by looking at their decisions and opportunities through the principle of shared value. Most notable way of creating shared value out of the three ways Porter and Kramer (2011) suggested, in PMI's case, is the reconception of their products. By doing so, this approach can lead to new and improved innovations as well as growth for the company – while also providing benefits to the society. In other words, shared value has the potential of resetting the conventional boundaries of capitalism (Porter & Kramer, 2011). Figure 15 shows how PMI responds within

philanthropy, CSR, and CSV. Philanthropy and CSR are both good actions to take for a company, but it will not be able to properly address the underlying problems a business face. By focusing on CSV, PMI will have to create and use a new business model that addresses the different needs and challenges in the society. By doing this, PMI will not only make profit off of their CSV activities, they create a sustainable business for future innovation and contributes to the continuation of thriving as a business and as a part of the society.

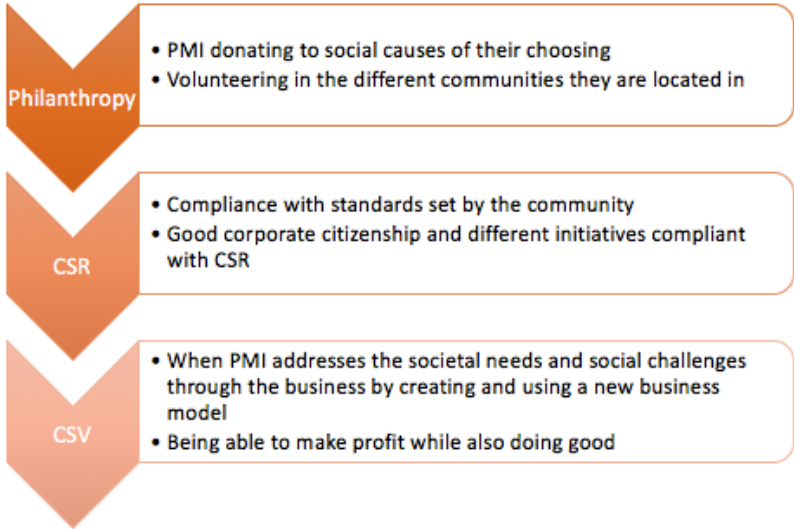


Figure 18 Evolution of PMI's Business Model

As a sustainable company, PMI would be transforming the procurement, and collaborate with farmers in order to improve the quality of the products and the tobacco crop. Being sustainable would enable investments in technology and inputs, as well as have higher prices compliant with better quality for their products. A better tobacco crop and harvest will increase the quantity of raw materials harvested, as well as reducing the environmental impact caused by the tobacco industry.

**5.4 Philip Morris International and the Norwegian Institute of Public Health**

The Norwegian Institute of Public Health (FHI) seems more inclined to let harm reducing products on the market than the government, although the government has ratified through Prop.142L, that the principle of harm reduction will be incorporated in the upcoming tobacco strategy. Although not all of the researchers on FHI's report, *Evaluation of Harm Reduction as a Strategic Element in Tobacco Work*, are on the same page regarding the principle of harm reduction and how it should be implemented in Norwegian tobacco regulations as lead researcher Karl-Erik Lund shows in the interview. The Ministry of Norwegian Health and Care

requested the evaluation-report from FHI in 2017, and received it shortly before Christmas the same year. By the time Lund's (2018) interview was conducted, the Ministry had yet to provide feedback on the evidence presented by FHI. As Lund (2018) himself said, they had not even thanked them for putting in the effort of writing a 90-page evaluation of harm reduction products on the Norwegian market.

FHI divided their report into three sections: what harm reducing products were available, what possible choices the government would have and consider based on the advantages or disadvantages, and the risk harm reducing products could have on the public. The current Norwegian tobacco strategy, which is also two years outdated, focus on a 0-vision, where they basically believe that smokers just should quit smoking without considering the different, and individual, tools needed for smokers in order to be able to do so. The upcoming strategy is said to include the principle of harm reduction, as the government has allowed new tobacco products on the market (e-cigarettes). The principle has been used in other groups of risky behavior, such as providing opiates, rooms and syringes for drug users as to contain the level of harm they might otherwise experience if they pursued their addiction on their own. Of course, there are some who continue to use drugs on their own, but they have the option to get help from health care professionals. Why not do the same for a legal substance such as tobacco, that have been ranked as the leading cause in deaths that could have been prevented? In order to make the principle of harm reduction work, the government needs to adjust such less harmful products accordingly to a risk continuum. As of July 1<sup>st</sup> 2018, all roll-your-own tobacco, cigarettes and snus are going to be in plain packaging. Snus, cannot by far, be classified as harmful as conventional tobacco. As Lund (2011) also says, the toxins that can be linked to cancer and other smoke-related illnesses have been found in combustible tobacco products. Snus have yet to be proved to produce such illnesses, although it is understandable that governments want to be precautionary as it is a relatively new product compared to conventional tobacco. Those in favor of harm reducing products believe that such products also should get an advantage on the market.

When snus was introduced to the market, the number of smokers started to decline. Simultaneously, the number of snus-users started to increase. The level of people who managed to quit smoking with the use of snus was higher than amongst those who only used nicotine-containing products such as patches, gum, and e-cigarettes. E-cigarettes should be credited as opening up for the interest in harm reduction, and shows that the consumers do want less

harmful products. However, e-cigarettes, gums, and patches cannot be applied to all smokers, as many of them want to smell and taste the tobacco, rather than just have the nicotine within it. These are needs snus can satisfy, as well as the IQOS, which is the focus for this study. An advantage of the IQOS is that it can fill the gap associated with the ritual of smoking regular tobacco. On the other side, governments worry that such products could interest youths that had no interest in using conventional tobacco in the first place. However, a study conducted in the UK disregards this argument, as their study showed that less than 0,5% of non-smoking youths had interest in starting using products such as e-cigarettes, knowing they were less harmful. Instead, although limited, conducted research on e-cigarettes, shows that e-cigarettes can help reducing the smoking of conventional tobacco, or at best, help quit entirely.

In the interview with Lund (2018), he says that consumers need access to the information in order to make a switch from conventional tobacco to less harmful products. But in Norway such information is banned, and only allowed on producer's own websites. How often does a consumer check a producer's webpage, nonetheless *know* who makes the product they consume? He also said they were working on how to be able to inform smokers, without attracting youths by placing information on or inside the tobacco packages – as they are already known to the user. This seems as a valid way to reach the desired audience, and it will be exciting to see whether this approach will have an effect.

It is time to realize that HNBs can provide a public health potential in most societies, rather than basing tobacco regulations on the precautionary principle. If the downside of having IQOS on the market is that one 18-year-old decides to start using IQOS because it looks fancy, having no history of smoking other tobacco-related products, and 10 40-year-olds start using IQOS in order to quit smoking, or to use a less harmful product, so that they might not contain lung cancer, COPD, or other NCDs – is it not worth the try? The foundation of the IQOS runs well with what Michael Russell (1976), the originator of the concept of harm reduction, said, that if it were not for the nicotine, people would not have smoked conventional tobacco. Then, by logic, there needs to be products available with nicotine that a smoker is satisfied with, in order to avoid the health disadvantages that conventional tobacco brings with it. Lund, the leading tobacco expert in Norway, believes that the IQOS has a public health potential in Norway – so why do not the public elected politicians listen to his expertise?

#### **5.4.1 The Norwegian Cancer Society and PMI**

Both actors are clear on the fact that nicotine is addictive, and that smoking conventional tobacco can cause death. The NCS does subtly affirm that the use of e-cigarettes is likely to pose less harm than conventional tobacco, but does not mention heat-not-burn-products, as these are not on the Norwegian market at the moment. The NCS could be more open to less harmful products in the fight against NCDs and the large quantity of deaths that could be avoided if smokers were presented with less harmful nicotine-products as a way to quit smoking conventional tobacco.

#### **5.5 Philip Morris International in England**

England, as PMI, is searching for tools to be able to create a smoke-free future. In England, this will be accomplished when the smoking prevalence is below 5%. They have a number of different alternatives and help for those who need and wish to quit smoking, and the British government allows new and innovating technologies that produce less harm to a smoker in their attempt to do so. England, under the EU TPD has allowed e-cigarettes and HNBs such as the IQOS on their market. Smoking is still the largest cause of death here, and over 7 million people currently use conventional tobacco to satisfy their need for nicotine, leading to more than 200 casualties a day – that otherwise could have been prevented with less harmful products. E-cigarettes containing nicotine came on the English market, much sooner than in Norway, and about 3 million people have already switched to this product. Although quitting smoking is the absolute best alternative, the Department of Health in England has pursued a more realistic goal in supporting its nicotine addicted citizens by allowing them to use such lower risk products. PHE recently published an independent expert review on e-cigarettes and HNBs. This report supported the industry-based evidence showing that both PMI and BAT's RRP only provides a fraction of the risk that the conventional cigarettes contain. However, a large portion of smokers in England are misinformed about the risks involved with the use of e-cigarettes, and therefore believe that the less harmful options are as harmful as conventional tobacco. They also do not know that nicotine is not part of the harms caused to one when smoking. Such a misunderstanding in the public is dangerous to the smokers themselves, and therefore shows that there needs to be an option where information regarding the use of vaporizers, such as the IQOS, should be open to the public – as well as actively showcasing the health benefits of quitting smoking, or if one is not able to do so, be advised on other nicotine containing products. PHE does not believe RRP like the IQOS could pose a threat as a “gateway drug” to more harmful tobacco products.

As the IQOS is created and advertised, on the producer's own website and not in regular grocery stores or the like, to adult smokers who wish or needs to quit smoking, the possibility of appealing to youths at this stage is rather small. PHE also believes this, as the rate among youths using e-cigarettes are declining, showing that most of the youths who use e-cigarettes were previous smokers of conventional tobacco. The representative (2018) from the DHSC acknowledges the discovery in PHE's evidence report, but states that this has been written mainly by academia – not scientists who can actually study the components of e-cigarettes and HNBs. This is all fair play on their behalf, but when statistics show that less than 1% of youths in England, who have never tried conventional tobacco before, use e-cigarette, this is a disadvantage that should be weighed up against the health benefit the 7 million smokers in England could have if they were to make an informed decision to switch to less harmful products. There will always be a product that can harm a person's health, but in this case one truly needs to look at the facts provided when making different policy decisions regarding a product that causes thousands of deaths each year in England alone.

When interviewing the representative of DHSC, it appeared as if the government was willing to try the different options available. The representative said that the local stop smoking services were allowed to make their own local decisions on what products to suggest to their smokers. This is in theory good, but if these health professionals are inclined to believe that HNBs are more harmful than the evidence suggest, as well as making their local decision based on government rulings, even here the smokers might not get all the information they need in order to quit smoking conventional cigarettes. The representative also mentioned how Japan has a ban on e-cigarettes, but not on HNBs. The number of people who have switched to IQOS and other HNBs in Japan is tremendous and very popular, which could show us a picture of what the future might be in other countries who choose to embrace the technology. The future post-Brexit was also discussed, as the UK follow EU's TPD. DHSC said that they are likely to continue following the directive, but are open to look at different regulations when there is more independent evidence that shows that HNBs are less harmful on a long time perspective. When such evidence has been produced, the DHSC might change their regulation accordingly, or continue to maintain the current regulations as proposed by the EU TPD. The Committee of Toxicity, England's version of the US's FDA, have also stated that HNBs are 90-95% less harmful than conventional tobacco – which the DHSC believes are probably right. But again, no independent research on the matter equals resistance within a government to regulate other

than they already do. It is a step in the right direction for the tobacco industry, when a government gives acknowledgement to them when they too say that their products are not without harm, but are likely to be less harmful than the conventional cigarette. The DHSC are also, despite what the statistics show, worried that a fancy gadget like the IQOS could attract new and younger consumers who otherwise would not use any nicotine-containing products.



## 5.6 IQOS and Harm Reduction

Based on the evidence found previously in this study table 8 shows a SWOT-analysis of the IQOS as a harm reducing alternative to smokers who wish to, or need to, quit smoking. The different bullet points can be replicated in the different categories, where it, for example, is a current strength in some countries and opportunity in others.

Table 7 SWOT-analysis of the public health potential of the IQOS

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>• Industry-based research show that the IQOS is 90-95% less harmful than the conventional cigarette.</li> <li>• Helps smokers get the desired nicotine level that they need and want.</li> <li>• Does not affect secondhand-smokers.</li> <li>• Appeals to older, current smokers.</li> <li>• Could help save people from unnecessary NCDs.</li> <li>• Appeals to those who do not want to quit smoking, but need to.</li> <li>• Appeals to those who want to quit, but where other non-combustible products cannot satisfy their nicotine-cravings.</li> </ul>	<ul style="list-style-type: none"> <li>• The IQOS device needs to be taught on how to use.</li> <li>• Consumers may find it hard to use the device, as well as find it “annoying” to clean.</li> <li>• Precautionary principle is often used by governments, due to the IQOS containing tobacco, it might not get the desired effect on public health.</li> <li>• No independent research has been done yet due to costs, which make government hesitate when regulating this product.</li> <li>• High prices for the product, result in only being able to “help” smokers in the 1<sup>st</sup> world.</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>• Could reduce NCDs.</li> <li>• Could help governments, and the UN, reach their level of NCDs by 2025.</li> <li>• Could result in making the tobacco industry quit selling conventional tobacco products.</li> <li>• Could help make PMI more sustainable, as well as creating shared value for both the company and the society</li> </ul>	<ul style="list-style-type: none"> <li>• Can intrigue non-smokers and youths to try the IQOS.</li> <li>• Future research might show a higher level of harm than present studies have shown.</li> <li>• Other illnesses could be discovered in the IQOS that otherwise did not exist in conventional cigarettes.</li> <li>• Anti-smokers are often hard to make see that not all tobacco need to be as deadly as the conventional tobacco.</li> </ul>

Based on this study, a SWOT-analysis was made to show the different strengths, weaknesses, opportunities, and threats to the IQOS as a reduced risk product. The different components in the analysis have been taken from different parts of this study. The benefits, strengths and

opportunities outweigh the consequences, weaknesses and threats as they have been presented in this study. The IQOS could have saved the lives of those who refuse to quit smoking by using non-combustible products like patches, gum, snus and e-cigarettes. Nicotine addiction is classed as an illness by the WHO, and should therefore be treated similarly as other addictive-illnesses. Some smokers might wish to quit smoking conventional cigarettes, but cannot *for the life of them* manage to do it without the taste of the tobacco, receiving the desired amount of nicotine as well as being able to smell tobacco. IQOS could here replace the gap among those who need to smell tobacco, as well as get their desired intake of nicotine on a daily basis.

## 6. Results

Based on the evidence shown in this study, the principle of harm reduction as well as the IQOS has not been welcomed to the level it should. England, where the product is already being sold, is a step ahead of the Norwegian market. However, in England where they have had nicotine-containing e-cigarettes for a while, resulting in about 3 million smokers making a switch, one can see that less harmful options can help people either switching to quit smoking, or switching to have a lower risk of obtaining harmful illnesses. The representative from the government in England, understandably, could not say that they believed there were a public health potential for the IQOS or other HNBs in their country. This was also based on the lack of independent research of the HNBs, as they are expensive to study in the long run. In Norway, it was not possible to get an interview with the government, and the study can only base the results from FHI who provides the government with its information on harm reducing products, as well as on the tobacco- and NCD-strategies. Here, Karl-Erik Lund believed that there was a public health potential in IQOS, and other non-combustible products that would help a smoker quit smoking or at least use a less harmful product.

PMI has transformed from claiming that there were no illnesses connected to the use of conventional tobacco, to saying that they are aiming at a smoke free future and that tobacco can cause death. This is something that should be considered, as the company does not claim that any of their products are without harm, only that the IQOS has 90-95% less of the harmful toxins otherwise found in conventional cigarettes. There is reason to believe, although understandable, that governments might have incentives to not trust the tobacco industry due to its past. But now, in 2018, basically everyone knows that tobacco is a harmful substance – although legal in most countries – the tobacco industry should be given a reasonable doubt when producing a less harmful tobacco product. People are smoking conventional tobacco in almost every country, so if the industry wished to continue selling such products without investing money in less harmful options, they could have. Because nicotine is addictive, and its users would want it one way or another anyways, as have history shown.



## **7. Discussion**

This chapter discusses the validity and reliability of the materials already discussed in this study. Is the information legitimate, based upon who wrote or said what?

### **7.1 The Process of Researching the Public Health Potential of the IQOS**

This study has been an interesting journey, trying to find out the public health potential of a product produced by an industry otherwise despised in most societies. PMI's claim that the IQOS is 90-95% less harmful than the conventional cigarette is bold, but also backed by their own science. However, a weakness to their study is that they have only conducted two one-week long and two three-months long studies on the effect the IQOS has on consumers. In the future they might be able to study consumers who have used the product for a longer time. Having only an industry backed study is a reoccurring problem to governments, that such a study is not necessarily acceptable for governments when they decide whether a product should be getting the praise the industry believes it should. They might take it into consideration, but until an independent study claims the same, governments are less likely to applaud.

One can always debate whether the information one was provided with was legitimate and valid, without regard as to whom it came from. Most would want to believe health care professionals and others working with health care issues and research, and others could opt to believe the tobacco industry's own information. It would do the public good to take both sides into consideration of what to believe. In the case of this study, there has been no valid reason to provide untrue facts, or misinform the public or the researcher behind this study. One could argue that the information from PMI might not be true, due to this study focusing on their main product, IQOS. However, more and more researchers and well-known institutes are supporting PMI's claims in a technical matter. Yes, PMI has done, and are probably doing questionable things in other aspects of their industry regarding tobacco farmers, suits against countries for the plain pack regulation and so forth. But this study is not concerning those aspects, it is about the IQOS and the public health potential it might have on the smoking population in both England and in Norway. The readers of this study need to focus on that hypothesis, rather than bringing up other questionable acts the tobacco industry are, or might be, doing.

## **7.2 Philip Morris International and the Norwegian Ministry of Health and Care Services**

The Norwegian Ministry of Health and Care Services was approached by e-mail and the author was greeted with excitement for the subject. The Director of Tobacco at the Ministry, called the subject exciting and wanted to know more about what angle was being posed for the Master's thesis. It was specified that the topic for the thesis evolved around harm reduction by smoking tobacco; SDG #3 and how this goal was, had, or will be incorporated within their upcoming strategy later in 2018; how the Ministry viewed the tobacco industry's attempt to do good, whether it was in light of a CSR/CSV-strategy or other; and whether the RRP's had a public health potential in Norway. The Director was told about the preexisting interview with Karl Erik Lund at FHI, and that he would get the same questions (in the way they would apply to him).

This seemed interesting enough, and the Director invited a colleague to participate in the interview, as well as requesting a date for the interview. The Director then asked whether the author had any direct or indirect ties to the tobacco industry, due to the special duties required by Article 5.3 by FCTC, where governments are not to discuss matters of tobacco with the industry or other parties vested in the industry, other than when necessary, in order to keep transparency as well as keeping the public health policies protected from being influenced by the tobacco industry (WHO FCTC, 2008). Thursday March 1<sup>st</sup> at 10 am was suggested as a time for the interview to take place, and then the interviewees were informed of the author being indirectly linked to PMI through close family. They were informed on February 23<sup>rd</sup> that this was purely a research matter for a Master's thesis, and that it was a student conducting these interviews. On February 28<sup>th</sup> they withdrew from participating in the study, due to being too closely linked to the industry, claiming to follow the FCTC guidelines. However, concrete questions regarding the background information that was needed for this thesis could be sent to the Director, as they were, in the hopes of receiving answers. The Norwegian government has used the principle of harm reduction on other products, for example the taxation of alcohol. The higher level of harm in liquor – the higher the taxes are on the alcohol. As well as looking back to the time of the Prohibition Act in the US, where it was illegal to distribute alcohol for some years. The similarities between the two products are many. But what has been applied to the consumption of alcohol, who also kills, should be applied to the different RRP's based on a risk continuum.

### **7.3 What Could Have Been Done Differently**

Other questions that came up during the research of this study could have been asked, but as a student it is hard to get the breakthrough with relevant people in a short amount of time. This study is incredibly important, as many are affected by the consequences of smoking tobacco. If something was to be done differently, it must have been to have pursued the government in a different way in so to make them want to be interviewed.

There are is a lot of skepticism regarding PMI's claim that this product has 90-95% less toxic compounds. Even if PMI is open about their science, a lot of the public still hold regards to the past-PMI as well as the industry in general, when smoking was claimed to be "healthy" (Wan, 2017). PMI has never claimed that the IQOS is without a risk, and will continue to say that the best option is to quit smoking altogether. But there are many consumers who do not have the will or the wish to quit smoking, therefore there needs to be a substitute to the conventional cigarette that will produce the same flavor, taste, and experience to the smoker in order for he or she to be able to quit smoking. The product itself is fascinating, but expensive. It is thus not seen as a product designed for a low-income consumer, or consumers living below the poverty line. This is controversial as the majority of smokers, as well as those who are uneducated about the harms of smoking, are typically found in low income countries in Asia, Africa, and so on.

Future students might be able to use this study as a guidance for future work, and when more statistics and information are provided, conclude otherwise than what will be concluded in this study. The author hopes and wish that this study will be expanded one day, to fill out the gaps of information that has not been included here. It would also have been nice to get the opinion of the Norwegian government, if it had not been for the outdated FCTC article 5.3. the author might have been able to discuss the study as a student, rather than as an indirect connection to the industry.





## 8. Recommendation

Based on the evidence provided within this study, a government – whether it may be the Norwegian, British, or other governments – should take professionals’ opinions and testimonials into consideration when creating a tobacco control plan that aims at lowering the percentage of smokers by 2025. The tobacco industry has long faced repercussions of how they advertised tobacco decades ago, as well as claiming no harm when smoking tobacco. Today, the research behind NCDs is much wider, and the technology to assess the potential of harm in a product is also far more extensive than it was way back when. It would be reckless and naïve to believe that someone who has smoked for several decades will find it easy to quit smoking on the day, rather than having the option of easing out of their nicotine addiction. Whether this option is purely nicotine-containing products, or products like the IQOS should not matter – as long as the smoker use a product that will lower the probability of them ever obtaining an illness that will results in a reduction of life quality, or at worst, death.

In order to reach such an improvement in the tobacco control plans for countries, the principle of harm reduction needs more attention and governments should open up for a working relationship with the industry. *SDG #17: Partnerships for the Goals*, could be a goal that PMI should start focusing on. PMI are willing to share the license to their HNB technology to other tobacco companies, as can be seen with Altria where they have gotten the exclusive license to sell IQOS in the US. Such partnerships are not out of the question for other companies – as long as PMI sees licensing as a positive business partnership and that it would contribute to the goal of a smoke-free future. It could also open the opportunity for a closer collaboration with governments, as the governments would see PMI’s dedication to the other goals, and then be able to ensure transparency in such a controversial matter. This will enable both sides to reach the goal of reducing the number of illnesses and deaths caused by smoking each year – neither can achieve this on their own.

It is understandable that one wants to use the precautionary principle, as to reduce the risk of causing the population and society any unforeseen harm. But in the case of HNBs and the IQOS, the benefits presented in this study far outweighs the disadvantages that have been suggested. Yes, the research behind the IQOS is fairly new, and there might show up unforeseen downside in the future. But the research as of today show that the product *is* less harmful than conventional tobacco, whether it is 90-95% less harmful or in the future 60% less harmful – it

is still *less harmful than conventional tobacco*. Smokers die every day because they are misinformed by the health advantages of less harmful tobacco products; because they cannot find a healthier alternative to give them the desired effect of less harmful products; and because they simply do not want to give up tobacco. In all of these cases, the government and the tobacco industry need to cooperate as to reduce the smoking prevalence. The IQOS could be able to help a lot of them, while nicotine patches or snus might satisfy others. One needs to evaluate smokers as individuals with individual needs, and therefore we need to supply them with a variety of tools that best fit them and their needs in the hopes that they will quit smoking conventional tobacco.

As of July 1<sup>st</sup> 2018, all snus, tobacco (both conventional cigarettes and roll-your-own) will be under the plain packaging-regulation. When it comes to the case of the IQOS, the product should be provided with the advantage of not being covered by the plain pack regulation, as well as being sold with lower taxation to make price an incentive for smokers to quit buying conventional cigarettes. Out of smokers who tried nicotine substitute products, 84% went back to using conventional cigarettes. Why so many were not able to be satisfied by these products can be speculated to be because of the smokers missing the ritual of inhaling, tasting or feeling a product similar to conventional cigarettes. If that many people are not able to use less harmful products mainly consisting of nicotine, is it then better to only focus on these and continue to sell conventional tobacco? Or is it time to open up for new alternatives that might satisfy whatever need or desire a smoker needs to fulfill in the attempt of quitting smoking, or to the very least, use a less harmful product? Looking at the study conducted by the EPS – the Norwegian government cannot justify high taxation as a way to reduce smoking prevalence – as almost half of the number of packages discovered were non-domestic, leading Norwegian consumers to get ahold of conventional cigarettes at a lower price outside of Norway. This could be something the government should adjust, when they decide upon the regulation regarding HNBs – to tax accordingly to a risk continuum. By doing this, they could also prevent that consumers are able to buy counterfeit products, as these are usually not regulated under the same international standards, as well as being a source of income to criminal groupings.

In the future, hopefully there will be more independent research done by organizations outside of the industry, as well as several more long-term studies on the effect of HNBs in order to convince more people that conventional tobacco kills, while HNBs have the opportunity of reducing that number of lives lost. A future researcher might also have a better chance at

communicating openly with the different governments, perhaps also having more information from the industry and other independent organizations who study this matter. This is an incredible interesting study, nevertheless an important one, and is highly recommended to future students and researchers to study if not only to enlighten themselves, but also to perhaps enlighten the smoking populations of the world.



## 9. Conclusion

This study has focused on the public health potential on a relatively new product, the IQOS by PMI. The study shows that governments are reluctant to advise smokers to use HNBs when other alternatives do not work. Those who research the tobacco industry and the principle of harm reduction in tobacco advise differently. There is evidence that show that there is a public health potential of the IQOS in both Norway and England, but the precautionary principle stands somewhat in its way. Harm reduction cannot fill the public health gap if the government and the industry do not cooperate. Again, there needs to be somewhat caution as to how one advertises such a product, but if a minority of non-smokers feel attracted to the IQOS as a cause of trying to help the millions of smokers in both countries getting the access and information to a product that could help their lives, and in the best case, save them from a non-communicable death, the author believes that this is a risk the government should take. Conventional tobacco affects more than just the smokers. Secondhand smokers are often affected and could end up with a range of different illnesses themselves. And those left behind, families and friends, of smokers who have passed due to the toxins they have inhaled for decades, could be spared the trauma of losing their loved ones.

Based upon the evidence presented in this study, the author concludes that the IQOS *do* have a public health potential in Norway and in England. Whether it is 100% true that the IQOS contain 90-95% less of the toxins otherwise found in conventional tobacco is hard to establish until the product has been on the market for several more years. However, as the representative from DHSC said, there is a need for more independent research in order to establish this. As a believer of allowing smokers being offered a less harmful product, and based on the research evidence, RRP's ought to be allowed on more markets in order to reduce the level of NCDs. The chances of it being *more* harmful than the conventional cigarette is low, and seems to have a public health potential in both Norway and in England based on the facts presented in this study. Whether PMI made this product in a CSR/CSV/Sustainable aspect, is hard to say. A tobacco company will most likely never say they did it in order to make more money.



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## **10.2. Unpublished**

### **Interviews:**

Lund, Karl-Erik. Research Director, Norwegian Institute of Public Health.

Conducted on 27 February 2018.

Dr. Guiron, Claude. Cardiologist and Head of Scientific Engagement, Philip Morris

International Nordics. Conducted on 9 March 2018.

Representative from the Department of Health and Social Care in England. Conducted on 27 March 2018.



## Appendix I

### Interview guide FHI (in Norwegian)

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1. Hvordan ble du Norges tobakksekspert?
2. Hvor kommer interessen din fra?
3. Det virker jo som et minefelt – hvor lenge har du jobbet med dette feltet?
4. Er det interesse rundt dette med skadereduksjonsprinsippet og RRP's? Er det bare noen få, eller mange (studenter som meg, fagfolk, politikere, journalister etc)?
5. I det skadeforebyggende arbeidet som myndighetene gjør, burde det være flere alternativer med potensielt lavere risiko for forbrukerne – dersom målet er at disse forbrukerne skal slutte å røyke?
6. Burde voksne røykere som ønsker å slutte å røyke få tilgang på informasjon om RRP's?
7. Mener du at RRP's skal kunne markedsføres?
8. Stortinget vedtok EUs tobakksdirektiv i 2016. Hva skal til for a skadereduksjonsprinsippet i dette stortingsvedtaket skal bli en realitet?
9. Mener du at RRP's bør være tilgjengelig i de samme utsalgsstedene som sigaretter er tilgjengelig, eller bør det begrenses, for eksempel, ved at det bare selges på apoteker?
10. Opplever du at det er skepsis til skadereduksjonsprinsippet, eller er det en skepsis mot tobakksindustrien?
11. Finnes det forskning som styrker eller svekker tobakksindustriens den forskningen som tobakksindustrien har produsert så langt selv?
12. Tror du at Philip Morris lagde dette produktet som et forsøk på corporate social responsibility/corporate shared value?
13. Tenker dere på FNs bærekrafts mål i deres analyser? Blir disse målene tatt med i betraktning?
14. Etter din oppfatning, hvordan bør RRP's reguleres, med tanke på avgiftlegging, standardiserte tobakkspakker, utstillingsforbud etc.?
15. Hva mener du om FDAs signaler om å begrense nikotininnholdet i sigaretter, og tillate samme mengde nikotin i RRP's? Er dette en retning Norge bør la seg inspirere av?
16. Hvordan har din rapport blitt mottatt? I Norge, internasjonalt, blant fagfolk og politikere?
17. Tror du IQOS har et folkehelsepotensial i Norge?
18. Mitt inntrykk er at tobakksfeltet er politisert, deler du denne oppfatningen – dersom ja, hvorfor mener du det er slik?
19. Hvilken effekt har det på våre valg?



## Appendix II

### Interview guide PMI Nordics

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1. Can you tell me how you ended up in PMI?
2. Can you tell me how the IQOS work?
  - a. As a product
  - b. The effect on health
3. How is the tobacco specially treated?
4. How does the IQOS differ from the traditional cigarette?
5. How does the IQOS represent a transition within the tobacco industry?
6. Why is PMI focusing on this transformation within the tobacco industry?
7. Why now?
8. Most of the consumers of tobacco can be found in underdeveloped countries, and having the IQOS being fairly expensive – how will this product benefit those target groups who really need a healthier alternative?
9. Do you expect the product to be made more available to these consumers?
10. The transformation into IQOS can also be seen as the movement to a more digital interpretation of smoking cigarettes – has this been a reason as to why PMI chose to make a new device?
11. How do you expect the IQOS will be able to have an influence on the public health potential in Norway and the UK?
12. Any consequences?
13. How have you worked thus far in order to improve the IQOS?
14. How have you worked to make consumers more aware of this product?
15. How do you cooperate with the Norwegian / UK government?
16. The Norwegian government has opened up the market for new tobacco products as of 2016 but are still working on the details. How do you expect the IQOS will improve the Norwegian government's goal of a maximum 10% smokers in Norway?
17. Do you believe the new guidelines for standardize tobacco packaging will have an influence on how the market performance of the IQOS in Norway?
18. Will IQOS be sold at pharmacies alongside other nicotine-products, or in grocery stores etc. alongside tobacco-products?
19. Would you say that PMI work on creating shared value in clusters with other tobacco companies, such as BAT?





## **Appendix III**

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### **Interview guide DHSC**

1. How is the concept of harm reduction being treated in the England? Is it a well-used concept, in regards to tobacco preventive work that the government do?
2. Adult smokers who wish to quit smoking, do they get access to specific product information from health care professionals and at the UK's stop smoking services?
3. How should such products be marketed in the best possible manner, in order to avoid targeting minors, as well as provide information that RRPs are not as harmful as traditional cigarettes?
4. How are HNBs being sold in the UK?
  - Should it just be in the company-stores, grocery stores etc., or are health care professionals able to sell RRPs to their patients who should make the switch?
5. Apart from the report from PHE who also claims that HNBs have 95% less risk than traditional tobacco, are there other scientific reports made by others outside of the tobacco industry? In Norway it seems as if the government won't believe the research produced by the industry, nor the Norwegian Institute of Public Health.
6. Why is the HNB being taxed based on weight rather than the level of risk, based on PHE's report? Will this change in the future as more research concludes the same as PHE's report?
7. Do you believe that Philip Morris International (PMI) (or BAT) created this product as an attempt to corporate social responsibility or corporate shared value, or because they only saw a new market for smokers?
8. PMI has been active in the Global Reporting Initiative (GRI) for a couple of years now, as well as publicly declaring that the Sustainable Development Goal (SDG) #3 Good Health and Well-Being is their main goal in the coming years – is this being taken into account when the government decides whether a product should be deemed necessary as a healthier option for the consumers?
9. Do you believe that Brexit will have an impact on the tobacco preventive work the government has done thus far, due to the EU Tobacco Products Directive?
10. Do you believe the HNBs have a public health potential in England?



## Appendix IV

### Interview guide IQOS-interview

	Sub 1	Sub 2	Sub 3	Sub 4	Sub 5	Sub 6	Sub 7	Sub 8	Sub 9
Age	38	27	36	70	44	63	49	37	42
Sex	Female	Female	Female	Male	Female	Female	Male	Female	Male
How long have you smoked conventional tobacco?	On and off for several years, a large part due to partying, and a period with continuous smoking apart from pregnancies.	5-6 years, regularly. Had a two year break, but started smoking again.	2-3 years	50+ years	25 years	30 years	33 years, but never on a regular basis.	On and off for 20 years.	Party-smoker for about 20 years.
Have you previously tried to quit smoking?	Tried quitting 4 times (pregnancies).	Several times.	Yes, but quit "cold turkey".	Yes.	No.	Several times.	No.	No.	Yes.
If yes, what alternatives did you then use?	Stopped right away (cold turkey).	Nicotine patches, nicotine gum, read a book on how to quit smoking, trying going cold turkey.	IQOS	Snuff (snus), and nicotine gum.		Did not use any alternatives.			None, tried to quit "cold turkey."
Why did you start using IQOS?	Did not want to smoke conventional cigarettes, tried regular e-cigarette – not satisfied, because she wanted to smoke afterwards. Was introduced to other products several times, IQOS stuck. Positive to smoke IQOS when regarding surroundings (husband and kids) as it does not affect them.	The subject is Russian, and when moving to Norway she saw that the perspective of smoking in Norway was bad. She felt a social pressure to quit, or at least try other less harmful alternatives to smoking the conventional cigarette. Regulations regarding tobacco are getting stricter, and thus the need to find other substitutes was necessary.	Curiosity on how the product would work.	To reduce/quit smoking.	I wanted to get the same nicotine kick without the smoke and the smell, and to be able to use it indoors.	I was introduced to the IQOS at a party, and was told about the health benefits of using this product vs. the conventional cigarette.	Because I can use it indoors without the tobacco/smoke smell.	To quit smoking regular tobacco.	Because it is convenient to use. I only use it occasionally, usually at parties. Gives good taste and a nice experience of being free from work.
How long have you used IQOS?	About 15 months	About 12 months	About 6 months	About 4 months	18 months	On and off for about 12 months	18 months	5 months	12 months
Can you describe the taste difference between Heets and	Mild flavor, feels like the conventional cigarette in a larger sense than other alternatives. The flavor is,	Less harsh and irritating for the throat when using IQOS compared to smoking conventional	At first, the IQOS tasted like tea.	The first 4-5 puffs taste the same. I have usually smoked Kent white, which is the mildest that I found	Tastes the same just without the smoke.	The regular cigarette provides more satisfaction, but	Heets has a cleaner and weaker taste.	Heets doesn't have the unpleasant tar and smoke flavor of conventio	Much smoother, but less complex taste. It feels fresher.

conventional tobacco?	however, a lot sweeter.	cigarette. The taste of Heets are also sweeter than conventional tobacco.		(due to my coughing from smoking). The IQOS taste thus pretty much the same.		the IQOS taste OK.		nal tobacco	
Do you miss smoking conventional tobacco?	Not at all. At first was more of an acclimation process. The benefits outweighed the negatives, do not miss the burnt taste of the conventional cigarette, as well as the smell of Heets are not too bad.	At first using the IQOS and Heets produced a weird smell and taste, but once acclimated and getting used to the product, the smell resemblance the smell of conventional tobacco.	No.	Yes, but the consequences of smoking are not worth it.	No.	Yes.	I still use conventional tobacco on occasion.	No.	No.
Is there something that you wish were not in the IQOS/Heets?	The sweet taste	No.	No.	The actual heat of the Heets. I experience the Heets at being warmer than the conventional tobacco, even if it is not combustion.	No.	No, haven't really given it a try. Other than it should last longer per Heets.	No.	No.	The cleaning issues of the device.
Did you ever see a health care professional due to your smoking habits?	No.	No.	No.	Many years ago I received a prescription to use nicotine gums, but had to stop using it due to pain/problems with my jaws.	No.	No.	No.	No.	No.
Have you seen health improving benefits by using IQOS vs. the conventional cigarette?	Not really, but the day after a party the body feels significantly better by smoking IQOS rather than the conventional cigarette.	The subject runs a lot. When smoking the conventional cigarette, she would have to wait approx. 30 min before going for a run. With IQOS she can run right away as it does not affect her breathing the same way.	Not really, but did not smoke much in the first place.	Yes. My breathing got better, but the warmth of the IQOS made me quit using that too, so I am now currently only using snus.	Absolutely, yes.	No.	No.	Yes. I used to cough after a weekend smoking regular tobacco, as well as my overall fitness. That is not the case with IQOS.	Not really applicable, as I only used to smoke at parties.
Is it a goal to quit smoking/vaping altogether, or are you satisfied with your current situation?	Content with the current situation by using IQOS	Currently satisfied, but in the long run she wishes to quit – as smoking in general is bad for one's health.	Currently satisfied with only using the IQOS.	I have quit smoking/vaping for 6 months now.	I'm satisfied. I want to enjoy life with nicotine, alcohol, sugar and fat combined with lesser risk.	I like IQOS, but the best is to not smoke. I do not miss the cigarette when I don't use it, but I	I am satisfied with my current situation.	I wish to quit smoking at work, but continue smoking at parties.	Satisfied with the current situation.

Do you believe the IQOS have a public health potential, based on your own personal predictions regarding your use of the product?

						do use snus on occasion.				
	Yes, but wishes there were more research regarding the product, and that the product became available on Norwegian markets.	Yes. The IQOS have different potential in different markets. In Russia IQOS was a premium product, with status. But in Nordic countries IQOS it is status to use a healthier alternative.	Yes!	Absolutely, it reduced my cravings for smoking to the extent that I am now only using snuff occasionally when in need for nicotine.	Obviously. If I'm able to switch away from my smoking habits, I'm sure a lot of other people would be interested in stopping smoking as well, as long as they are aware of the alternatives and are able to make an educated choice.	Yes.	Yes.	Yes!	Yes.	



## Appendix V

### Form of Consent

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# Request to participate in research project

*How is the Leading Tobacco Firm Adjusting to the Sustainable Development Goals – SDG #3 Good Health and Well-Being: Reduced Risk Products and the Public Health Potential in Norway and the United Kingdom*

## Background and purpose

The topic of this Master's thesis will be to research how the world's largest tobacco company, Philip Morris International (PMI), is making a transformation in order to provide consumers with an alternative containing less risks compared to the traditional cigarette. PMI has named sustainable development goal (SDG) number 3 – Good Health and Well-Being as their main priority. For this study I will analyze the work that PMI has done, and is expecting to conduct, with their reduced risk products (RRPs). I will then research and analyze the public health potential of the RRP's in both Norway and the United Kingdom (UK).

Interview subjects will be contacted based on their relevant position in order to answer to their best ability the questions posed on behalf of this Master's thesis.

## What does participation in this study entail?

I will conduct interviews in order to gather primary sources for this Master's thesis. I will collect the name and position of the interview subjects. Check the boxes below in order to approve the following:

- |   |                          |
|---|--------------------------|
| I give my consent to let Maiken K. Prestmo use my name in this project                  | <input type="checkbox"/> |
| I give my consent to let Maiken K. Prestmo use my work title in this project            | <input type="checkbox"/> |
| I give my consent to let Maiken K. Prestmo use photos from my workplace in this project | <input type="checkbox"/> |
| I give my consent to let Maiken K. Prestmo record our interview for this project        | <input type="checkbox"/> |

## What will happen to the personal information?

All personal data will be treated confidentially. Only my thesis advisors will see the data that I collect, and the records will be deleted three (3) months after June 11th 2018. If the information provided is being quoted by the subjects in my thesis, name and/or work title might be used.

This project is expected to be complete by June 11th 2018.

## Voluntary participation

It is voluntary to participate in this study, and you are able to withdraw your consent at any time without providing reasoning. If you withdraw from the study, all information about you will be made anonymous.

If you have further questions regarding this study, please contact John E. Hermansen by email: [john.hermansen@ntnu.no](mailto:john.hermansen@ntnu.no), or by phone: 73593981

**This study has been reported to the Norwegian Centre for Research Data.**

# Consent to participate in the study

I have received the information about the study, and I hereby wish to participate

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(Signed by interview subject, date)

Other comments (if necessary):

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