

# **MOTIVATING SUSTAINABLE TRANSITIONING: ENABLING AND LIMITING FACTORS WITHIN THE PETROLEUM INDUSTRY**

---

**A QUALITATIVE ANALYSIS OF ENABLING AND LIMITING FACTORS FOR SUSTAINABLE  
TRANSITIONING WITHIN THE PETROLEUM INDUSTRY**

**OLIWER HOLM**

**PHILIP HANSSON**

Bachelor Thesis  
Stockholm School of Economics  
2023



**Motivating Sustainable Transitioning: Enabling & Limiting Factors within the Petroleum Industry - A Qualitative Analysis of Enabling & Limiting Factors for Motivating Sustainable Transitioning within the Petroleum Industry**

**Abstract:**

The increasing global awareness and enormity of the climate crisis has led to intensified pressure towards multiple industrial sectors to commit to a sustainable transition, one of them being the petroleum industry. Being the manufacturers and suppliers of fossil fuels they have the power to shape the market. However, this demands that the petroleum companies have the motivation to proceed with sustainable transitions. Therefore, it has become of greater importance to understand the foundation of such motivation as well as identifying potential limitations; to encourage sustainable initiatives. This thesis therefore aims to shed light on the motivational dynamics behind pursuing sustainable transitions within the petroleum industry from the perspective of Sweden's largest petroleum company Preem. A qualitative study has been conducted through interviews and with a smaller internal questionnaire at Preem, which was qualitatively analyzed. Through the use of the widely accepted theory of motivation, the Expectancy Value Theory, the authors identified multiple sub-dimensions under expectancy and value that influence motivation. These sub-dimensions were found to be enabling under favorable conditions, but could also be limiting factors. For example, the regulatory environment could be both enabling and limiting depending on current legislation.

**Keywords:**

Sustainable Transitioning, Petroleum Industry, Expectancy-Value Theory, Motivation

**Authors:**

Oliwer Holm (25320)  
Philip Hansson (25210)

**Tutor:**

Daniel Tolstoy, Assistant Professor, Department of Marketing and Strategy

**Examiner:**

Henrik Glimstedt, Associate Professor, Department of Marketing and Strategy

Bachelor Thesis

Bachelor Program in Business and Economics

Stockholm School of Economics

© Oliwer Holm and Philip Hansson, 2023

## Definitions and Abbreviations

**Argus Report:** Biofuel Market Report 2020-2040. A report covering an overview and predictions of the European biofuel market between the period 2020 to 2040 (Argus, 2023).

**Double Counting:** A policy mechanism where certain types of renewable feedstock with higher environmental benefits, are counted twice for the purpose of meeting sustainability targets and obligations. This approach incentivizes the production and use of these fuels, aiming to boost their market presence and contribute more significantly to emission reduction goals (*EU's Double Standards On Double Counting*, 2023).

**EVT:** Expectancy-Value Theory

**Feedstock:** In the petroleum industry feedstock refers to raw materials that are processed in refineries to produce various petroleum products (Cambridge Dictionary, 2023).

**Fit for 55:** An EU legislative initiative to reduce greenhouse gas emissions within the EU by at least 55% by 2030. (*Fit For 55 – EU:S Plan För Att Skynda På KlimatOmställningen*, n.d.)

**GHG:** GreenHouse Gas

**Master Transition Plan:** Preems Master Transition Plan is a strategy aimed at transforming the company into a leader in renewable fuel production, particularly in sustainable aviation fuel and road transportation fuels (Preem, 2023).

# Contents

<b>1. INTRODUCTION</b>	<b>5</b>
<b>1.1. Brief Market Overview of the Biofuel Market</b>	<b>5</b>
<b>1.2. Background on Regulatory Environment</b>	<b>5</b>
1.2.1. Regulations Concerning Renewable Fuel in Sweden	6
1.2.2. Regulations Concerning Renewable Fuel in Germany	7
1.2.3. Domestic Legislation in Relation to EU Directives	8
<b>1.3. Gap and Problem Formulation</b>	<b>8</b>
<b>1.4. Research Purpose and Research Question</b>	<b>10</b>
<b>1.5. Background on Preem</b>	<b>10</b>
<b>1.6. Connection to Marketing and Strategy</b>	<b>11</b>
<b>1.7. Delimitations</b>	<b>11</b>
 <b>2. LITERATURE REVIEW AND THEORETICAL FOUNDATION</b>	 <b>13</b>
<b>2.1. Sustainable Transitioning</b>	<b>13</b>
2.1.1. Defining Sustainable Transitioning	13
2.1.2. Previous Studies on Sustainable Transitioning	14
<b>2.2. Expectancy-Value Theory</b>	<b>15</b>
<b>2.3. Theory Visualization</b>	<b>16</b>
 <b>3. METHODOLOGY</b>	 <b>17</b>
<b>3.1. Methodological approach</b>	<b>17</b>
3.1.1. A Qualitative Study with an Abductive Approach	17
3.1.2. Choice of Case Study Company	17
3.1.3. Ontological Stance	18
<b>3.2. Main Study</b>	<b>18</b>
3.2.1. Purpose of the Questionnaire	19
3.2.2. Internal Questionnaire	19
3.2.3. Questionnaire Flow	20
3.2.4. Data Collection, Participation and Quality of Data	20
<b>3.3. Interviews</b>	<b>21</b>
3.3.1. Analytical Approach	21
<b>3.4. Interview Design</b>	<b>22</b>
<b>3.5. Sample</b>	<b>22</b>
<b>3.6. Ethical Considerations</b>	<b>22</b>
<b>3.7. Methodology Discussion</b>	<b>23</b>
3.7.1. Reliability	23
3.7.2. Validity	23

<b>4. FINDINGS</b>	<b>25</b>
<b>4.1. Questionnaire Findings</b>	<b>25</b>
<b>4.2. Interview Findings</b>	<b>25</b>
4.2.1. Expectancy	25
4.2.1.1. Structure and Feasibility	25
4.2.1.2. Commitment	26
4.2.1.3. Resource Allocation and Strategic Alignment	26
4.2.1.4. Knowledge and Expertise	27
4.2.1.5. Monitoring and Showing Results	28
4.2.1.6. Regulatory environment	28
4.2.1.7. Market Factors	29
4.2.2. Value	30
4.2.2.1. Economic	30
4.2.2.2. Regulatory Environment	32
4.2.2.3. Competitive Advantage	34
4.2.2.4. Long-term Viability	34
4.2.2.5. Flexibility	35
<b>5. DISCUSSION</b>	<b>37</b>
<b>5.1. Coming back to the Research Question</b>	<b>37</b>
<b>5.2. Motivational Dynamics - Answer to the Research Question</b>	<b>37</b>
5.2.1. Expectancy Decomposed	37
5.2.2. Criticism Towards Expectancy Findings	40
5.2.3. Value Decomposed	41
5.2.4. Conclusion of Motivational Dynamics	44
<b>5.3. Practical Implications</b>	<b>46</b>
<b>5.4. Thesis Limitations</b>	<b>47</b>
<b>5.5. Recommendations for Future Research</b>	<b>47</b>
<b>6. REFERENCES</b>	<b>49</b>
<b>APPENDIX</b>	<b>53</b>
<b>Appendix 1 - Interview Guide</b>	<b>53</b>
<b>Appendix 2 - Questionnaire Question</b>	<b>54</b>
<b>Appendix 3 - Questionnaire Result</b>	<b>54</b>
<b>Appendix 4 - Overview of Interviewees</b>	<b>54</b>
<b>Appendix 5 - Disclosure of AI-tools use</b>	<b>55</b>

# **1. INTRODUCTION**

The increasing global awareness and enormity of the climate crisis has led to intensified pressure towards multiple industrial sectors to commit to a sustainable transition (Statista, 2023); one of them being the petroleum industry (Sankaranarayanan et al., 2021). The combustion of fossil fuels accounts for over 75% of GHG emissions and close to 90% of all CO<sub>2</sub> emissions (UN, 2023). Although petroleum companies are a large part of the problem they also have the opportunity to be a part of the solution. Being the manufacturers and suppliers of fossil fuels they have the power to shape the market. However, this demands that the petroleum companies have the motivation to proceed with sustainable transitions. Therefore, it has become of greater importance to understand the foundation of such motivation as well as identifying potential limitations; to encourage sustainable initiatives.

## **1.1. Brief Market Overview of the Biofuel Market**

The biofuel market overview in this study is based on the 2023 Argus report that thoroughly covers the current market in Europe as well as predictions of the future. The report covers the period 2020-2040, predicting that by 2030 there will be a deficit of renewable diesel across the focus group, creating an addressable market gap, the one exception being Sweden. The focus group of the report covers Finland, Norway, Denmark, Sweden, Germany and the UK, with Norway and Denmark having no renewable diesel capacity and are thus relying on imports to satisfy domestic demand. The increased renewable diesel demand is mainly driven by the transport and airline industry transitioning from fossil- to renewable fuel. The demand for fossil fuel is steadily falling in Europe and it is predicted to continue to fall. However, due to the lowered reduction obligation in Sweden there may be a short-term rebound in the domestic demand for fossil fuels in Sweden (Argus, 2023).

## **1.2. Background on Regulatory Environment**

Due to the fact that the petroleum industry is extensively regulated in terms of the manufacturing processes and sustainability qualities of the products produced, the

authors will provide brief explanations of the Swedish regulatory environment related to renewable fuel as well as for another country in Europe, Germany, as a foundation for comparison. This will help the reader better understand the content of the study.

### **1.2.1. Regulations Concerning Renewable Fuel in Sweden**

The competent authority in charge of regulation and legislation concerning renewable fuels in Sweden is the Swedish Energy Agency (Energimyndigheten)(Argus, 2023). Specifically for renewable fuels, also called biofuels, The Swedish Energy Agency has implemented a law called, The Law on Sustainability Criteria. This national law is based on the sustainability criterias from, The Renewable Energy Directive (RED), which is an EU-based directive first implemented in 2009 (RED 2009/28), and most recently updated in 2018 through the REDII (EU 2018/2001) directive (Energimyndigheten, 2023).

Considering GHG emissions, the fuel needs to have a percentually lower emission of GHG compared to its fossil-based equivalent, studying the entire production chain, from the withdrawal of the material until its combustion. This is controlled by each company themselves calculating emissions through the entire production chain and later on adding the energy conversion by looking at the effects of using the fuel (Energimyndigheten, 2023).

For some companies the legislation also includes the annual reporting of what biofuels that have been used, specifically considering the country of origin, the amount of fuel used and amount of GHG emissions that the fuel has created (Energimyndigheten, 2023). Failing to adhere to the obligations of annual greenhouse emissions will result in payment penalties per kgCO<sub>2</sub>eq, with different amounts depending on if it is petrol or diesel. Similar penalties are used for suppliers not fulfilling the requirements. Payment penalties are also applied when there is a delay in the reporting of greenhouse reductions (Argus, 2023).

In 2018, the Swedish government introduced a reduction obligation, which was supposed to contribute to the usage and production of more sustainable fuels. This legislation was implemented to make sure that the one who is taxable for a reduction in

obligated fuel had to make sure that the fuel contributed to a certain amount of reduction of climate effect. This would be fulfilled through gradually increasing the admixture of biofuels. In January 2022 the reduction obligation was set to 7,8% for petrol and 30.5% for diesel. However, the Swedish government recently decided to drastically reduce the reduction obligation to 6% for both petrol and diesel, beginning January 1st 2024 (Energimyndigheten, 2023).

### **1.2.2. Regulations Concerning Renewable Fuel in Germany**

The German legislation and regulation concerning renewable fuels is, just as in Sweden, shaped by the EU-based directive REDII (EU, 2018/2001). In Germany, the competent authority in charge of the legislation connected to this directive is the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) (Bundesumweltministeriums, 2023).

The difference in legislation compared to Sweden is that Germany has since 2007 implemented a binding quota for biofuels of 6% . The objective of this quota is that in Germany, companies which market and supply fuels have to blend in 6% of bio-feedstock in all the products that they put on the market. However, in 2021 the German government established the Law on further development of the greenhouse reduction quota, which states that the current 6% quota is to grow to 25% by 2030 (Bundesumweltministeriums, 2023). The background behind this increased motivation for development of renewable fuels is for German companies to move away from more conventional biofuels, based on e.g. seed oils, biomass fuels, and expand further towards alternative modern technologies, including advanced biofuels, green hydrogen and non-bio power-to-x fuels. Additionally, Germany also allows double counting of feedstock categorized as Part A, which represents the highest classification of feedstock (Argus, 2023). When feedstock classified as Part A is blended in, its contribution can be counted twice. So, if the blend contains 3% of this feedstock, it can be accounted for as 6%. Manufacturers can therefore fulfill the quota by blending in 3% of Part A feedstock.

Germany is increasing their trajectory for greenhouse emissions in the transportation sector, with a share of at least 32% renewable fuels by 2030. Additionally, Germany is



also ending the use of biofuels made from palm oils by 2023, which is three years earlier than what had previously been suggested. Compared to EU's REDII directive, only requiring a 14% share of renewable fuels by 2030, Germany will drastically exceed these requirements with their implied 32% share, and the reason they have the ability to do this is mainly connected to their greenhouse reduction quota, which simplifies these types of transitions (Bundesumweltministeriums, 2023).

### **1.2.3. Domestic Legislation in Relation to EU Directives**

What can be seen from the legislation and regulations of biofuels in Sweden, Germany, and other European countries is that each market's performance is driven by the national regulation that the companies have to adhere to. Member states have the obligation to transpose European legislation to achieve the targets but can deviate from the EU RED directive, where allowed; meaning that the national legislations and regulations are different in each member state although they are all working towards the same targets (Argus, 2023).

## **1.3. Gap and Problem Formulation**

The significance of the role played by companies who work with preventing climate change is steadily growing (Khan et al., 2021) and increased pressure from stakeholders have led to that success of a company no longer exclusively depends on its financial performance but also on its execution of sustainable initiatives (Khan et al., 2021). What has been recognized by the authors is that there are two significant gaps that sheds light on the problem and its importance, one is related to business relevance and the other concerns the magnitude of previous research.

Initially a gap between the importance, implementation and justification of a sustainable transition plan can be identified. The most recent research on this gap states that 90% of companies believe that it is essential to have a sustainability transition plan to stay competitive while only 60% of companies have such a strategy and only 25% have developed positive business cases (Unruh, 2016). This indicates that most companies

see the importance of a sustainable transition plan, however, far from all companies have the motivation to pursue one, and even fewer can justify pursuing such a plan.

The second gap recognized is a gap in the research. In 2009, the Sustainability Transitions Research Network (STRN) was introduced as a platform for scholars interested in sustainability to further study the subject of sustainable transitions. Since the inception of the STRN the research on sustainable transitions has grown remarkably, and the network has grown from 200 scholars in 2010 to over 3000 in 2023. The research has also developed from mainly focusing on countries in Northern Europe to a global coverage looking specifically at how to incorporate more sustainable ways for both production and consumption (*About | Sustainability Transitions Research Network*, 2023) (Köhler, J., Geels, 2019).

Hence, the magnitude of research being made within this area has increased significantly in recent years. Most studies are investigating companies sustainable initiatives in relation to factors such as the process of creating the transition plan, pathways for policy makers and why sustainability is of high importance for the company strategy (see e.g. Morgunova & Shaton, 2022 ) However, there is significantly less research that has been made investigating the motivating factors behind companies sustainable transitions, examining both the internal and external implications behind motivation. Previous research has underlined that there is limited knowledge of what motivates the pursuit of sustainable transitions (Plummer & Van Poeck, 2020) as well as research recognizing that lack of motivation is one of the barriers for pursuing a sustainable transition (Falcone, 2014).

Connecting these gaps together forms the problem; in practice far from all companies are motivated to pursue sustainable transitions and this lack of motivation is one of the underlying barriers for the pursuit. However, there is limited knowledge of what actually motivates the pursuit of a sustainable transition.

## **1.4. Research Purpose and Research Question**

The research purpose of this thesis arises from the identified gaps and problem formulation. Due to the emergence of the climate crisis and the significant role of companies against the crisis, especially in the industrial sector and the petroleum industry where high emissions can be associated with the core business model, it is of great value to investigate how motivation is established as well as identifying potential limiting factors for pursuing sustainable transitions. The purpose of the research is therefore to shed light on the motivational dynamics for sustainable transitions within the petroleum industry contributing to the currently limited knowledge within the field.

Based on the above, the following research question is to be examined:

*How are companies within the petroleum industry motivated to pursue sustainable transitions and what are the current limiting factors?*

This study will investigate the research question from the perspective of Sweden's largest petroleum company, Preem.

## **1.5. Background on Preem**

Preem, previously going by the name OK Petroleum, was up until 1994 owned by the Swedish state. However, with the new owner Mohammed H. Al Amoudi and through the merger of multiple Texaco and OK petroleum stations stretching all over Sweden, Preem was founded in the year 1996. Due to a quick brand establishment and continuous development, Preem has now become Sweden's largest petroleum company. Including partners and distributors, the company employs approximately 3 000 people (Preem, 2023).

Preem has outlined a clear vision to be the leading actor in the transition towards a more sustainable society. Being aware of their significance in this area they propose on their website that “the future is their most important market” (Preem, 2023) consequently considering the long-term perspective within a market that seems to be currently going

through a paradigm shift. Preem states that they have the infrastructure, the employee competencies and the technical capabilities to make this transition, outlining that they have already begun by exchanging more and more of their traditional oil refineries for biofuel refineries. Their goal and vision is to successively make renewable raw material the primary source ahead of traditional fossil based materials (Preem, 2023).

## **1.6. Connection to Marketing and Strategy**

This thesis primarily focuses on the concept of business strategy, a subject that falls within the Marketing and Strategy department at the Stockholm School of Economics. The school defines marketing and strategy as follows:

“Understanding and improving upon the processes that bridge supply and demand in the economy (Marketing, broadly defined) and understanding, assessing and managing the long-term direction of organizations (Strategy, broadly defined) are key issues in contemporary market-based society.” (*Department of Marketing and Strategy*, n.d.)

The thesis’ focus on business strategy aligns with the schools definition of strategy as managing an organization's long-term direction. In this case it is the transition towards sustainability within the petroleum industry which is a pressing issue in a market-based society increasingly concerned with the climate crisis.

## **1.7. Delimitations**

There are multiple delimitations that have been applied to this thesis. Given the time constraint and format of the bachelor thesis, extensively investigating multiple companies within the petroleum industry was not feasible and the authors therefore choose to settle with thoroughly investigating one company within the industry, which is motivated in section 3.1.2. Additionally, as the study only investigates one company, one could argue that this affects generalisability and that the results cannot be applied to the whole industry, or other industries. This limitation is further addressed and discussed by the authors in section 3.1.3. An indirect delimitation of the geographical scope has also been made with the choice of case company. Since Preem mainly operates within

the Nordics and parts of the EU, other geographical regions have been excluded. Lastly, the thesis has been delimited to investigating motivation from the perspective of the Expectancy-Value Theory (see section 2.2.). The authors are aware that there are multiple theories and models analyzing motivation. However, as the Expectancy-Value Theory is one of the most widely accepted theories within the field (section 2.2.), it gives a solid foundation from which a deeper analysis can be built.

## **2. LITERATURE REVIEW AND THEORETICAL FOUNDATION**

The authors of this thesis gathered literature from the HHS library database and Google Scholar.

### **2.1. Sustainable Transitioning**

#### **2.1.1. Defining Sustainable Transitioning**

To understand the importance of sustainable transitioning and the motivational factors behind it, firstly, one needs to understand where the term ‘transition’ stems from. Cambridge Dictionary (2023) describes the term ‘transition’ as ‘a change from one form or type to another, or the process by which this happens’. However, in terms of further environmental or sustainability related focus Rotmans, J., & Loorbach, D (2010), describes transition as a change that is further ‘transformational’, ‘radical’ and ‘deep’, pressing on the significance and challenges that sustainable transition stands before compared to other types of transitions.

There are several sectors that today face major sustainability challenges that have to be addressed. GHG emissions, air pollution and uncertainties regarding short- and long-term supply of fuels are only a few of the challenges facing the petroleum industry (IEA, 2011). Other industries, such as food systems and agriculture face similar challenges (Markard, J., Raven, R., & Truffer, B., 2012). An increasing motivation for research in the area of sustainable transitions is also continuously driving the recognition of environmental issues, and the fundamental societal challenges faced (Köhler, J., Geels, 2019). Recent research on sustainable transitions within the oil and gas industry shows that the economic differences between fossil fuel and renewable fuel is not as significant as it has been historically, and that the production of renewable energy recently has found increased success with a more widespread use globally (Eitan & Hekkert, 2023). Additionally, further encouraged sustainable initiatives are driving technological development which is lowering costs of renewable fuels, that simultaneously possess the capabilities to be domestically used and generated (Ebeling,

2023). However, even as sustainable initiatives are growing at a fast rate, there are still major areas to be covered considering the motivational dynamics behind them.

### **2.1.2. Previous Studies on Sustainable Transitioning**

One recent study made on the subject of motivational dynamics for sustainable transitioning investigated sustainability as a dynamic organizational capability. In the study the researchers suggested that if companies seek to be competitive in the future, promoting sustainability as an organizational capability is one of the main challenges that have to be dealt with. However, the authors mentioned that for this type of research to be possible they had to understand and identify what the drivers behind sustainability actually were (Liboni et al., 2017).

Looking into other studies made, seeking to identify similar types of drivers for sustainability as mentioned in Liboni et al., (2017)'s study, one can see similarities with the investigation of motivational dynamics sought to be made in this thesis.

In a study made by Schrettle et al. (2014b), the authors investigated potential drivers of sustainability, and specifically provided a systematic literature review of the dynamic capabilities affecting the organization's path to sustainable transition. In the study, the authors divided drivers of sustainability into two different groups, internal or endogenous drivers and external or exogenous drivers. They argued that the identification and understanding of these drivers were essential for companies to understand and ensure that measures towards sustainability transitioning are taken. In their studies, Schrettle et al. (2014b) identified the internal drivers of sustainability as, *company strategy, resource base and culture*, while the external drivers were identified as *societal values and norms, market drivers and environmental regulation*.

In another study, Rauer and Kaufmann (2015) investigated how to mitigate external barriers in the implementation of green supply chain management. In their studies they identified multiple categories of dynamic capabilities that could be seen as mitigating factors in the pursuit of sustainable transition. The three categories identified were *sensing capabilities, aligning capabilities and resilience capabilities*. Through interconnection of their research findings and previous literature on dynamic

capabilities the authors were able to outline factors that they believed companies should use to mitigate external barriers in green supply chain management and sustainable transitioning.

It can be concluded that there are studies that have looked into enabling and limiting factors for companies in their pursuit for sustainable transitioning. However, the majority of studies mainly constitute investigations built upon previous literature studying companies' dynamic capabilities in combination with sustainable transitioning. Some of the studies do mention motivation as a smaller component for driving sustainability. For example Leboni et al., (2017) discussed how culture, being one of the internal drivers for sustainability in Schrettle et al. (2014b)'s study, is affected by sustainability related drivers such as, *motivation* and *management commitment*. However, none of the studies mentioned has investigated the motivational dynamics behind an organizations' path to sustainable transitioning from the organizations' own perspective, but rather simply reflects on certain important factors stemming from previous literature within the area. Thus, the authors can see that there are possibilities to contribute to research within sustainability transitioning, with a new perspective and new theoretical foundation from which an analysis can be built.

## **2.2. Expectancy-Value Theory**

The theoretical foundation of this thesis will be based on the Expectancy-Value Theory (EVT). EVT is a widely accepted theory of motivation. It postulates that motivation is determined by two factors; expectancy, the expectations of success, and value, the perceived task value (Zeng et al., 2017; Eccles et al., 1983; Eccles & Wigfield, 2002; Wigfield & Eccles, 2000). For example, people are more likely to be motivated to pursue an activity if they expect to do well and value the activity. The theory was originally developed in the 1960s and its principles have since been found applicable across various fields, including organizational behavior. Vroom (1964) introduced the theory to organizational behavior when he investigated employees' motivation to work. Subsequently, Erez and Somech (1996) expanded upon these ideas, by examining motivation within work teams. This group-based exploration underlines the theory's applicability not only on individuals' motivation but also on larger groups and



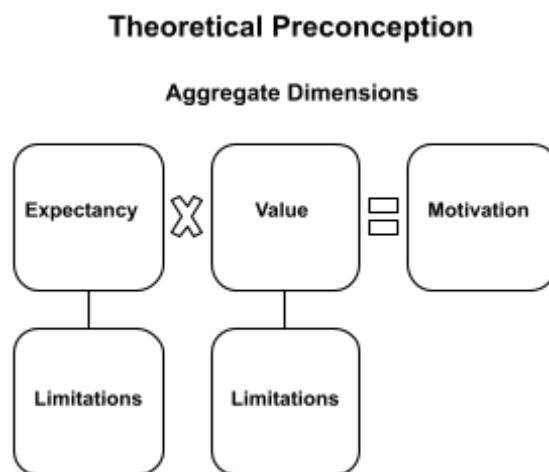
organizations. The relationship between expectancy and value in determining motivation can be explained by the following formula:

$$E * V = M \quad (1)$$

Motivation (M) is the product of expectancy (E) and value (V). High expectancy and value will result in strong motivation. However, if either E or V is diminished, motivation (M) can be significantly impacted. The EVT is therefore a useful theory to highlight the motivational dynamics and suiting for investigating the motivating factors for sustainable transitioning within organizations. If a company believes in their ability to succeed with a sustainable transition and see significant value in the transition, their motivation is likely to be high.

## 2.3. Theory Visualization

**Figure 1:** *Theoretical Visualization*



This study will utilize the EVT to help and guide the authors towards answering the research question. The aggregate dimensions are predetermined as expectancy and value in accordance with EVT where a dimension is added to reflect the potential, limiting factors within the Expectancy and Value dimensions. By analyzing the gathered data the authors hope to find sub-dimensions under each aggregate dimension, shedding light on the motivational dynamics. In other words, the aim of the thesis is to identify how companies within the petroleum industry are motivated to pursue sustainable transitions and also to identify any limiting factors, which will be done through the EVT.

### **3. METHODOLOGY**

#### **3.1. Methodological approach**

##### **3.1.1. A Qualitative Study with an Abductive Approach**

With the aim to investigate the motivational dynamics of companies within the petroleum industry, and specifically looking at one company's dynamics as a benchmark, the thesis will use a qualitative approach, combining data from mainly interviews but also an initial survey and qualitatively analyzing the results (Bryman & Bell, 2022). It is essential to underline that the questionnaire has been analyzed, not through quantitative methods, but rather through qualitative methods, and it is therefore a part of the qualitative research method and not a mixed-methods approach. The qualitative method is generally aligned with an inductive approach, based on previous empirical studies (Bryman & Bell, 2022). However, as this thesis is built upon the theoretical framework, Expectancy-Value Theory, together with an empirical foundation in the data gathered, an abductive approach has been used. In other words, it is the obtained information of theory and empirics that, in combination with each other, has built the methodological approach of the thesis. The authors begin with an existing theory but remain open to modifying and adding on to the framework, a concrete example being, as discussed in section 3.3.1., where the authors are adding sub-dimensions to the aggregate dimensions of the EVT. The abductive approach enables for flexibility moving between observed data and theoretical explanations making it possible to facilitate a more holistic understanding of motivating factors for sustainable transitioning.

##### **3.1.2. Choice of Case Study Company**

Preem was chosen as the case study company due to the fact that it is the largest petroleum company in Sweden with a refining capacity of more than 18 million cubic meters of crude oil annually (Preem, 2023). This substantial market presence underscores Preem's influence and role in the industry. Preem is investing heavily in sustainability and aims to become climate neutral by 2035, with for example a recent

investment of 5.5 billion SEK to convert their refinery in Lysekil to produce renewable diesel and sustainable aviation fuel (Argus, 2023). The two main factors of the choice is therefore, the company's size and market presence and their commitment to sustainability.

### **3.1.3. Ontological Stance**

The ontological stance related to this study can be seen as somewhat contradictory. Relating this back to the research question: *How are companies within the petroleum industry motivated to pursue sustainable transitions and what are the current limiting factors?* Using only Preem as a benchmark for the industry suggests an objectivistic observation perspective. However, the authors do believe that reality is not a fixed entity (relativism) and that only investigating one company can not give the whole truth. While the case study itself is examined as a specific instance of reality from the perspective of Preem, there is an underlying assumption that this instance holds valuable truths that are to some extent, transferable or reflective of the industry at large. This does not mean that the authors believe in a single objective industry-wide reality, but rather that they see this company, being pioneers of renewable fuel, as exemplifying certain phenomena that could have relevance beyond its borders, understanding that variations will exist. However, due to limitations in time and resources the authors had to settle with only investigating one company, but suggests for future research to expand and compare multiple companies within the industry, which is further discussed in section 5.5.

## **3.2. Main Study**

The main study consisted of two parts, one part consisting of an internal questionnaire and the other the execution of semi-structured interviews. Since the aim of the study is to capture the motivational dynamics of companies operating within the petroleum industry through the EVT, it was out of interest for the authors to conduct a questionnaire to be used as a benchmark serving as a part of the foundation for the interviews. However, the primary focus of the main study is centered around the interviews.

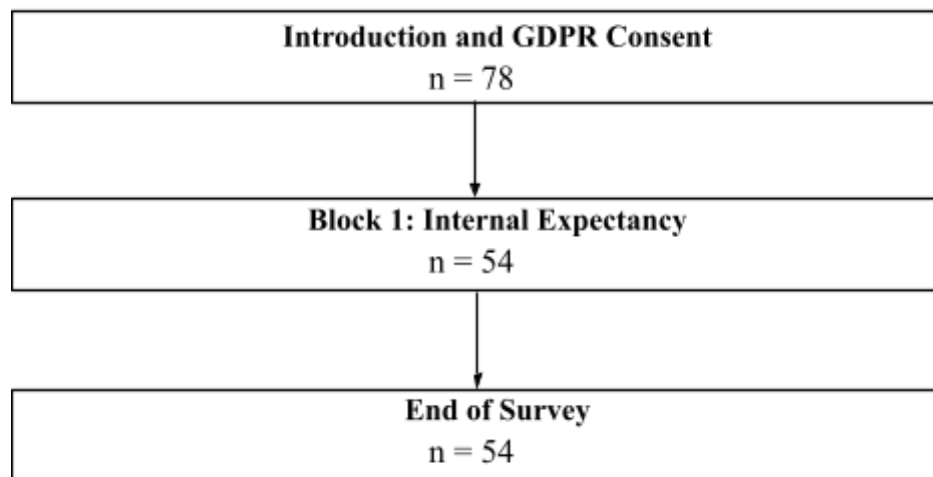
### **3.2.1. Purpose of the Questionnaire**

The purpose of the questionnaire was to capture an aggregate internal level of expectancy at Preem. By conducting the survey an understanding of the current internal belief in the transition was established. The result of the questionnaire was included in the interview questions (Appendix 1) to capture factors that may have contributed to the result as well as further discussing if the result reflects reality.

### **3.2.2. Internal Questionnaire**

An internal study was conducted in the form of an online self-completion questionnaire sent out via internal emails to 204 employees at Preem all with various roles, knowledge and expertise. The email included a short introduction to the thesis as well as a link to the questionnaire. Due to GDPR the respondents were informed about the handling of the data and that the answers were completely anonymous and non-traceable. All respondents had to give their consent to participate in the questionnaire by ticking a box. The questionnaire was constructed to make it impossible for the respondents to answer the questionnaire without ticking the box first, ensuring that no data without consent was mixed in the result. The internal questionnaire consisted of one multiple choice question ranging from a scale of 1 (LOW) to 5 (HIGH) aimed at measuring the aggregate internal expectancy of Preems success in its readjustment (Master Transition Plan) towards renewable production and sale of renewable fuel (Sustainable Transitioning)(Appendix 2).

### 3.2.3. Questionnaire Flow



### 3.2.4. Data Collection, Participation and Quality of Data

The internal questionnaire was distributed on the 3rd of October, with a deadline on the 1st of November. In total 54 valid responses were generated from the questionnaire. Since the purpose was to capture an aggregate internal expectancy level; the employees of Preem were seen as the population. The authors had the opportunity to utilize Preem's internal communication and sent out the questionnaire via the company's internal email. This implies that the authors attempted to employ a census rather than a sample but were however aware that far from everyone would respond. The employees who chose to answer the questionnaire constitute a self-selection sample which is a type of non-probability sampling (Bryman & Bell, 2022). The sample is non-random in the sense that respondents choose themselves whether or not to participate, which could lead to potential bias. Respondents may have different characteristics or motivation compared to those who chose not to participate, implying a response bias. The self-selection aspect can make it more likely that employees with stronger opinions related to the subject are more inclined to respond, leading to the result not accurately reflecting the entire population. (Groves, R. M., & Peytcheva, E. 2008). The authors were aware of this and used different techniques to try to make the results more representative, for example with the use of follow up reminders and emphasizing the anonymity of the survey. With 54 valid responses out of a population of 204 indicates a response rate of 26.5%. The result of the questionnaire will be analyzed through including it in the interviews (Appendix 1), where it will be discussed whether it

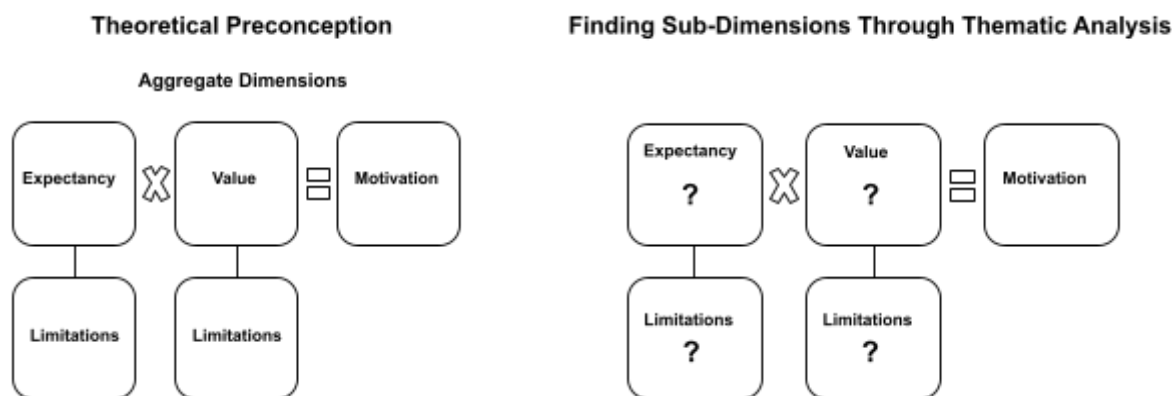
actually reflects reality as well as discussing potential factors that may have contributed to the result.

### 3.3. Interviews

#### 3.3.1. Analytical Approach

The analysis method used is a thematic analysis (Bell & Bryman. 2022) meaning that the authors are identifying, analyzing and reporting patterns in the data. Since the authors are entering the research with a theoretical preconception through the EVT, grounded theory (Bell & Bryman. 2022) can be excluded as an appropriate analysis method for this study. The aggregate dimensions are predetermined as expectancy and value in accordance with EVT where a dimension is added to reflect the potential limiting factors within the Expectancy and Value dimensions. By identifying patterns in the data the authors hope to find themes/sub-dimensions under each aggregate dimension, shedding light on the motivational dynamics. To conclude, although the authors are looking to find new sub-dimensions, which could be seen as grounded theory, the fact that it is done within the context of a theoretical framework and not a development of a new theory, a thematic analysis is more suitable.

**Figure 2:** *Analytical approach*



### **3.4. Interview Design**

The interview guide has been designed to fit the research question and purpose of the thesis, using EVT as its theoretical foundation (Appendix 1). The approach has been to construct semi-structured interviews, through broad and open-ended questions giving the interview participants the possibility to elaborate on the parts that they believe are important as well as giving the authors the possibility to ask follow up questions. When constructing the interviews it has been essential for the authors to not risk pre-determining the sub-dimensions under each aggregate dimension. If the authors had instead conducted a fully structured interview without broad and open-ended questions the participants would not be able to elaborate on the parts they believe are important and then it would have been as if the authors had restricted the interviews and predetermined the result, eliminating the purpose of the study. However, adopting a semi-structured interview process comes with the disadvantage that it can affect the comparability between the results of the interviews (Bell & Bryman. 2022).

### **3.5. Sample**

The interview material gathered is based on 11 interviews with various department managers and associates at Preem (Appendix 4). Since the interview guide (Appendix 1) contains broad questions related to the organization, a criteria when selecting interview prospects was that they should have broad knowledge about the company, consequently leading to prospects higher up in the organization. However, it was ensured that all prospects did not only cover a specific part of the organization, and that interviewees held positions in different departments, enabling an analysis of various internal perspectives.

### **3.6. Ethical Considerations**

Since the interviews were conducted only at Preem the integrity of the interviewees were considered to be of extra importance since stating specific roles or names can increase traceability. To ensure that the participants felt secure to answer truthfully each participant was assigned a number instead of their name and their specific roles are not

mentioned. This precaution was taken by the authors to ensure that the result is as close to reality as possible.

### **3.7. Methodology Discussion**

#### **3.7.1. Reliability**

When analyzing the reliability of the study the authors have looked specifically at two types, *external reliability* and *internal reliability*.

In qualitative studies *external reliability* reflects on the replicability of the research conducted (Bryman & Bell, 2022). According to Bryman & Bell (2022), the circumstances and social setting seen in qualitative studies makes it complicated for other researchers to replicate the study in the same way as it was first performed, which does affect the external reliability negatively. However, the authors have attempted to insure external reliability and facilitate potential future research through detailed instructions of the process of collecting empirics and connecting it to the theoretical framework applied.

*Internal reliability* refers to the degree to which the data collected is perceived in the same way by researchers. In other words, to what extent do the researchers agree with one another on how the data should be interpreted (Bryman & Bell, 2022). The authors have transcribed all the empirics received through the interviews, which has facilitated the interpretation of data as the authors had the possibility to go back and discuss the answers received. Additionally, the data has been analyzed both independently and through collaborative discussions throughout the research work ensuring that the internal reliability of the data is as high as possible.

#### **3.7.2. Validity**

Similar to reliability, the authors have looked into the *external validity* and *internal validity* of the study.



When analyzing the *external validity* of a study researchers should reflect on the generalisability of the information received, reflecting on if the data can be applied to a broader context, for example across industries. In qualitative research one of the limitations affecting validity is the sample size (Bryman & Bell, 2022). As this study has looked specifically into the motivational dynamics for one company in the petroleum industry and an arguably limited sample size, the limitations made can be argued to complicate the generalisability of the study, in turn affecting external validity.

The *internal validity* of the study is defined as the extent to which the data collected reflect the true visualization of how the theoretical construction is developed throughout the research (Bryman & Bell, 2022). The empirics brought forward in the results of the study reflects the factors and statements most frequently brought up by interviewees, which has ensured internal validity through the transcribing of all results and subsequent studying of the results both independently and in collaboration. The authors are aware that using the most frequently brought up factors as the foundation for the result does not completely ensure that these factors are more important than others, however, it does reflect the most true results obtained from the interviewees.

## **4. FINDINGS**

### **4.1. Questionnaire Findings**

The internal questionnaire is used as a benchmark for the aggregate expectancy level of Preem as an organization. From a scale ranging between 1 (Low) and 5 (High), the result of an average score of 4.17 suggests a strong overall internal confidence in Preem's readjustments towards a more sustainable operation (Appendix 3).

### **4.2. Interview Findings**

The findings were divided into multiple sub-dimensions which were identified in the interviews. The first section, Expectancy, focuses on the dimensions influencing Preem's internal belief in sustainable transitioning, while the second section, Value, focuses on the perceived value-dimensions of transitioning. The authors present a balanced representation of the quotes focusing on the themes identified. If a quote is mentioned in the findings similar quotes with the same underlying meaning have been identified but all quotes with similarity may not be specifically mentioned. The interviews were conducted in Swedish, but were transcribed during the interviews and afterwards translated to English to fit the language requirements of the thesis.

#### **4.2.1. Expectancy**

##### **4.2.1.1. Structure and Feasibility**

The most frequent dimension mentioned by the interview participants, related to expectancy, was that the structure and perceived feasibility of the transition plan is important to establish belief.

*“There needs to be a balance in the transition plan. It should be challenging and inspiring but still feasible and realistic.”*

*“If the transition plan is too optimistic and not realistic, it is argued that the credibility will fall resulting in a decrease in the belief of it being successful.”*

*“Long term goals should be set and aligned with legislation, and subsequently the necessary steps should be determined to achieve them.”*

A sustainable transition within the petroleum industry can be argued to be complex. It is emphasized that having a clear and structured transition plan that is easy to understand can decrease the information asymmetry within the organization.

*“Even if the transition is complex it needs to be well structured and easy to understand for all employees. If employees do not understand the transition then how should they believe in it?”*

#### **4.2.1.2. Commitment**

One dimension frequently mentioned by the interview participants was the level of commitment and support towards the sustainable transition plan.

Commitment is described in the sense of long-term consistency with working towards the goals of the plan as well as also tackling challenges that may arise throughout the journey.

*“I believe that our long term commitment towards the transition plan as well as tackling obstacles that may appear on the way, resonates throughout the whole organization.”*

It is underlined that the employees feel like commitment is important for believing in the transition.

*“As an employee I feel like dedication and consistency is important for believing in the transition. Without commitment to the plan I think few would believe in the transition.”*

#### **4.2.1.3. Resource Allocation and Strategic Alignment**

The interview participants expressed that employees should be able to recognize that the resources are adequately allocated and that the sub-targets must be strategically aligned with the transition plan. Showcasing that the organization is moving on the right track.

*“It is difficult as an employee to miss that Preem is allocating a large amount of resources towards the transition, in the shape of people, money and time. I believe that this is a contributing factor to the high result you got in your survey.”*

It is underlined that there is a difference between talk and action. Having a plan does not mean anything if you are not taking action in pursuing it.

*“There is one thing to have a plan but another to actually pursue it. We have to show that resources are going towards the right things.”*

It is expressed that the belief in the transition can be harmed if the majority of the resources are allocated towards other projects and the necessary resources are not allocated towards the transition.

*“It is very contradictory if we would have expressed the importance of the transition plan but allocated the majority of our resources towards fossil projects. This would not be long-term sustainable and easy to see through.”*

Participants underline the importance of setting sub-targets aligned with the long-term goal.

*“Sub-goals need to be established and they should be aligned with the long-term goal to create confidence in the transition.”*

#### **4.2.1.4. Knowledge and Expertise**

A sustainable transition and shift from fossil energy towards renewable energy demands expertise and knowledge. Recognizing and highlighting the internal expertise can enhance employees' belief in a successful transition.

*“The renewable fuel market is still a relatively young market compared to the fully fossil. We have built expertise, flow processes and administrative processes that can back our transition.”*

Interviewees state that they believe Preem to have the competencies needed to pursue the transition, and that knowledge and expertise is essential for future development.

*“I believe that we have the competence needed within the organization to manage a transition and I hope that this view is shared across the organization. Having employees with the competence needed is crucial for a transition and is something that should be internally highlighted and celebrated which can strengthen the belief in a successful transition.”*

#### **4.2.1.5. Monitoring and Showing Results**

It is argued by interviewees that being transparent and continuously monitoring the progress and showcasing results to employees can foster a belief in the transition. This does however demand that the monitoring and results show that the company is on the right track.

*“We believe that strong internal communication of the process, progress and milestones are important to show that the transition is possible.”*

*“Communicating results shows that it is not only talk, things are actually moving forward.”*

More than half of the interviewees mention the importance of not only making progress, but showing and displaying the progress clearly to the employees.

*“Communicating sustainable ambitions is of great importance for fostering a high internal belief in the transition but just as high of an emphasis should be put on displaying the progress and results.”*

#### **4.2.1.6. Regulatory environment**

The majority of the interview participants underline that a belief in the transition can be established if it is perceived that the regulatory bodies, both domestic and international, are pushing for it. Stronger regulations can legitimize the urgency and importance of the transition. A fluctuating regulatory environment can impact the belief.

*“When you see that regulations can fluctuate both back and forth, many are pulling the handbrake and it is something that can make you question your belief.”*

However from a long term perspective it is expressed that one should be able to rely on the requirements set in EU’s climate legislation, Fit for 55, which according to multiple interviewees limit the regulatory risks associated with a transition.

*“All countries have different regulations but we can to a certain degree rely on what EU calls Fit For 55, that sets certain requirements. Even if the Swedish regulations are regressing now they must eventually meet the requirements, otherwise the state risks facing huge fines. So from a long-term perspective investing in renewable fuel from a regulatory perspective is relatively risk free.”*

#### **4.2.1.7. Market Factors**

It is expressed that an external foundation for believing in the transition is that a market for the renewable products needs to emerge simultaneously as the company is transitioning. This is also related to the regulatory environment since it is a part of shaping and guiding the market. If there is no belief that there will be a market for the products then it is difficult to justify the transition.

*“Simultaneously with the transition a market for this type of products needs to arise.”*

Concern is expressed related to the external demand for transitioning, with differences identified in stakeholder opinions of the need for transitioning.

*“A transition towards renewable fuel can not be justified if we do not have a belief that there will be a large demand for such products. We want and need to be able to produce the products of tomorrow.”*

Further concern was expressed related to stakeholders' interpretation of the industry as too environmentally challenging for a sustainable transition to be possible.

*“Since high emissions have been associated with our industry, it may be difficult for some people to actually see that a successful transition is possible.”*

#### **4.2.2. Value**

##### **4.2.2.1. Economic**

The economic dimension boils down to that the transition should be economically prudent to be of value for the company. Many employees seem to be aware of the economical need for transitioning for the company's and the industry's future survival.

*“As of right now our transition to renewable fuel is crucial for our long term survival.”*

*“It is in many ways a question of survival for society and the climate, but also for us as a company as it is essential for our long-term survival that we have the ability to produce tomorrow's products.”*

The knowledge of the need for transitioning is also seen related to the production capacity of the company, as multiple interviewees mention the differences in margins for fossil products compared to renewable alternatives.

*“As demand decreases for fossil products, there is an overcapacity in refineries, eventually leading to a tipping point with too much capacity and low margins, forcing companies to reduce their production volume. Eventually the weakest who have not transitioned will die.”*

*“Renewable has better margins. The economic gain lies in capturing the long-term margins.”*

However, employees raise concerns regarding the differences in the company's willingness to transition in combination with the economic limitations and motivations among stakeholders.

*“For the station and fuel network, I definitely believe that there is a willingness to adopt to greener fuel options. However, what is important to note is that we are currently living in an economic climate with higher interest rates, inflation and generally increasing costs. For many people, cutting costs of simpler things, perhaps like transportation, becomes a very cost-effective choice. I mean when it comes to peoples own wallets and finances, customers are generally very sensitive to changes in the economic conditions.”*

*“A transition must also be backed by the stakeholder, it will not hold if customers are not willing to pay for the product.”*

Furthermore, more than half of the interviewees identify a limitation in customers willingness to pay for renewable fuel, contemplating on the higher price of the products.

*“We want to transition fast since we currently make more money from the renewable, but there is some limitation in willingness to pay and fully transition amongst customers.”*

*“If we have significantly higher costs but no willingness to pay in the customer segment a transition towards renewable fuel is not defensible.”*

Additionally, several interviewees mentioned a concern regarding the uncertainty of revenues stemming from a commitment towards sustainability and how this could cause a threat for the motivation of the transition.

*“The biggest threat for the transition is that we need steady revenue. Right know its fluctuating.”*

*“Now when we see that regulations can fluctuate in both directions companies within the petroleum industry may become more restrictive in their transition plans.”*



On the other hand, some employees mention the demands and motivation stemming from external stakeholders as positives for emphasizing the need of sustainable transitioning.

*“Customers definitely see the advantage in transitioning to renewable, mainly because of the demands society places on the companies. From the financial perspective there are clear expectations from the state and organizations to think sustainably. Investors always have some kind of sustainability criteria nowadays.”*

#### **4.2.2.2. Regulatory Environment**

Multiple interviewees state that the awareness of the shifting regulations in Sweden is widely discussed within the company and finding mitigating factors for handling the situation is highly prioritized. Still, there seems to be differences in the level of concern that employees feel for this matter. Some employees state that they are aware of the significant effect of the regulations, but that the international regulations that all companies in the long-term have to adhere to make investments in sustainable transitioning relatively risk-free.

*“All countries have different regulations but we can to a certain degree rely on what EU calls Fit For 55, that sets certain requirements. Even if the Swedish regulations are regressing now they must eventually meet the requirements, otherwise the state risks facing huge fines. So from a long-term perspective investing in renewable fuel from a regulatory perspective is relatively risk free. The biggest risk lies in the short term with lower demand and shrinking margins for renewable fuel.”*

*“We have lived long in a demand that is greater than the supply, in regards to renewable feedstock. The prices skyrocketed and everyone wanted to produce renewable fuel. Now as other actors have built up volumes and the Swedish regulation regresses the demand will become much lower.”*

On the other hand, some interviewees express a larger concern of the current regulatory environment, and feel uncertain of how Preem can continue their current commitment.

*“I’m a bit concerned actually because Sweden is potentially one of the largest markets we have for bio-products, and with the lowered reduction obligation that we now have in Sweden, Neste for example, has already implemented a hiring freeze and recently announced that they will lay off 400 people. So they are preparing for something, which begs the question, how will we make money next year if we don’t have the same opportunities in the Swedish market? Well, we need to sell our bio-products in other markets.”*

*“As an employee, I miss a deeper analysis of the consequences. What are the consequences for Preem with the reduction obligation? Do we know this, what do we believe, and is it really just as simple as selling renewable fuel to Germany instead?”*

Furthermore, interviewees refer to the regulatory shift as a factor changing the entire market dynamics of the petroleum industry, and that Preem themselves have to create their own conditions for how to keep selling renewable fuel and create value for the organization, even if it is done with a larger share of fossil.

*“For many years it has been difficult to sell fossil products to trading customers. There has been demand but there has been more production than what the market has needed. Therefore, the ability to mix in renewable feedstock to meet mandates has been central for selling fossil products. Now the market situation has changed such that there is an excess of renewable feedstock and shortage of fossil, especially since the Russians are no longer a part of the market. Today if customers come and want fossil products they also have to take some renewables.”*

*“Sweden has gone from a very aggressive regulatory environment to the opposite.”*

#### **4.2.2.3. Competitive Advantage**

Within the organization there appears to be an awareness of the potential value that can be captured by being an early mover within sustainable transitioning, and also how this can lead to a positive branding effect in the long-term.

*“It is important to initiate the transition early as it is a learning process and the transition does not happen overnight.”*

The majority of employees are also aware that Preem’s biggest competitor within renewable fuel, Neste, has made significant profits from their commitment to producing renewable fuel. Many have also described the larger players within the petroleum industry as conservative and traditional while knowing that Preem is investing more and more in sustainability.

*“If you look at Neste, who have progressed much further in their transition, one can see that they have earned enormous amounts of money from being early in their transformation.”*

*“The large petroleum companies such as BP and Total have not transitioned to the same extent. Their decision-making process is extensive and slow. It also does not seem like they have the same ambition of transitioning, they still make a lot of money from the fossil. Some do instead invest their surplus into for example wind farms instead of changing their own core business.”*

Further, some interviewees mention that Preem’s brand position has worsened compared to previous years.

*“At present Preem has a weaker brand position in the public eye from a sustainability perspective compared to five years ago.”*

#### **4.2.2.4. Long-term Viability**

That Preem is adjusting their operations for the future is something that appears to be clear to all interviewees within this study. The majority mentions that Preem’s commitment to being one of the front figures within sustainable transitioning has been

distinctly communicated internally, even to the organizational units where sustainability is not as apparent.

*“Preem has planned the transition in a clear and structured way with distinct milestones, and I do not believe that we are too aggressive. We have built expertise, flow processes and administrative processes that can back our transition. However, for a transition to be successful a market for such products should simultaneously arise.”*

*“As it stands now, our long-term survival is entirely dependent on the transition to renewable sources.”*

Additionally, multiple interviewees indicate that the transition plan is so openly communicated that it has put an imprint on the internal culture of the organization, emphasizing the motivational value that employees feel for the company’s future proofing.

*“As an employee I feel like it is impossible to miss that Preem is putting high emphasis on the transition plan and this commitment is something that has put an imprint on the internal culture.”*

*“I think that the internal communication and clarity conveyed are what has generated the commitment that can be observed within the organization.”*

#### **4.2.2.5. Flexibility**

Many interviewees mention that the ability to be flexible and to have the capability to adapt is one of the most important factors to consider to create long-term value for the organization.

*“Preem has to have flexible production facilities as soon as possible to quickly adapt to the fluctuations of the market demand.”*

However, some employees also raise concerns regarding Preem's current position in the market. With Preem's main revenue source stemming from the sale of fuel to other trading companies, rather than directly to customers.

*“There is a distance between Preem and their customers, as most of our revenue comes from other trading companies, which in turn creates a difficult situation where we as a company can have a very limited influence on the type of products that the customers want to buy.”*

Further, another limiting factor mentioned was connected to the internal commitment and engagement of employees within the organization. Some employees expressed a concern for the internal understanding of being flexible and adaptable and that some situations can cause the intended plan and its structure to change abruptly, which could potentially limit employees motivation.

*“I believe that there are difficulties to be seen in creating organizations that are internally committed and engaged in what they do, but also flexible and adaptable. This as there will always be defined paths and plans that the company wants to follow, but it is important to note that there will always be circumstances that might require deviations from them.”*

## 5. DISCUSSION

### 5.1. Coming back to the Research Question

This study has sought to investigate how petroleum companies are motivated to pursue a sustainable transition from the perspective of Preem. Using a research design based on qualitative analysis, the following question has been investigated:

*How are companies within the petroleum industry motivated to pursue sustainable transitions and what are the current limiting factors?*

The discussion decomposes and reflects on the sub-dimensions identified in the findings. From analyzing the findings the authors have found that depending on the circumstances all sub-dimensions identified can be seen as both enabling or limiting factors for sustainable transitioning. Additionally, it was found that the regulatory environment had a larger impact on the overall motivation due to its effect on both Expectancy and Value.

### 5.2. Motivational Dynamics - Answer to the Research Question

#### 5.2.1. Expectancy Decomposed

The following section will discuss the seven sub-dimensions, influencing the expectancy level, identified in the findings; ***Structure and Feasibility, Commitment, Resource Allocation and Strategic Alignment, Knowledge and Expertise, Monitoring and showing results, Regulatory Environment, and Market Factors***, generating a deeper analysis of their importance in shaping motivation for sustainable transitioning.

Firstly the authors will address the most frequently mentioned dimension for establishing internal belief in a sustainable transition, ***Structure and Feasibility***. Given the complexity of sustainable transitions, a lack of understanding amongst employees can lead to information asymmetry within the organization. As mentioned in the findings, it is questioned whether someone can even believe in a transition if they do not

understand it. Thus, simplifying and structuring complex information is essential for fostering organizational comprehension and belief in the transition. The plan needs to be internally perceived as feasible which can be achieved through having a clear structure and sub-goals. From the findings it is also argued that to achieve feasibility the plan should not be too aggressive and set goals beyond what is possible. There needs to be a balance between the plan being challenging and inspiring but still feasible and realistic. There are also reports within other fields that emphasize that structure and feasibility are important for fostering an understanding and belief in a transition. A report from KPMG (Watson, 2023) for example underlines that these factors are important for investors to understand and believe in a company's transition.

The second factor showing a significant effect on motivation is the company's ***Commitment*** towards sustainability. It is identified that by having a long-term approach and commitment towards the transition plan internal belief in the transition being successful can be established. In Schrettle et al. (2014b)'s study, discussed in section 2.1.2., one of the sustainability related drivers mentioned is proposed to be the management's own commitment towards sustainability, similar to what was identified in the findings. When leaders show a high level of commitment towards the transition, it sets an example for the rest of the organization. This leadership of example is important for creating a culture where sustainability is pursued and valued. Commitment also relates to staying committed in the sense of tackling obstacles that arise. Respondents emphasized that sticking to the plan although difficult challenges may arise shows that the organization is long-term committed.

Thirdly, ***Resource Allocation and Strategic Alignment***, was identified as one of the factors with significant influence on the company's internal belief in creating a successful transition. It is emphasized that employees should be able to recognize that the resources are adequately allocated and that the sub-targets must be strategically aligned with the transition plan. Showcasing that the organization is moving on the right track. If the necessary resources are not allocated towards the transition, it becomes difficult to imagine its success. Similarly, if the sub-targets are not aligned with the overarching goal of the transition, achieving the desired outcome becomes difficult, and can instead become a limiting factor. Additionally, previous research within the area of sustainable transitioning has found that one of the internal drivers for sustainable

initiatives is resource base and culture (Schrettle et al., 2014b), as mentioned in section 2.1.2.

The fourth dimension frequently discussed, was related to the general ***Knowledge and Expertise*** within the organization, specifically concerning the shift from fossil-based to renewable fuel, and sustainable transitioning in general. To establish internal belief it is not only important to have such knowledge and expertise within the organization but it is equally important to highlight and communicate this internal expertise to all employees. Additionally, from the findings it is identified that respondents feel more confident in a transition if they are aware that the organization has the expertise and knowledge necessary.

The fifth factor, ***Monitoring and showing results***, displays that building trust and commitment, is dependent on the company being open and consistent in monitoring progress and sharing results with employees. By regularly updating the whole organization on the progress of the transition and demonstrating tangible outcomes, employees can see the direct impact of their efforts and the overall direction of the change. Transparently sharing progress keeps everyone informed and also reinforces their confidence in the transition's success.

However, this approach requires that the monitoring and the results presented genuinely reflect that the company is moving in the right direction. If the data shows positive progress towards the transition's goals, it reinforces the belief in the plan. On the other hand, if the results are not as expected, it is equally important to be transparent about the challenges and the steps being taken to address them. This honesty in communicating both success and setbacks fosters a culture of trust and a shared commitment to the transition, making the belief in a sustainable change more profound and widespread.

One of the most important factors that can act as both an enabling and limiting factor under different circumstances is the ***Regulatory Environment***. Belief in the transition can be established if it is perceived that the regulatory bodies, both domestic and international, are pushing for it. Stronger regulations can legitimize the urgency and importance of the transition. However, a fluctuating regulatory environment can also



impact the belief negatively. With increased restrictions internal expectancy will most likely decrease, which in turn affects the overall motivation for sustainable transitioning negatively.

The seventh and final factor is the general **Market Factors**. Positive market factors have the potential to manifest that the belief in the transition can be established, for example by seeing the market shift in favor of renewable fuel. It is identified that a market for renewable products needs to emerge simultaneously as the transition. If there is no belief that there will be a market for the products then it is difficult to justify the transition and believe that it will be successful.

### **5.2.2. Criticism Towards Expectancy Findings**

The result from the internal questionnaire shows that there is a high internal belief in Preem's transition highlighting a positive view of the expectancy factor, concluded from the data. However, some employees were a bit more skeptical towards the internal questionnaire result and questioned whether to which extent it reflects reality. "*there is always an internal bias*". The Confirmation Bias, Social Desirability Bias as well as Reputation Management, could shed light on why individuals would rate the expectancy of a successful sustainable transition high. From the leaders perspective, having themselves advocated for the sustainable transition they may be biased and seek information and data that confirms their pre-existing beliefs. Individuals higher up may also be more concerned about how stakeholders, both internal and external, perceive the organization. A high rating can enhance the organization's reputation which reflects well on them. More generally, moving away from only individuals with higher roles, in an era where sustainability is becoming more and more discussed and important, respondents might feel that there is a social expectation to believe in and support sustainable transitions. One could also speculate that individuals working within high climate impact industries may seek ways to justify that they work there. This by for example, in this case, giving a high rating and answering interview questions positively, underlining that the organization is capable of positive change and that the individual is a part of it.

### 5.2.3. Value Decomposed

The following section will address the second part of the Expectancy-Value Theory, decomposing and analyzing the five sub-dimensions of the value factor, identified in the findings. The following five dimensions will be discussed: *Economic*, *Regulatory Environment*, *Competitive Advantage*, *Long-term Viability*, and *Flexibility*, generating a deeper analysis of their importance in shaping motivation from a value perspective.

The firstly discussed decomposed factor in this section will cover the *Economic* value identified in the findings. The interview findings show that multiple Preem employees see the potential economic value in sustainable transitioning. For example, it is explained to the authors that the margins on renewable fuel are significantly better than the margins on the traditional fossil fuel that is mostly used today. Additionally, the findings show that Preem internally has communicated the significance of stakeholders, and employees are clearly aware of the expectations of sustainable transition stemming from for example the government, other organizations, customers and from an economic perspective, potential investors. It is clear that the economic incentives for pursuing a sustainable transition is something that most employees are aware of and many of them express the willingness to help with its development.

However, there are also economic factors that are constraining sustainable development. Multiple Preem employees state that there are economic factors that currently limit the company's motivation for making sustainable choices. One of the most important factors identified is the combination of higher costs for producing renewable fuel and the customers willingness to pay a higher price for this fuel. The majority of employees state that they would themselves have the motivation to pay a higher price for fuel, knowing that they are contributing to a sustainable development that is of significant importance for the environment, society and most importantly the company that they are working for. However, they also state that most customers are not yet willing to make this choice, especially in a macro economic environment with higher interest rates, increasing inflation and generally higher costs of living. In other words, it can be established that there is a gap between the companies motivation to make the sustainable transition and the customers motivation to follow.

Secondly, just as in section 5.2.1., ***Regulatory Environment***, was established to have a significant effect on the motivational dynamics of the organization. The regulations act as a support function to guide the market in the right path. If the transition plan is aligned with the regulatory environment it can yield high value, but if not it can have the opposite effect. The value aspect in the regulatory environment can differ depending on the country and current legislation. For example, as the Swedish reduction obligation has been reduced the willingness to pay for highly classified feedstock will decrease in Sweden. However, if we look at Germany, Preem will be able to sell part A classified feedstock at higher margins since the volume can be counted twice because of the possibility to double count (see section 1.2.2.)

Most employees at Preem express a concern regarding the current regulatory environment in Sweden, which could be argued to lower the motivation to pursue sustainability related initiatives. The most commonly expressed solution for this rising problem amongst employees is that to withhold the motivation for producing sustainable fuel, Preem needs to instead sell the renewable fuel to other markets, where the demand is higher, such as Germany. However, some employees also express concern for this type of solution, arguing that there should be other possible solutions, and that a more thorough analysis should be made regarding how to keep offering renewable fuel to the same extent in Sweden.

Regardless, it can be seen that there are issues arising from the different national regulations that seem to create some motivational differences within Preem, but also for the market as a whole. For example, some employees mention Neste, one of Preem's major competitors within the production of renewable fuel, and how they are letting people go due to what seems to be because of the regulatory shift emerging in the Swedish market. One could argue that employees might feel that continuing and pushing too hard on the sustainable transition in the Swedish market is bad for the company due to the shifting regulations. Hence, one could argue that the current regulations are affecting motivation negatively.

Thirdly, ***Competitive Advantage*** was seen to be a factor with great impact on employees' perception of the company's internal capabilities and motivation. By being

early movers and pioneers in sustainable transitioning and new technologies for renewable fuel, one can gain a competitive edge by acquiring knowledge and expertise ahead of rivals. For example, Preem's competitor, Neste, is seen as a pioneer within the renewable fuel sector and has seen significant benefits from their investments in sustainable fuel.

The motivation stemming from being an early mover within sustainable transitioning is also something that is mentioned by employees as a motivating factor. Many employees express the value that they see in Preem being in the forefront of this transition and make comparisons to larger petroleum companies as slow and conservative compared to Preem as innovative and forward thinking.

As seen in the findings, employees do refer to the need for making a sustainable transition, as a must for continued operations in the future, but many do also mention that they see the competitive advantage that will arise from being an early mover. It also becomes clear that executives within the organization sees the commitment towards sustainable transitioning as a way of attracting talent and potential hires that share the same values and willingness to be a part of the company's transformational journey. Furthermore, this seems to create increased motivation and could become a competitive advantage in the future.

The fourth factor identified is the *Long-Term Viability* of the company. Since the industry has been labeled a diminishing sector it is of high importance for petroleum companies to become long term viable, where a sustainable transition can act as a way of proofing for the future.

In the findings the authors identified that future proofing seems to be one of Preem's main internally communicated aspects. Preem are being distinct and open in communicating the company's plans for the future and are, at the same time, establishing realistic milestones. This seems to be an effective way to visualize for the employees the potential value in making a commitment for future proofing. Most of the interviewees indicate that they are aware of the current situation in the market, where fossil fuel makes up a larger part of revenue compared to renewable fuel. This could potentially create issues in understanding why Preem are moving away from their

greatest revenue source, which could potentially affect motivation negatively. However, due to the internal transparency and well executed communication of Preem's strategy and future prospects, it seems to have had the opposite effect, and instead has generated motivation.

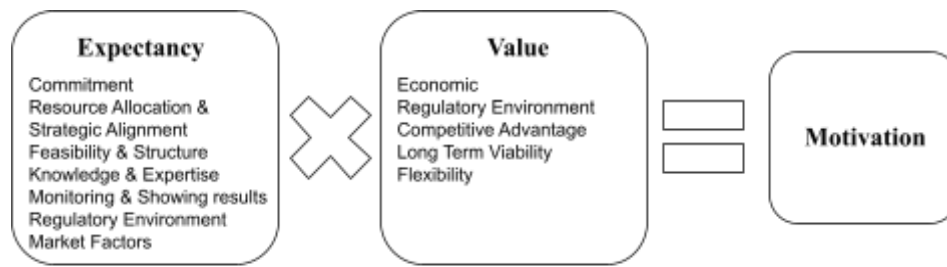
The fifth and final factor of the decomposed value factors for motivation is illustrated as the company's ***Flexibility*** in committing to the transition. The importance of flexibility and adjusting to change is important to all organizations in any industry. However, for sectors that are standing before such a large challenge as the petroleum industry, organizations' ability to be flexible becomes even more important. The value seen in adapting and being flexible to change is another factor identified to be of significant value for Preem.

Several interviewees state that they are aware of Preem working internally on transforming some of their fossil refineries into renewable refineries, which is of great value for the company to be able to adapt to fluctuating demand in the market. However, the flexibility also involves external factors, for example, adapting to shifting regulations, and preparing for that the pursuit of sustainable transitioning, most likely will be affected by circumstances that are outside of the Preem's control.

#### **5.2.4. Conclusion of Motivational Dynamics**

Through thematic analysis of the interviews the authors have categorized the findings into multiple sub-dimensions under each aggregate dimension of the Expectancy-Value Theory. These sub-dimensions were the most frequently brought up factors influencing expectancy and value. Figure 3 illustrates the identified motivational dynamics influencing the motivation to pursue sustainable transitioning within the petroleum industry from the perspective of Preem.

**Figure 3: *Motivational Dynamics***

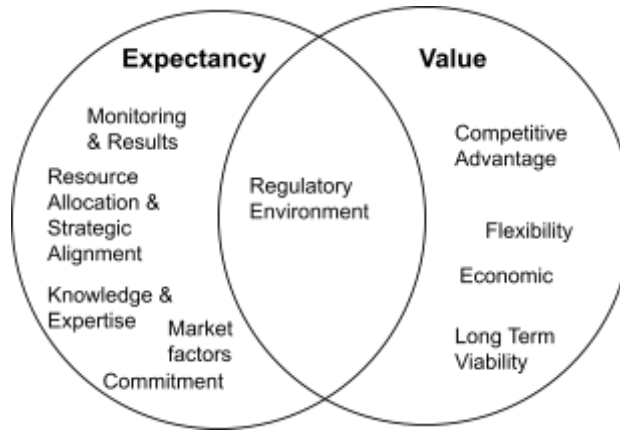


What one can observe is that Figure 3 differs from the theoretical preconception in Figure 1. Firstly, it can be seen that the limitation dimension, previously seen in Figure 1, is not included as a separate entity in Figure 3. The reasoning behind this development is that through the abductive approach used, moving between theory and observed data has allowed the authors to remain open to modifying the framework, generating the realization and conclusion that the limitation is not a separate dimension but rather a part of the enabling sub-dimensions. From the data it can be observed that the enabling dimensions are only enabling under favorable conditions, and that in fact all enabling factors brought up in this study also can be limiting factors under certain circumstances, which can be seen in the discussion above.

For example the regulatory environment only establishes motivation if the legislation is pushing for stricter sustainability requirements. If the case is the opposite the regulatory environment will instead be a limiting factor. This is clearly observed with the differences in regulations between Sweden and Germany. As seen in the introduction, section, 1.2.1. and 1.2.2., the current German regulations promote the use of renewable fuel and pushes harder for companies to commit to a sustainable transition, while Sweden has moved from a very aggressive regulatory environment to the opposite, with the lowered reduction obligation. From analyzing the findings it is clear that due to the changes made in Swedish legislation both expectancy and value are affected negatively. The result becomes a decrease in motivation for focusing on selling renewable fuel in Sweden, and instead creates the willingness to focus on other markets, such as Germany since they allow for double counting of A classified feedstock. Thus, it can be concluded that the regulatory environment can have an impact across dimensions, as seen in Figure 4 below. This crossing influence between the two aggregate dimensions

Expectancy and Value implies that the regulatory environment has a larger impact on the overall level of motivation.

**Figure 4:** *Interconnection Between Dimensions*



### 5.3. Practical Implications

As discussed previously the amount of research within the area of sustainable transitioning has increased significantly in recent years. Research has to a large extent focused on the importance of sustainability, with some studies investigating organizations' dynamic capabilities of pursuing sustainable transitions. However, little research has specifically looked into the internal perspective of the organization, investigating the company's motivational dynamics and what specific factors that can enable or limit the pursuit of transitioning. Henceforth, this study has taken a new perspective for research within sustainable transitioning, defining the motivational factors that could potentially help organizations understand how they can be motivated to commit to a sustainable transition. With the identification of the seven Expectancy sub-dimensions and five Value sub-dimensions, Preem and other petroleum companies can potentially find a foundation for how motivational dynamics within their organizations' can be built. It is important to note that some of the sub-dimensions, such as the Regulatory Environment and Market Factors, are out of the companies control while others such as Commitment and Flexibility can be shaped by the company in order to build motivation. However, even though the motivational dynamics identified seemingly explains the most important factors for Preem and potentially other companies within the petroleum industry, there are possibilities for further research to

deepen the analysis and broadening the scope of the study, which is further explained below.

#### **5.4. Thesis Limitations**

For this study there are some limitations that can be established. As the study is limited to the investigation of motivational dynamics for one company within the petroleum industry it can be argued that a study examining multiple companies within the industry would be more representative, as mentioned in section 3.1.3. The empirics collected in the study stems from employees that at the time of the interviews work at the company they are asked about, which could potentially generate biased answers, as explained in section 5.1.2. Additionally, as the majority of interviewees constituted of managers from different departments of the organization, it can be argued that the empirical data received through the conducted interviews are skewed towards managers in the organization, which could potentially affect the results. Furthermore, the authors have raised the motivational factors and aspects that were most frequently mentioned during the interviews, but it is important to note that it does not mean that these factors most certainly represent the most valuable factors.

#### **5.5. Recommendations for Future Research**

This thesis has investigated the motivating factors behind Preems possibility to pursue a sustainable transition. With the petroleum industry being one of the most pressured industries to do so, this report has dived deeper into the industry's most significant motivational factors. However, broadening the research scope towards other sectors, examining motivational factors for a larger number of industries could be beneficial to help a wider number of companies understand their best path for a sustainable transition.

For future similar research within the area, this type of study could also be adjusted to involve a larger number of observations, i.e. investigating a larger sample of companies. For a more generalized view of the industry, future studies could also look at a wider geographical scope studying multiple companies with headquarters in different



geographical locations. This type of study has the potential to result in more resilient conclusions regarding motivating factors for companies within the industry, which could be of value for a greater number of companies. With this study as a foundation, future studies can potentially extend the research, and build upon the dimensions presented on how to motivate companies to pursue sustainable transitioning.

## 6. REFERENCES

- Argus. (2023). Biofuels Market Overview.
- Bryman, A., & Bell, E. (2022). Business research methods. Oxford University Press. <https://doi.org/10.1093/hebz/9780198869443.001.0001>
- Bundesumweltministeriums. (n.d.). Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection. <https://www.bmu.de/en/>
- Cambridge Dictionary. *feedstock*. (2023). <https://dictionary.cambridge.org/dictionary/english/feedstock>
- Cambridge Dictionary. *transition*. (2023). <https://dictionary.cambridge.org/dictionary/english/transition>
- Department of Marketing and Strategy. (n.d.). Stockholm School of Economics. <https://www.hhs.se/en/Research/Departments/DMS/>
- Ebeling, F. (2023). Risks, the petroleum company, and the ongoing sustainable energy transition. *Desenvolvimento E Meio Ambiente*, 62. <https://doi.org/10.5380/dma.v62i0.81766>
- Eccles et al. (1983)  
Expectancies, values and academic behaviors
- Eccles et al. (2002)  
Motivational beliefs, values, and goals Annual Review of Psychology
- Eitan, A., & Hekkert, M. P. (2023). Locked in transition? Towards a conceptualization of path-dependence lock-ins in the renewable energy landscape. *Energy Research & Social Science*, 106, 103316. <https://doi.org/10.1016/j.erss.2023.103316>
- Energimyndigheten. (2023). <https://www.energimyndigheten.se/>
- Erez, M. (1996). Is Group Productivity Loss the Rule or The Exception? Effects of Culture and Group-Based Motivation. <https://www.semanticscholar.org/paper/Is-Group-Productivity-Loss-the-Rule-or-The-Effects-Erez-Somech/bbd665cad0184f295a4266acef5c2c391b71026e>

*EU's double standards on double counting*. (2023). IATP.  
<https://www.iatp.org/eus-double-standards-double-counting>

Falcone, P. M. (2014b). Sustainability Transitions: A survey of an emerging field of research. *Environmental Management and Sustainable Development*, 3(2), 61.  
<https://doi.org/10.5296/emsd.v3i2.6239>

*Fit for 55 – EU:s plan för att skynda på klimatomställningen*. (n.d.). Fit For 55 – EU:S Plan För Att Skynda På KlimatOmställningen.  
<https://swedish-presidency.consilium.europa.eu/sv/program/fit-for-55/>

Groves, R. M., & Peytcheva, E. (2008). The impact of nonresponse rates on nonresponse bias: A meta-analysis. *Public Opinion Quarterly*, 72(2), 167-189.  
<https://doi.org/10.1093/poq/nfn011>

Khan, S. a. R., Godil, D. I., Yu, Z., Abbas, F., & Shamim, M. A. (2021). Adoption of renewable energy sources, low-carbon initiatives, and advanced logistical infrastructure—an step toward integrated global progress. *Sustainable Development*, 30(1), 275–288. <https://doi.org/10.1002/sd.2243>

Khan, S. a. R., Ponce, P., & Yu, Z. (2021). Technological innovation and environmental taxes toward a carbon-free economy: An empirical study in the context of COP-21. *Journal of Environmental Management*, 298, 113418.  
<https://doi.org/10.1016/j.jenvman.2021.113418>

Köhler, J., Geels, F. W., Kern, F., Markard, J., Wieczorek, A., Alkemade, F., Avelino, F., Bergek, A., Boons, F., Fünfschilling, L., Hess, D. J., Holtz, G., Hyysalo, S., Jenkins, K., Kivimaa, P., Martiskainen, M., McMeekin, A., Mühlemeyer, M. S., Nykvist, B., ... Wells, P. E. (2019). An agenda for sustainability transitions research: State of the art and future directions. *Environmental Innovation and Societal Transitions*, 31, 1–32.  
<https://doi.org/10.1016/j.eist.2019.01.004>

Liboni, L. B., Jabbour, C. J. C., De Sousa Jabbour, A. B. L., & Kannan, D. (2017). Sustainability as a dynamic organizational capability: a systematic review and a future agenda toward a sustainable transition. *Journal of Cleaner Production*, 142, 308–322. <https://doi.org/10.1016/j.jclepro.2016.07.103>

Markard, J., Raven, R., & Truffer, B. (2012). Sustainability transitions: An emerging field of research and its prospects. *Research Policy*, 41(6), 955–967.  
<https://doi.org/10.1016/j.respol.2012.05.004>

Morgunova, M., & Shaton, K. (2022). The role of incumbents in energy transitions: Investigating the perceptions and strategies of the oil and gas

industry. *Energy Research & Social Science*, 89, 102573.  
<https://doi.org/10.1016/j.erss.2022.102573>

Plummer, P., & Van Poeck, K. (2020). Exploring the role of learning in sustainability transitions: a case study using a novel analytical approach. *Environmental Education Research*, 27(3), 418–437.  
<https://doi.org/10.1080/13504622.2020.1857703>

Rauer, J., & Kaufmann, L. (2014). Mitigating external barriers to implementing green supply chain Management: A Grounded theory investigation of Green-Tech companies' rare earth Metals supply chains. *Journal of Supply Chain Management*, 51(2), 65–88. <https://doi.org/10.1111/jscm.12063>

Rotmans, J., & Loorbach, D. (2010). Towards a better understanding of transitions and their governance. A systemic and reflexive approach. *Transitions to sustainable development: New directions in the study of long term transformative change*, 1, 105-122.

Sankaranarayanan, B., Abuthakir, N., Koppiahraj, K., Saravanasankar, S., Rajpradeesh, T., & Manikandan, R. (2021). An initiative towards sustainability in the petroleum industry: A review. *Materials Today: Proceedings*, 46, 7798–7802. <https://doi.org/10.1016/j.matpr.2021.02.330>

Schrettle, S., Hinz, A. M., Rathje, M., & Friedli, T. (2014). Turning sustainability into action: Explaining firms' sustainability efforts and their impact on firm performance. *International Journal of Production Economics*, 147, 73–84. <https://doi.org/10.1016/j.ijpe.2013.02.030>

Statista. (2023, November 8). Global pressure on companies to act on climate change 2022, by stakeholder.  
<https://www.statista.com/statistics/1323530/global-pressure-on-companies-to-act-on-climate-change/>

Sustainability Transitions Research Network. *About*. (2023, October 4). Sustainability Transitions Research Network.  
<https://transitionsnetwork.org/about/>

Preem. *Sveriges största drivmedelsbolag*. (2023). Preem.se.  
<https://www.preem.se/privat/52>

United Nations Environment Programme Finance Initiative. (2023). Climate risks in the industrials sector. UNEP FI.  
<https://www.unepfi.org/wordpress/wp-content/uploads/2023/01/Climate-Risks-in-the-Industrials-Sector.pdf>

Unruh, G. (2016, May 11). Investing For a Sustainable Future. *MIT Sloan Management Review*.

<https://sloanreview.mit.edu/projects/investing-for-a-sustainable-future/>

Preem. *Vision*. (2023). Preem.se.

<https://www.preem.se/om-preem/om-oss/vision/>

Vroom, V.H. (1964). *Work and motivation*. Wiley.

Watson, H. (2023, August 31). Disclosing transition plans and targets. KPMG.

<https://kpmg.com/xx/en/home/insights/2022/11/issb-disclosing-transition-plan.html#:~:text=Investors%20are%20seeking%20to%20understand,reporting%20by%20providing%20vague%20information>

Wigfield, A., & Eccles, J. S. (2000). Expectancy–value theory of achievement motivation. *Contemporary Educational Psychology*, 25(1), 68–81.

World Energy Outlook 2011 – Analysis - IEA. (n.d.). IEA.

<https://www.iea.org/reports/world-energy-outlook-2011>

Zheng, Y., Mancino, J., Burke, L. E., & Glanz, K. (2017). Current theoretical Bases for nutrition intervention and their uses. In *Elsevier eBooks* (pp. 185–201). <https://doi.org/10.1016/b978-0-12-802928-2.00009-6>

# **APPENDIX**

## **Appendix 1 - Interview Guide**

### **Interview Guide**

#### **Expectancy Questions**

1. Can you describe Preem's previous experiences with implementing sustainable practices?
2. How do you assess the feasibility of new sustainable initiatives within Preem?
3. What factors do you believe contribute to successful sustainability transitions within the petroleum industry?
4. How do Preem evaluate the risks and uncertainties associated with sustainable practices?
5. Looking at the history of Preem. What have previously been limiting factors for establishing a high belief in a sustainable transition?
6. From the internal questionnaire measuring the expectation that Preem are successful in their Master Transition Plan the result was an average score of 4.17 out of 5. Why do you believe that the internal view on accomplishment of an overall sustainable transition is as high as it is?
7. Do you believe that the result of the internal questionnaire actually reflects reality? Why? Why not?

#### **Value questions**

1. Why is the sustainable transition plan important to Preem?
2. What are the short term and long term benefits that Preem hopes to achieve through a sustainable transition?
3. How does Preem's commitment to sustainability align with the core values and mission?
4. In what ways do you think that a sustainable transition can contribute to the competitive advantage of Preem?
5. How do you think that the stakeholders value Preem's sustainable effort?
6. What is your view on the long-term survival of Preem as a company?

#### **Regulations**

1. How will the change in the Swedish regulation of reduction obligation affect you as a company and your sustainable transition?
2. Can you address any regulatory risks connected to sustainable transitioning?

#### **Limiting Factors**

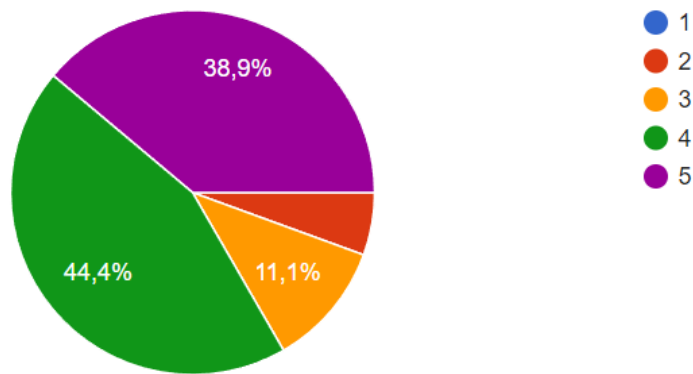
1. What are the main challenges Preem faces in pursuing a sustainable transition?

2. Are there any specific organizational, technological, or market constraints that hinder your sustainability efforts?
3. How do Preem plan to overcome these challenges?

## Appendix 2 - Questionnaire Question

On a scale of 1 (low) to 5 (high), rate your expectation of Preem being successful in its transition (Master Transition Plan) towards renewable production and sales of fuels

## Appendix 3 - Questionnaire Result



Average: 4.17

## Appendix 4 - Overview of Interviewees

Interviewee	Gender	Position
Person 1	Male	Manager
Person 2	Male	Manager
Person 3	Male	Manager
Person 4	Male	Associate
Person 5	Male	Manager
Person 6	Female	Manager
Person 7	Male	Associate
Person 8	Female	Associate
Person 9	Female	Manager

Person 10	Male	Associate
Person 11	Female	Associate
<b>Average Interview Time</b>	41:26 Min	

## **Appendix 5 - Disclosure of AI-tools use**

### **(1) What AI tools have been used and how?**

For this thesis no external AI tools have been used to increase the quality of the thesis. However, the use of Google Docs Spellcheck and Word Spellcheck, which are automatically implemented when writing in these programs, have been applied in the completion of the thesis.

### **(2) In what ways have these tools contributed to increasing the quality of the thesis?**

The internal spelling and grammar check tools have contributed to the quality of the thesis through enhancing clarity and comprehension for the readers by correcting spelling and grammatical errors.

### **(3) What potential risks were found using AI and what measures were taken to reduce these risks?**

A potential risk with the grammar and spelling checks could be that the recommendations from the AI tools are occasionally not in line with what the authors intend to communicate. As the thesis was read multiple times by both authors to check potential grammar and spelling related errors, these risks were reduced.

### **(4) What are the insights gained from using AI tools in the thesis writing process?**

An insight gained from using AI tools is that they can enhance the quality of the thesis, but one must also be careful to not put too much trust into these types of tools.