# The Implications of the Implementation of the EU Taxonomy for Unlisted, Non-financial SMEs in the Energy Sector

## Gabriele Celli

Supervisor

Per Mickwitz

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*Nomadi che cercano gli angoli della tranquillità*
*nelle nebbie del nord e nei tumulti delle civiltà*
*tra i chiari scuri e la monotonia*
*dei giorni che passano*
*camminatore che vai*
*cercando la pace al crepuscolo*
*la troverai*
*alla fine della strada*

# Abstract

In 2020, the European Commission implemented the EU Taxonomy, a regulatory framework aimed at realizing the objectives of the European Green Deal within the European Union. This new system classifies economic activities to assess their sustainability and alignment with the Green Deal's objectives. Non-financial companies must reveal their 'taxonomy alignment', which is the proportion of a company's activities that meet a set of sustainability criteria introduced in the EU Taxonomy and their relevance to the company's overall financial performance. Financial institutions are required to disclose their Green Asset Ratio (GAR), an indicator that represent their percentage of investments aligned with the EU Taxonomy. These measures intend to combat greenwashing and steer investment towards sustainable listed non-financial companies. Currently, unlisted small and medium enterprises (SMEs) are excluded from the GAR and are not required to disclose their taxonomy alignment. Using intervention theory and resource dependence theory, this study identifies the impacts of this exclusion on SMEs, ways to overcome the negative impacts, and strategies to promote the practice of taxonomy reporting among this group. Nine semi-structured expert interviews and a literature review were conducted to collect this data. The focus of this study is on the energy sector – although the majority of results are generalizable for all SMEs in the market. The results of this study identify a number of impacts, the most relevant of which have been grouped under the macro-categories of 'data', 'know-how', 'costs', "market developments" and 'competitiveness'. Currently, the most risk-averting strategy for SMEs is to avoid taxonomy reporting. However, this might lead to unpreparedness to societal and stakeholders requests in the future. Several suggestions are offered to policymakers and practitioners to make taxonomy reporting attractive to financial institutions and feasible for SMEs. A business case for a tool to support SMEs in taxonomy reporting is also presented.

**Keywords:** "EU Taxonomy"; "sustainability reporting"; "SMEs"; "green finance"; "voluntary certification"

# Executive Summary

## *Problem definition and Research questions*

The European Green Deal, introduced in 2019, aims to make Europe transition to a resource-efficient and carbon-neutral future by 2050. To achieve this, a medium-term target of a 55% reduction in greenhouse gas emissions by 2030, compared to 1990 levels, has been set. To mobilize the required capital of at least €1 trillion by 2030, the involvement of the private sector is essential. The EU Taxonomy is one of the legislative measures to achieve this goal, as it establishes a framework of criteria to classify and harmonise the notion of "sustainable economic activity" at EU level. These criteria are called Technical Screening Criteria (hereafter, TSC). Moreover, it requires listed non-financial companies to disclose their "taxonomy alignment", which is a set of performance indicators that indicate the percentage of their activities that are considered "sustainable" according to the EU Taxonomy and how much these activities are relevant to the overall financial performance of the company. With the introduction of the Corporate Sustainability Reporting Directive in January 2023, non-financial listed large companies and small and medium-sized enterprises (SMEs) will have to disclose their taxonomy alignment. Taxonomy alignment is expected to become the mainstream sustainability parameter for financial investors to benchmark companies' performances, as it provides verifiable and scientifically based data, and it is supported by the European Union (EU). The introduction of rigorous, mandatory sustainability standards aims to steer investments towards activities aligned with the EU Green Deal goals; this is expected to incentivize non-financial companies to improve their sustainability performance. Overall, the EU Taxonomy has a crucial role to play in promoting green investment, bridging the gap between business and societal objectives and tackling greenwashing, paving the way for a more sustainable and low-carbon economy in Europe. As SMEs make up a significant part of the EU's business landscape, their sustainability performance needs to improve significantly to meet the objectives of the EU Green Deal. However, the current structure of the EU Taxonomy excludes unlisted, non-financial, SMEs from the scope of the taxonomy-based reporting requirement for financial institutions called the Green Asset Ratio (GAR). This can make it more difficult for SMEs to access funding for sustainable activities. Moreover, their exclusion from the GAR and the voluntary nature of taxonomy reporting for this group discourage them from disclosing their taxonomy alignment - as taxonomy reporting is a costly and burdensome practice. This research has the dual aim of
**i) Exploring the potential impacts of the EU Taxonomy on unlisted, non-financial, SMEs and identify issues that could negatively affect them**, and of
**ii) Identifying ways to stimulate non-financial unlisted SMEs to report their compliance with the Taxonomy**.

The focus of this research is the energy sector, which has a significant impact on the EU's total greenhouse gas emissions. Based on the research problem, aims and scope defined, the following research questions were developed:
**RQ1.1:** What are the likely impacts of the EU Taxonomy on non-financial SMEs in the energy sector regarding a company's internal capability and inward and outward resource flows?
**RQ1.2:** What are the socioeconomic mechanisms through which these impacts can occur?
**RQ2:** How can taxonomy reporting be made more feasible and attractive for non-financial, unlisted SMEs?
**RQ3:** What strategies can be developed to make voluntary taxonomy reporting attractive for financial institutions?

## *Conceptual Framework*

This study utilizes a research design that combines mixed methods to achieve its two research objectives. First, to determine how the EU Taxonomy might indirectly affect SMEs[1], a conceptual framework is developed. Using intervention theory, I designed a framework to model the causal chain that might lead to those potential effects and to determine whether those effects work against reaching the long-term objectives of the EU Taxonomy. By integrating this model with elements of Resource Dependence Theory (RDT), a fine-grained analysis of the impact of the EU taxonomy on SMEs in terms of resource flows is presented, identifying the destinations of increased resource flows from SMEs and the sources of increased resource flows towards SMEs.

## Research Methodology and Methods

A qualitative study of the EU market for taxonomy products was conducted to answer the research questions and address the research purpose. Data were collected through nine semi structured expert interviews and desk research. The focus of the data gathering process was on collecting insights on the perception of SMEs and financial institutions of the EU Taxonomy, the relationship between sustainability reporting and SMEs, and potential ways to overcome identified issues with taxonomy reporting for SMEs. The experts included in the research were academics and practitioners, either experts on sustainable finance or on SMEs. The desk research included academic sources and public reports of NGOs, EU agencies, and private companies. Sources were selected based on relevance, availability, and reliability. The data collected was initially analysed using thematic content analysis through both inductive and deductive coding. The themes identified were used to answer the research questions.

## Results

**RQ1.1**: Some of the issues SMEs might face with taxonomy reporting are **data** collection, data novelty and data disclosure. SMEs are not equipped with reporting systems and **lack the expertise** to interpret and comply with the requirements of the Taxonomy. This is expected to lead to **an increase in specialized service providers** for taxonomy reporting. Compliance with the EU Taxonomy is likely to **increase capital costs** for SMEs and it remains uncertain whether the benefits will outweigh these costs. In addition, the level of detailed disclosure required by the EU Taxonomy could expose SMEs to **potential competitive risks**. While some respondents argue that reporting under the EU Taxonomy is not burdensome for certain SMEs in the energy sector, the overall disparity in complexity between current reporting requirements for SMEs and those of the EU Taxonomy remains. While SMEs in the renewable energy sector may not be experiencing funding difficulties at the current time, if the market becomes more competitive, their exclusion from the GAR will **lead to a reduction in funding for green activities**. Lastly, misreporting and uncertainty about the benefits of taxonomy reporting may lead SMEs to **report low or no taxonomy alignment to avoid the backlash of false reporting**.

Data are expected to flow from SMEs to intermediaries for reporting support, and to financial institutions for their reporting requirements. Capital flows are expected to move from SMEs to the former group. On the other hand, knowledge flows are expected to flow to SMEs through training or support from specialized service providers. Finally, uncertainty about regulatory developments and information gaps on the part of financial institutions prevent SMEs from confidently assessing the benefits of reporting under the EU Taxonomy. The current high demand for renewable energy products is a disincentive for SMEs to undertake reporting under or to engage with the EU Taxonomy.

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[1] Hereafter in the executive summary I use "SMEs" only to refer to unlisted, non-financial, SMEs.

**RQ1.2**: Impacts related to data intensity and the need for additional expertise to interpret and calculate the taxonomy alignment are inherent risks of introducing an ambitious, unprecedented regulatory framework. While the intervention did not directly cause any of the impacts identified in RQ1.1, other than the risk of misreporting caused by the complexity of the requirements, shortcomings in the design of the EU Taxonomy exacerbates these problems. In particular, the lack of focus on SMEs in the EU Taxonomy and related documents, and the lack of adaptation of the taxonomy requirements to SMEs' organizational capabilities, could significantly slow down the uptake due to the limited resources of SMEs. The lack of clarity in the interpretation of the Taxonomy's criteria could lead SMEs to seek external assistance, potentially leading to different interpretations of taxonomy requirements. In addition, the lack of explicit cost allocation guidelines reduces the incentive for financial institutions to support taxonomy reporting. The uncertainty surrounding the profitability of a high GAR and the value of taxonomy alignment influences SMEs' decisions on voluntary disclosure. At this stage, the most risk-averse decision for SMEs would be not to voluntarily disclose taxonomy alignment, as this resource-intensive and costly practice is not certain to bring benefits - especially for the energy sector, given the current excess demand. However, if disclosure of taxonomy data is made mandatory for SMEs, if SMEs are included within the scope of the GAR, or if voluntary disclosure of the Banking Book Taxonomy Alignment Ratio (hereafter "BTAR"; a taxonomy-based disclosure requirement for financial institutions that includes SMEs) effectively becomes one of the standard benchmarks for corporate environmental performance, then it may prove advantageous for SMEs to have been getting ahead of competitors. The likelihood of these scenarios, though, is unclear. Finally, while some respondents foresee a full integration of taxonomy reporting into SMEs' business practices in the future, the current resistance from financial institutions and companies may lead the European Commission to revisit the EU Taxonomy and adapt this regulation to make it less ambitious than it currently is. The trajectory of market and stakeholders' actions in this regard remains uncertain at this stage, making difficult to predict how the market will develop.

**RQ2**: Two approaches are suggested to increase the attractiveness of taxonomy reporting for SMEs: changing their mind-set or communicating the economic benefits of taxonomy reporting in terms they can understand. As mentioned in the previous answers, calculating the monetary benefits of taxonomy reporting is complex given that this product's market is at its initial stages. Currently, SMEs are primarily drawn to reporting due to marketing and funding opportunities, which require a high flow of green revenue or significant positive environmental impact to be worthwhile. So, these two paths might be valuable to explore in order to increase engagement. An alternative approach involves influencing SMEs' mind-set with the support from stakeholders like industry associations and governments, which would act as trainers and facilitators for sustainable practices. Raising awareness about potential market shifts, the value of taxonomy reporting for social and environmental issues, and first-mover benefits could increase SME engagement with taxonomy reporting in the energy sector, especially if paired with practical support. Lastly, reporting data aligned with the EU Taxonomy might appeal to SMEs involved in innovative technologies for sustainable energy production, as these are still perceived as a risky investment.

To make taxonomy reporting feasible in the current socio-economic context, several strategies can be implemented. Increasing reporting pressure on SMEs could lead to their inclusion in the GAR or the creation of a mandatory simplified reporting system. Subsidies, knowledge support, incentives, or cost-sharing measures can further aid SME reporting. Practical simplifications, such as using proxies or averages for data, and allowing SMEs to report only the alignment of the main high-turnover activity, are suggested. Developing a certification for voluntary disclosure paired with an interactive digital tool and a set of simplified Taxonomy-like criteria could also prove beneficial for SMEs. The certification would involve third-party assessment

and a digital tool to support SMEs while providing accessible information to financial institutions. A single reporting tool would streamline data provision for SMEs and simplify access for financial institutions. The adoption of a gamification approach could be used to address data intensity concerns, with the creation of milestones to slowly increase data disclosure by SMEs. In addition, exploring a 'taxonomy credit scheme' for 'trading' taxonomy alignment in the EU market is a potential option, although designing and implementing this is a challenging task and the market for voluntary credits is not yet sufficiently developed to ensure the profitability of this option.

**RQ3**: Engaging with financial institutions is crucial to stimulate interest among SMEs, as financing plays a critical role for them. Challenges in this area include a lack of confidence in sustainable finance among financial investors and limited incentives to assess companies beyond the GAR. Working with lenders, insurance companies, savings banks, small banks, and promotional banks could lead to a voluntary reporting solution. Voluntary certification of data based on taxonomy alignment can help mitigate risk for financial products not covered by the GAR. A digital tool to support SME disclosure and provide organised data for investment decisions could be well received by financial institutions. Lastly, a change in the organisational culture of financial institutions is crucial to accelerate the integration of sustainability considerations.

## *Conclusions and Recommendations*

This research makes a positive contribution to the academic understanding of the challenges of taxonomy reporting and the development of solutions to these challenges. Further research could address the specific problems faced by SMEs by quantifying reporting costs and assessing burdensome activity-specific TSC. There is also a need for more academic research on the relationship between SMEs and the EU Taxonomy, the role of the BTAR in the European Green Deal and engagement techniques tailored to voluntary Taxonomy reporting. This study provides recommendations for policymakers, the EU, SMEs, intermediaries, and financial institutions on how to facilitate taxonomy reporting by SMEs. Options for policymakers include developing tailored TSC for SMEs or making BTAR disclosure mandatory for financial institutions. The EU can support SMEs through training, educational materials and economic support for voluntary reporting. It is advisable for SMEs to proactively identify the data required by their suppliers and customers under the EU Taxonomy for their reporting obligations and to initiate a dialogue with financial institutions on voluntary taxonomy reporting. In addition, SMEs in the energy sector should consider whether disclosure of their taxonomy alignment could attract investors to new technologies. Intermediaries can work with financial institutions to tailor certifications and guide SMEs in interpreting TSC relevant for them. Financial institutions with investments in SMEs should coordinate and push for mandatory BTAR disclosure or the inclusion of SMEs in the scope of the GAR. As a general recommendation, a multi-dimensional approach is needed, taking into account different stakeholders and sectors. Lastly, this study provides a new conceptual framework for identifying unintended effects of policies and their causes, as no source using a similar framework has been identified. It adopts a method for policy evaluation that integrates side effects and unintended effects into an intervention framework using RDT to get a higher degree of precision than other existing theories.

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# Abbreviations

BTAR: Banking Book Taxonomy Alignment Ratio

CapEx: Capital Expenditures

CDA: Climate Delegated Act

CSRD: Corporate Sustainability Reporting Directive

DDA: Disclosure Delegated Act

DNSH: Do Not Significant Harm Criteria

EU: European Union

KPI: Key Performance Indicator

GAR: Green Asset Ratio

GDP: Gross Domestic Product

GHG: Greenhouse Gasses

NFRD: Non Financial Reporting Directive

NGO: Non-Governmental Organization

OpEx: Operational Expenditures

RDT: Resource Dependence Theory

SC: Substantial Contribution

SMES: Small and Medium Enterprises

TCA: Thematic Content Analysis

TSC: Technical Screening Criteria

# 1 Introduction

In 2019, the European Commission presented the European Green Deal, an ambitious growth strategy to drive the transition to a resource efficient Europe in which economic growth is separated from intensive resource use, and with a net zero emission of greenhouse gasses by 2050 (European Commission, 2021a; European Commission, 2019). To reach the latter objective, the European Commission set a mid-term goal of emitting 55% less greenhouse gasses than in 1990 by 2030 (European Commission, 2021a). Due to the proximity of this date, the current efforts are focusing on emission reduction. However, to carry the transition through, the European Commission believes that the sustainability issues have to be tackled transversely, addressing different sectors simultaneously. Different policy instruments are being developed with this holistic perspective in mind.
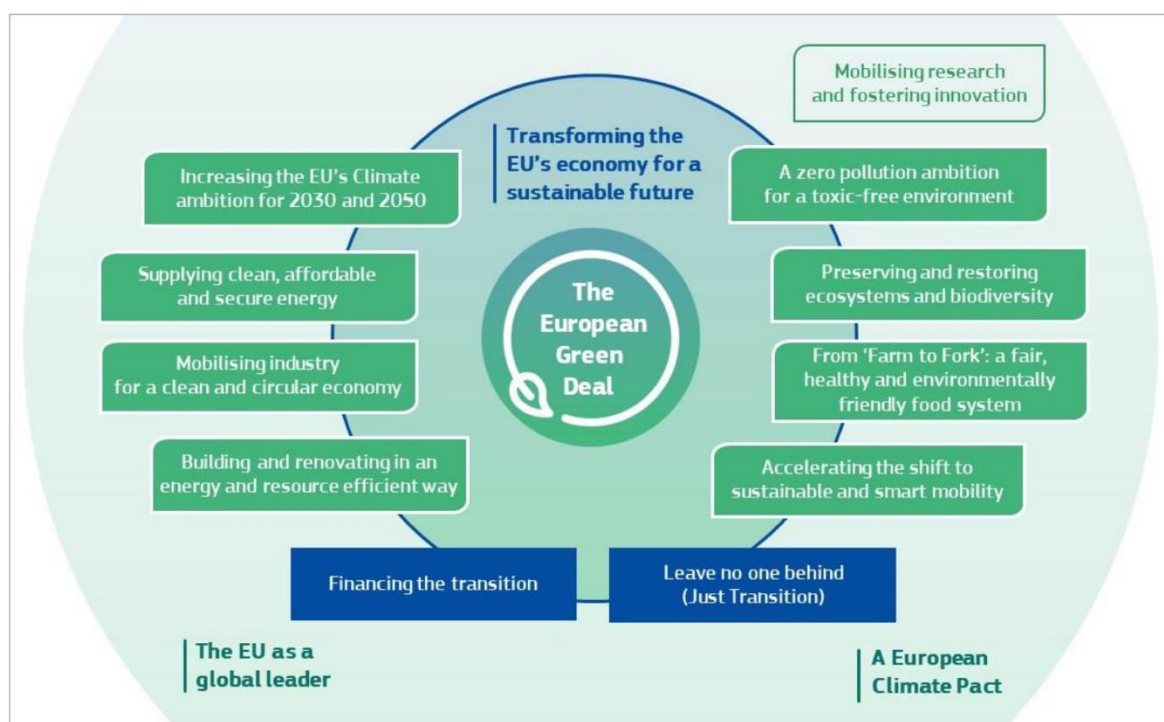


*Figure 1-1 the main components of the EU Green Deal. Retrieved from European Commission, 2019*

The European Commission maintains that to achieve the objectives of the European Green Deal at least 1 trillion euros will have to be dedicated to sustainable investments before 2030 (European Commission, n.d.-a). To mobilize this capital, the crucial role of private sector to support the transition has been recognized. Different legislative measures were set in place to steer investments towards economic activities in line with the European Green Deal objectives (European Commission, n.d.-a; European Commission, n.d.-b). The EU Taxonomy is one of these measures: this regulation establishes a framework for financial organisations and private companies whose purpose is to harmonise the meaning of "sustainable economic activity" at the EU-level (List et al, 2020). The EU Taxonomy introduces a radical shift in sustainability reporting, being the first regulatory instrument not grounded on input and output measurements at the company level but on a classificatory system for sustainability impacts at the activity level (Hummel and Bauernhofer, 2022).

On 12 June 2020, the EU Taxonomy entered into force. With its introduction, publicly listed non-financial companies have to disclose their "taxonomy alignment", which is a group of performance indicators showing the percentage of their activities that are considered "sustainable" under the EU Taxonomy and how much those activities are relevant in the overall financial performance of the company. Taxonomy alignment is grounded on a set of scientifically-based technical screening criteria (TSC): if an economic activity meets the corresponding TSC in the EU Taxonomy, then that activity is "taxonomy aligned". This information is expected to guide private investments towards activities that actually have a substantial contribution to the objectives of the EU Green Deal while orienting non-financial companies that aim to improve sustainability performance (Regulation 2020/852).

Before 2023, an EU directive known as the Non Financial Reporting Directive (NFRD) was in place. Under this legislative act, only large non-financial companies were expected to declare their taxonomy alignment (Directive 2014/95/EU). However, with the introduction of the Corporate Sustainability Reporting Directive (CSRD) on the 5th of January, 2023, non-financial, listed, Small and Medium Enterprises' (SMEs) will fall within the scope of the EU Taxonomy by 2027(Directive 2022/2464). Under the CSRD, both groups will have to report both their sustainability performance in detail, with qualitative and quantitative data, and their taxonomy alignment, which represents their green revenues and expenditures (Directive 2022/2464). Unlisted, non-financial SMEs are not expected to disclose this information, but they can voluntarily disclose their taxonomy alignment to investors for financing purposes (Regulation 2020/852; Regulation 2021/2178). Since this research focuses on non-financial SMEs more than financial SMEs, the term "SMEs" will only refer to the former group.

Taxonomy alignment is expected to become the mainstream sustainability parameter adopted by financial investors to determine on which companies to invest (European Commission, 2018). This is because financial undertakings under the EU Taxonomy are mandated to disclose their Green Asset Ratio (GAR), which is the percentage of their assets that is taxonomy aligned. Moreover, being taxonomy alignment a verifiable, scientifically grounded parameter based on standards developed by a respectable authority (the EU), its mechanism is currently more trusted than the ones adopted by voluntary sustainability certifications on the market (Regulation 2021/2178). Lastly, since a better sustainability performance is linked with more funding opportunities and being more competitive on the market, the introduction of stricter, mandatory sustainability standards is expected to push non-financial companies to improve their sustainability performance (Cantele & Zardini, 2018 ; Geissdoerfer et al., 2018; Morioka et al., 2017; Busch et al., 2015; Regulation 2020/852).

Concisely, there is an increasing societal consensus on the current environmental issues and the urgency to tackle them, both in the public and in the private sector – in particular, regarding the need to significantly reduce our carbon footprint (UNGC, 2019). Although the private sector in the EU is responsible for the high majority of emissions, particularly the energy sector, responsible for around 75% of the total EU greenhouse gasses (GHG) emission, there is still a high level of dissonance between businesses objectives and goals, and our societal needs (Oliveira, 2022). This is one of the reasons why one of the EU Green Deal objectives is of bridging the gap between business and societal objectives through promoting green investments, favouring low-carbon economies, and avoiding greenwashing. The EU Taxonomy has the double aim of steering capital flow towards green investments and harmonising the notions of "sustainable economic activity" across the EU Single Market. When fully implemented, this framework will allow defining unambiguously what activities can be considered "green," hindering greenwashing in Green Finance while scaling up undertakings' efforts for improving their sustainability performance.

## 1.1  Problem Definition

The EU Taxonomy has its limitations when it comes to non-financial SMEs taxonomy reporting. Complying with the EU Taxonomy requirements is expected to significantly affect SMEs since they have limited capital, personnel, and accounting capacity (Kreusch, 2022; CSC 2021; Sweatman, & Hessenius, 2020). Currently, solutions for facilitating SMEs' taxonomy reporting are in the process of being developed, from digital tools to consulting services specific for taxonomy reporting. However, there are scarce publicly available data on the issues prospected for SMEs linked with taxonomy reporting.

99,8% of the companies in the European Union are SMEs, responsible for 64,4% of EU's workforce, 52,4% of EU's gross domestic product (GDP), and 63,3% of all GHG emissions from EU's enterprises (European Commission, Statistical Office of the European Union, 2022; European Commission, 2022). It is safe to assume that, to reach the EU Green Deal objectives, the sustainability performance of SMEs will have to improve radically in the next 30 years; this requires capital, resources and personnel (UNGC, 2019). The EU Taxonomy risks to alter consistently funding opportunities for unlisted SMEs. Under the current structure of the EU Taxonomy, the GAR does not include unlisted SMEs a financial institution invested in (Directive 2022/2464). The reason behind this exclusion has not been motivated by the European Commission, and it cannot be linked with the aforementioned limitation of SMEs since listed SMEs were included in the scope of the EU Taxonomy. However, the drawback of this decision is that unlisted SMEs are not stimulated to calculate and disclose their taxonomy alignment (Hummel and Bauernhofer, 2022). The exclusion from the GAR increases the uncertainty for unlisted SMEs on whether their taxonomy alignment is going to be relevant for their funding. Since the GAR is expected to be the main indicator of a credit institution's environmental performance, the absence of unlisted SMEs in that percentage risks to make credit institutions to ignore their sustainability performance, and to favour financing listed SMEs. Briefly, the decision of excluding from the GAR unlisted SMEs might slow down a transition towards more sustainable practices, as it fails to create appropriate incentives for these companies to adopt a burdensome practice like taxonomy reporting in a context in which funding for sustainable activities will be channelled through this latter practice.

However, voluntary disclosure has been encouraged by the European Commission, with the auspice that it will be relevant for the other financial institutions' non-financial disclosure obligations outside the GAR (European Commission, 2019; European Commission, n.d.-c). Voluntary certification schemes based on the Taxonomy's TSC are being developed or financed by the EU. Two examples are: the European Green Bonds Standards, and the CONFESS project; the former one is a standard developed by the Commission. The latter is a project financed by the EU LIFE+ Programme on developing a certification for voluntary disclosure of Taxonomy-based information for SMEs.

Briefly, by excluding unlisted SMEs from the GAR, the EU Taxonomy risks being detrimental for these companies in their transition towards more sustainable practices, as they would not have sufficient incentives to undergo the resource-demanding process of Taxonomy reporting. While the high costs of taxonomy reporting can already be outlined, the benefits that SMEs may receive are more uncertain as they depend on market and regulatory developments. This could lead to SMEs deciding not to invest in taxonomy reporting, diverting funds for green activities away from this group and slowing down the sustainability transition. Voluntary certifications based on the EU Taxonomy TSC might be a valuable integration to the GAR, and they are strongly supported by the European Commission. However, they have to be developed according to the needs of financial institutions, and taking into account the potential issues SMEs are going to face with the stringent EU Taxonomy requirements.

## 1.2 Aim and Research Questions

The aim of this research is twofold. Firstly, it aims to explore the potential impacts of the EU Taxonomy on SMEs, with a double focus on internal capabilities and resource flows. With the CSRD coming into force, the scope of the EU Taxonomy has been expanded to listed SMEs. Although the effects of this legislative act on SMEs cannot be assessed yet since their first reporting will be in 2027, there have been concerns about this scope expansion since before the EU Taxonomy entered into force (Och, 2020). Contrary to what both academic and practitioners suggested to the European Commission (as shown in Chapter 5), the Taxonomy formal and substantial requirements were not adapted for SMEs. Determining what issues risks to negatively impact SMEs is going to provide a direction for future Taxonomy requirements adjustments. Moreover, identifying these issues is going to support developers of digital tools and consulting services with background descriptive knowledge, assisting them to design state-of the-art solutions for SMEs' taxonomy reporting.

Secondly, this research aims to explore possible courses of action to encourage unlisted SMEs to report (and improve) their alignment with the taxonomy. The knowledge gathered on this matter can provide valuable insights for SMEs already invested in sustainable activities and for the development of voluntary certifications. Assuming that the GAR could become the standard method for benchmarking the sustainability performance of financial institutions, SMEs risk losing the market benefits of investing in improving their sustainability performance, as their sustainability performance will be of less value to financial institutions if they are excluded from the GAR. To avoid this consequence, it may be useful to identify ways to make Taxonomy reporting feasible and attractive for SMEs and valuable for financial institutions. One of the main options is the development of voluntary certification. Voluntary disclosure of taxonomy-like, third-party certified data is the closest way for voluntary disclosure to harmonise with financial institutions' reporting needs (Regulation 2020/852; Directive 2022/2464).

In brief, this study identifies some of the key impacts of the EU Taxonomy on SMEs, breaking data down into themes and identifying common criticalities within each theme. Moreover, the research expands on whether taxonomy reporting is feasible for SMEs, and if not how can it become so. The information gathered contributes to determine which components of taxonomy reporting cannot be modified or removed. Finally, the research determines some strategies to make voluntary taxonomy reporting attractive for financial institutions.

Due to the specificity of the TSC, and the differences across industry sector regarding reporting practices, this research focuses on single sector, namely, the energy one. In the EU there are 178'734 SMEs in the energy sector (Statista, 2022). Moreover, considering that, according to the European Commission, 75% of greenhouse gasses emissions can be accounted to energy use, this sector seemed to be the one in which new knowledge could be more impactful (Regulation 2022/1214).

Based on the research problem, aims and scope defined, the following research questions were developed:

*Table 1-1 Research Questions*

| |
|---|
| **RQ1.1**      What are the likely impacts of the EU Taxonomy on non-financial SMEs in the energy sector regarding a company's internal capability and inward and outward resource flows? |
| **RQ1.2**      What are the socioeconomic mechanisms through which these impacts can occur? |

| RQ2. How can taxonomy reporting be made more feasible and attractive for non-financial, unlisted SMEs? |
| :--- |
| RQ3. What strategies can be developed to make voluntary taxonomy reporting attractive for financial institutions? |

## 1.3  Scope and Limitations of the Study

One of the main components of this research is collecting and analysing qualitative data in the energy sector on taxonomy reporting. Companies that fall in this sector are those whose activities fall the categories of energy production, renewable energy equipment production, energy efficient production equipment, and services linked with energy generation or reduction of energy consumption. Desk research and in-depth interviews are used to answer the research questions.

Being the EU Taxonomy a European Regulation, the geographical scope of the research is the European Union.  For the interviews, data were collected in the German Market, the Belgian market, the Italian Market, and the Czech market. The markets were selected based on resources available, variety of the market, access to participants, and linguistic barriers. These interviews were conducted from March to May, 2023. Data from the interviews were gathered and analysed with the support of the sustainable finance think tank Climate&Company. The interviews focus on the energy sector, for the reasons discussed in the previous section and for time and resource constraints.

The legislative acts on which this study focuses entered into force from three years prior this study to January 2023. These regulations are subjected to changes through time, through amendments and the implementation of new acts. The changing nature of regulations and the novelty of the EU Taxonomy limits the validity of participants' opinions and of sources to the current state of affairs, which will be outlined in Chapter 2.

Regarding the literature scope, sources were selected based on whether they are still in line with the new regulatory development of the EU Taxonomy, the Climate Delegated Act (CDA), the Disclosure Delegated Act (DDA), and the CSRD. A further limitation with the literature sources was the quantity of sources available. The desk research identified a knowledge gap on sources on the relationship between SMEs of taxonomy reporting. This is due to the novelty of the topic, and as part of a wider research gap on non-financial sustainability reporting of SMEs (Ortiz-Martínez, Marín-Hernández, 2021; Gjergji et al, 2021). The scarcity of sources might limit the value of the insights provided by the review, since there are limited chances for data comparisons, and the sources only partially cover the research questions.

## 1.4  Ethical considerations of the Study

### 1.4.1  Researcher honesty and personal integrity

The results from this research feed into the CONFESS Project, funded by the EU LIFE+ Programme, for which I was hired as an external consultant by Climate&Company. This thesis was written with the support and collaboration of Climate&Company, the International Sustainable Finance Centre, Czech Technical University in Prague, RWTH Aachen University, and Circular Srl – all developers of the CONFESS Project.

In this research, Climate&Company was the main external actor in a position to influence my conclusion towards its interests. To guarantee the integrity of my work, I kept a dialogue open

with my employers and I was assertive about my academic needs. The CONFESS Project developers were also in a position to influence my opinions and ideas during data analysis. Therefore, reflexivity was fundamental throughout the research process to analyse how my personal background, my position with respect of the CONFESS Project, my cultural background, experiences and biases were contributing to shape my work, particularly regarding data interpretation (Creswell & Creswell, 2018).

### 1.4.2 Ethical responsibilities to the subjects of the research, such as consent, confidentiality, and courtesy

Since participation in the interviews is voluntary and the interviewees are going to represent the interests of the organisation they are part of, I do not believe that participants are going to suffer from discrimination or disadvantages from participating in this study. The interviewees were aware about being recorded and their consent was repeated at the beginning of the interview. It was clarified both via email and at the beginning of each interview that the contents participants disclosed during the interview might figure out in a master thesis, which is going to be a publicly available document. Moreover, the role of these interview in the CONFESS project was disclosed. Anonymity of the participants was guaranteed through disclosing solely the position the interviewee had in an organization, and the nature of the organization (Creswell & Creswell, 2018).

### 1.4.3 The manner in which data records are handled, stored, and made available

After an oral or written consent from participants data from the interviews have been stored on my personal hard drive, and on the CONFESS Project's SharePoint. The files are stored for the purpose of this study and for the purpose of the CONFESS Project. There was no agreement on how long the files are going to be stored.

## 1.5 Audience

### The CONFESS Project

As mentioned in section 1.4, this study is linked with the CONFESS Project, which aims to design a certification for voluntary disclosure of sustainability performance for clear energy SMEs (European Commission, 2021b). This certification is going to be based on the EU Taxonomy since the project developers recognize that this is going to be the benchmarking tool to measure environmental performance. Part of my research is going to flow into the CONFESS Project, building on the previous tasks and providing fundamental knowledge for developing the future stages of the certification.

### Future Developments of the EU Taxonomy, the CSRD and other Taxonomy-based regulations

Being in the initial stages of the application, the EU Taxonomy, the DDA, and the CSRD will probably be amended or complemented with further legislative acts, to accounts for concerns and issues identified by the European Commission or raised by stakeholders. This research will generate knowledge on the relationship between SMEs and financial institutions regarding taxonomy reporting. The findings from this research can provide valuable insights on the prospected issues for SMEs and financial institutions' needs, providing a direction for future developments for policy analysts and policymakers.

### Listed and not-listed SMEs

Listed SMEs will gain recommendations on the potential issues they are going to face after 2026 (the first fiscal year in which they have to report their taxonomy alignment). Unlisted SMEs instead will gain for this research valuable knowledge on the potential burdens of voluntary reporting. This research will provide a list of risks that could be prevented with the aid of longsighted management. It will orient companies throughout the specifics of the EU Taxonomy, highlighting the relevant components for non-financial companies and the potential shortcomings of not developing a reporting strategy in time.

### *Auditing and consulting companies*

The research can also provide valuable insights for auditing and consulting companies that aim to offer services for taxonomy reporting. The data analysed in this research can contribute to their strategic positioning in the market, offering information on future market opportunities by providing a first look on the most critical areas for SMEs regarding taxonomy reporting and identifying opportunities.

## 1.6  Disposition

**Chapter one** introduces the research topic, the problem, the aims and the research questions. It also provides the ethical considerations of this study and a non exhaustive list of its audiences.

**Chapter two** presents the relevant background knowledge on the EU Taxonomy and the legislative acts associated with it.

**Chapter three** presents the theoretical framework on which the interview questions are designed, and on which the data analysis conducted in Chapters 5 and 6 is going to be modelled.

**Chapter four** introduces the research design, methodology and data analysis techniques.

**Chapter five** presents the current knowledge on SMEs issues linked with taxonomy reporting, both from academic sources and grey literature. The findings are organized in themes, and research gaps are identified. The results are analysed based on their significance for the research questions. The theoretical frameworks introduced in Chapter 3 is going to be adopted to interpret the data.

**Chapter six** presents the discussion on the data gathered. Answers to the RQs are provided, based on the findings identified in the previous chapter. After this, the significance of the results, generalizability and legitimacy of the research, and limitations of this study are presented. Moreover, the value and novelty of the conceptual framework developed in this study is presented.

**Chapter seven** presents the main conclusions of this research. Opportunities for further research are highlighted. Recommendations for the non-academic audience are provided, and future research areas are outlined.

# 2 Literature Review

## 2.1 Background Information on the EU Taxonomy

This chapter delves deeper into EU sustainable finance regulations with the aim of setting the scene of EU's approach to financing the EU Green Deal, and to present the EU Taxonomy and how it is being implemented.

In the EU Taxonomy, six environmental objectives that might be positively impacted by economic activities are determined. To be "taxonomy-aligned," i.e. "sustainable," an activity must have a substantial contribution (SC) to at least one of these objectives while doing no significant harm (DNSH) to any of the others:

1. Climate change mitigation;
2. Climate change adaptation;
3. The sustainable use and protection of water and marine resources;
4. The transition to a circular economy;
5. Pollution prevention and control;
6. The protection and restoration of biodiversity and ecosystems.

What counts as "having a substantial contribution," and what as "doing no significant harm," is being determined by the technical screening criteria (TSC), a set of requirements specific for each pair of "economic activity- environmental objectives" The TSC are listed in Taxonomy's delegated acts; currently, only the SC criteria for climate change mitigation and climate change adaptation have been published. The updated list of the TSC can be found in the Taxonomy Compass webpage of the European Commission website (European Commission, n.d.-d).

Besides meeting the TSC for SC and DNSH, to have its activities recognized as Taxonomy-aligned, a company has to meet the minimum safeguards procedures aligned with OECD Guidelines for Multinational Enterprises, the UN Guiding Principles on Business and Human Rights, the Declaration of the International Labour Organization on Fundamental Principles and Rights at Work and the International Bill of Human Rights (Regulation 2020/852).

Many economic activities are not "Taxonomy eligible". In other words, they cannot be integrated into the Taxonomy as potentially having a substantial contribution to EU's climate and environmental objectives. This scope limitation is a consequence of a disproportion of emissions of some sectors over others, and the attention of the EU Commission to hinder possibilities of greenwashing (Sweatman and Hessenius, 2020).

**A taxonomy-aligned activity must:**

**Have a Substantial Contribution to at least 1/6 of the objectives**

**Do No Significant Harm to the other objectives**

**Meet the Minimum Social Safeguards**

*Figure 2-1 Visualization of the requirement a Taxonomy aligned activity has to meet*

## 2.2 What Do Non-Financial Companies Have to Do?

According to the EU Taxonomy Delegated Act 2021/2178 (DDA), non-financial companies required to disclose non-financial information under the Non-Financial Reporting Directive (NFRD) must report their taxonomy alignment using three key performance indicators (KPIs): the company's <u>turnover</u> that comes from Taxonomy-aligned activities, the company's <u>capital expenditures</u> (CapEx), and the company's <u>operational expenditures</u> (OpEx).

The company's taxonomy-aligned **turnover** is the ratio of the annual net sales generated by taxonomy-aligned activities over the total annual net sale of the company (Regulation 2021/2178). The turnover describes the present environmental performance of a company (PRI, 2020).

The company's taxonomy-aligned **CapEx** is the ratio of capital expenditures linked with taxonomy-aligned activities over the capital expenditures for additions and acquisitions to property, plants and equipment, additions to intangible assets and to investments, purchases of biological assets linked with agriculture, and leases[2]. There are four areas of "taxonomy-aligned" capital expenditures. The first three are assets, processes and purchase of services (mainly installation and maintenance) associated with taxonomy activities. The latter one is the *CapEx Plan*, which is a document with the company's planned expenses to increase the number of taxonomy activities they perform via implementing new activities, or "aligning" taxonomy-eligible activities (Regulation 2021/2178). The CapEx indicates how the future environmental performance of a company is going to look like (PRI, 2020).

The company's taxonomy-aligned **OpEx** is the ratio of operational expenditures linked with taxonomy-aligned activities over a company's direct, non-capitalized costs of research and development, building renovation measures, short-term lease, maintenance, and day-to-day services. The areas in which "taxonomy aligned" operational expenditures fall are the same as the one of the CapEx – including the CapEx Plan. It is a company's reporting responsibility to avoid double counting the expenditures (Regulation 2021/2178).

Each KPI has to be disclosed at the entity level and partitioned both for each activity and each environmental objective. Moreover, at the activity level, the KPI has to be also partitioned at the environmental objective level. No proxy nor average can be used to determine any of these values (Regulation 2021/2178).

Lastly, the Taxonomy report will have to be accompanied by a qualitative explanation. The specific qualitative requirements for each KPI are not going to be covered by this thesis. In general, the elements that have to be disclosed are

1.  The nature of each taxonomy aligned/eligible activity

2.  How the figures were calculated, and what changes in those figures took place in the reporting period

3.  Any change in how KPIs are calculate compared to the previous reporting year

4.  How the compliance with the TSC was assessed

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[2] In text: IFRS 16, Leases, paragraph 53, (h). However, this categorization is absent both in Regulation (EC) No 1126/2008 and in its amendment.

Figure 2-2 presents a schematization of the requirements for non-financial companies. Under the NFRD, only large financial companies had to disclose their taxonomy alignment. With the introduction of the CSRD, amending the NFRD, listed SMEs will fall into the scope of the EU Taxonomy, and they will likely have to report these pieces of information from the fiscal year 2026 (Kreusch, 2022; Directive 2022/2464). It is estimated that 49 '000 non-financial companies will fall under the Taxonomy, 37' 400 more than the current ones (Wollmert and Hobbs, 2022).
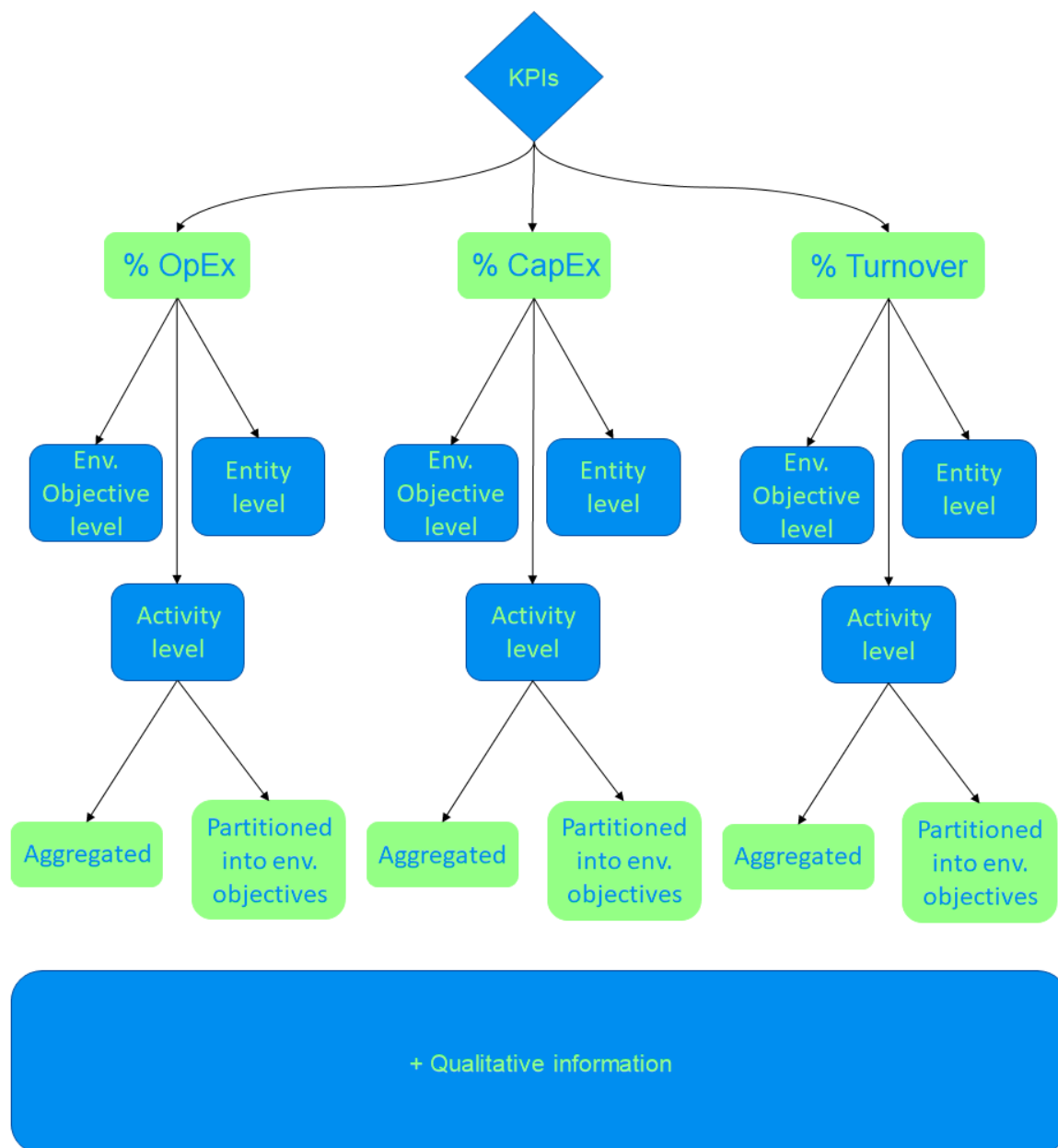


*Figure 2-3 A visual representation of the EU Taxonomy requirements for non-financial companies*

Under the CSRD, the requirements described in this section will have to be certified by third parties (Directive 2022/2464; Kreush, 2022). Although simplifying the EU Taxonomy requirements for SMEs is being considered as one of the possible developments of the CSRD, no specific information on this matter has been officially provided yet (Directive 2022/2464). Despite the fact that many SMEs still fall out of the scope of the Taxonomy, it can be safely inferred that if taxonomy alignment becomes the main driver for green investments, SMEs that

want to attract investors, seek for funds for green activities, or issue green bonds will have to declare voluntarily their taxonomy alignment or resort to equivalent forms of certification.

## 2.3 What Do Financial Companies Have to Do?

According to the EU Taxonomy Delegated Act 2021/2178 (DDA), financial companies that have to disclose non-financial information under the NFRD, and now under the CSRD, have to report their Green Asset Ratio (GAR), which is the ratio of exposures from taxonomy aligned activities over the total assets of the organization (UNEP FI & EBF, 2022; Regulation 2021/2178). Given the focus on SMEs, this research does not go into detail on the specifics of the calculation of the GAR, besides those related to exposures to non-financial companies.

The numerator of the GAR regarding exposures to non-financial companies is composed by Taxonomy- aligned i) debt securities, ii) loans and advances, iii) repossessed collaterals, and iv) equity holdings (Brühl, 2023). Like with the KPIs for non- financial companies, the GAR has to be disclosed

a)  At the entity level (aggregated),

b)  At the environmental objective level (aggregated),

c)  Partitioned into each of the four activities aforementioned, and

d)  For each of those activities, partitioned into environmental objectives.

These data serve to present a detailed picture of the current environmental performance of the financial institution, and to describe how this will evolve over time. With the information disclosed, stakeholders are able to determine whether the performance of a financial institution matches its commitments (Brühl, 2023).

The GAR has some limitations. First, the quantity, and granularity, of data needed for the GAR significantly increases the costs of reporting for both financial and non-financial organizations. This point will be covered more thoroughly in Chapter 5. Second, the exposures covered by the GAR are only the ones on the balance sheet – hence, the incomes and fees linked with off-sheet activities are not taken into account to determine the environmental performance of a company (Brühl, 2023). Lastly, unlisted SMEs are excluded from the GAR's nominator, i.e. they are taken into account in the total assets but cannot be part of the exposure to taxonomy aligned activities of the financial organization. Hence, different certifications will have to be taken into account alongside the GAR to have a more representative picture of the environmental performance of a financial institution.

# 3 Theoretical Frameworks and Concepts Adopted. Framing Questions and Interpreting Results

This chapter presents the theoretical frameworks adopted to frame the issue, guide the data collection, analyse the results, and orient the discussion on the findings. In this research, theoretical frameworks mainly serves to deepen the understanding of dependencies and interlinkages between different organizations, institutions, different policies, and the EU Green Deal goals.

Two theories are being adopted: Intervention Theory, and Resource Dependence Theory. The former is used to determine the causal path that start from the introduction of the EU Taxonomy, and its associated documents, to the EU Taxonomy's prospected outcomes. Research Dependence Theory, instead, play a minor role during the data analysis, providing a background structure for framing the results in terms of resource dependencies. Both Intervention theory and Resource Dependence Theory are used in Chapter 5 to make an *ex ante* assessment of the policy effectiveness *via* combining the identified impacts on companies (especially on SMEs) and the policy objectives.

## 3.1 Intervention Theory

Intervention theory is a theoretical framework for building models of how policies bring change on a given situation by describing the underlying assumptions of a policy intervention, and unravelling the causal chain that links the intervention to its effects (Linnér et al., 2012). It can be used to describe the logic behind a policy intervention, making explicit how different actors and components are expected to interact. Mickwitz (2003) identified two crucial roles of intervention theories for practitioners: a) to define a policy intervention's target area and its planned outcomes, and b) to map the intervention causal chain and its effects, in order to determine the areas on which data should be collected.

Intervention theory has a theoretical focus: it does not aim to determine the actual functioning of a policy, i.e. how it works "in the real world": It provides a blueprint of an intervention, to which the actual implementation can be compared to determine and analyse matches and discrepancies (Mickwitz, 2002).

In this research, intervention theory has the threefold theoretical end of clarifying what change is expected to take place after the introduction of a policy, contribute to determining if its effects will match expected outcomes, and determine some additional effects that might not have been foreseen by the policy developers. This knowledge flew into the methodology of this study, as it contributed to develop the interview guide.

An intervention theory's aim is to describe how the intervention is supposed to work, i.e. what change an intervention is supposed to bring, on what actors an intervention acts upon and in which way it acts upon them. However, as noted by Mickwitz (2006) and Vedung (1997) an intervention model of this kind does not take into consideration side effects nor unintended effects, as it tries to determine only if the results of an intervention are going to be in line with its prospected goals. As SMEs are not the target population of the intervention, any impact on them should be considered as an unintended effect. As such, it should not be taken into account in the model. However, if an intervention risk to have unintended effects that might hinder reaching the long term objective of the intervention, then I believe that developing an intervention theory framework including SMEs and intermediaries might contribute in mapping those risks, determining the causes of certain impacts and identify potential solutions. For this reason, two concepts were added to my model: intermediaries and indirect target population. They are described alongside the other key concepts of my model in the next section.

### 3.1.1  Main components of an intervention theory

Hansen and Vedung (2010) determined three fundamental components that are part of an intervention theory: a situational component, a causal one, and a normative one. The situational component relates to the context in which the intervention takes place. It is composed by all the elements of the context that the developers of the theory believe to be necessary to model it correctly. For the EU Taxonomy, these elements are the geographical scope and the problem at stake. The causal component concerns the main causal links generated by the implementation of a policy. Outcomes, direct and indirect effects relates to it, since they are tracked down through identifying causal links. Lastly, the normative component concerns the assumption that were taken regarding a) why this is the most suited intervention in this context, b) why this intervention should be preferred to not having any intervention in place.

Although different lists of key concepts have been identified, Linnér et al. (2012) provides the most exhaustive one. These authors draw from Chen's (2005) "change and action" intervention framework to develop their own. Their change and action framework is a tripartite system composed by three models: the context, the action model, and the change model. The context model is a simplification of the context in which the intervention takes place. This component contributes to map contextual factors that might have an effect on the effects of the policy implementation. The change model presents the features of a regulation that are supposed to elicit change and the expected results. The action model, instead, presents and links the different actors that are implementing, controlling, and expected to comply with the intervention.

Lastly, let me briefly present the key concepts for the Change Action framework that is going to be used. The key concepts presented in Table 3-1 are going to be partially based on Linnér et al. (2012), Chen (2005), and Mickwitz (2006). These definitions will be paired with the main actors and components linked with the EU Taxonomy in Table 3-2.

*Table 3-2 Key concepts of the Change-Action framework*

| **Context** | |
| --- | --- |
| **Context** | The socioeconomic and geographical settings in which a certain implementation take place |
| **Action** | |
| **Target Population (Direct)** | The actors that are directly influenced by a policy intervention (Mickwitz, 2006) |
| **Target Population (Indirect)** | The main actors outside the explicit scope of a policy intervention that could be influenced by its implementation |
| **Intermediary** | Actors that have an intended or unintended middle role between the institutional framework context and the target population |
| **Institutional Framework Context** | The main material ( e.g. organizations) and immaterial components (e.g. rules) that a) affect the leverage mechanism effectiveness to reach the |

outcome, and b) support the implementing organizations to develop and carry out the outcome (Linnér et al., 2012)

| | |
|---|---|
| **Implementing Organizations** | Organizations that manage the correct implementation of an intervention through the coordination of other actors and administrating resources (Linnér et al., 2012) |
| **Change** | |
| **Outputs** | The deliverables that a planned policy intervention should produce (Mickwitz, 2006) |
| **Intervention** | This term could be used to identify both the output that has an effect on the leverage mechanism, or what lead to the creation of that output (Linnér et al., 2012)[3] |
| **Leverage mechanism** | The element on which it is theorised that an intervention must act in order to achieve its objective (Chen, 2005) |
| **Outcomes** | This term refers both to actions that the target population is expected to do, and the consequences that are believed to result from them (Mickwitz 2006). Outcomes can be divided in short term outcomes, medium term outcomes and long term outcomes, based on the temporal distance of the prospected change from the initial implementation of the policy |
| **Goals** | The objectives that an intervention aim to reach, i.e. the scenarios pursued (Linnér et al., 2012) |

## 3.1.2 Using intervention theory to analyse the EU Taxonomy

The components presented in 3.1 are the base components of the intervention framework used in this research to model the EU Taxonomy. In this section, the fundamental components of the EU Taxonomy are identified and classified as situational, normative or causal. Then, the key features of the Change/action model for the EU Taxonomy are listed. Finally, they are organized organically and visualized with the aid of Figure 3-1.

*Key Components*

Situational Component – geographical scope: the EU Taxonomy has been implemented in the EU market. The taxonomy screening criteria cover fourteen sectors (Arts, Construction & Real estate, Education, Energy, Environmental Protection and restoration, Finance and Insurance, Forestry, Health and Social work, Information and Communication, Manufacturing, Professional, Scientific and Technical Activities, Transport, Water Supply), but some requirements are specifics for the financial market, making this latter sector more involved. Lastly, the EU Taxonomy will have an effect on the global market, since non-EU companies that operate in EU still fall under the EU Taxonomy.

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[3]  In Linnér et al. (2012), it is also mentioned a source. Due to a linguistic barrier, I was not able to directly inspect the source. This source is "Vedung, E. (2009). Utvårdering i politik och fo̊rvaltning. Lund: Studentlitteratur"

Situational Component – problem at stake: as presented in Chapter 1, to reach the EU Green Deal goals, at least 1 trillion euros will have to be allocated to Green Deal-aligned activities. The role of the private sector in mobilising these funds has been recognised as crucial by the EU Commission (European Commission, n.d.-a).

Causal Component: based on what is written on the EU Taxonomy (Regulation 2020/852), the mandatory disclosure of Taxonomy-alignment is expected to activate a virtuous cycle. This cycle is based on the assumptions that financial institutions with a better environmental performance have a competitive advantage on the market, and that financial institutions will use taxonomy alignment as the main indicator of environmental performance. If so, then better taxonomy alignment will be a value sought by financial institutions. From this, it follows that non-financial companies with a better taxonomy performance will have better financing opportunities, which is going to incentivize companies to increase their taxonomy alignment. Then, financial institutions will offer better options for those companies with a better alignment, and the cycle is repeated. This is process is supposed to cause a radical overall improvement of the EU market's environmental performance, which should lead to meet at least the EU Green Deal goals regarding GHG emissions. Lastly, the EU Taxonomy is supposed to be the backbone for the development of future regulatory instruments in sustainable finance at national, regional and EU level.

Normative component: the EU Commission assumed that the private sector need to be stimulated to ramp up the overall EU sustainability performance, and to normalize sustainability concerns in the industry sector. Building up on this, the EU Commission argued that stimulating companies to measure their green costs and revenues would increase funding towards sustainable activities. Moreover, they believed that a unified set of requirements would hinder greenwashing, an obstacle to sustainable development. Harmonising requirements between EU countries requires a centralized organisation, which is why the EU has taken a leading role. (Regulation 2020/852). In a business-as-usual scenario, it is assumed that no mandatory, unified EU system for sustainability performance disclosure is in place. Hence, private companies have less market incentives to boost their performance in a way that is as demanding as what the EU Taxonomy mandates. Moreover, different nations would have their own classification systems in place. The difficulties in comparing different investments would dissuade investors (Regulation 2020/852). Lastly, in that context, no standardize, precise indicator of what count as a "sustainable activity" would be in place, which would cause transparency to decrease (Schütze et al., 2020).

**Key concepts in the Change-Action framework.**

In this section, the concepts previously presented are being applied to the EU Taxonomy. First, in Table 3-2 the main elements linked with the EU Taxonomy are allocated to the pertaining concepts. Then, in Figure 3-1, the relations between components are presented.

*Table 3-3 The EU Taxonomy components in the Change-Action model*

| **Context** | |
| --- | --- |
| **Context** | The EU Market |
| **Action** | |

| Target Population (Direct) | Financial Undertakings; Listed Non-financial Undertakings |
|---|---|
| **Target Population (Indirect)** | Unlisted SMEs |
| **Intermediary** | Financing consulting companies; Voluntary Taxonomy-like certifications; Auditing Companies |
| **Institutional Framework Context** | Actors: EU Commission; Member States; |
| | Rules: Set in place the EU Taxonomy's list of "sustainable activities"; Mandatory disclosure of CapEx, Opex, Turnover from Taxonomy-aligned activities (KPIs for non- financial undertakings); mandatory disclosure of the GRI (KPIs for financial undertakings); |
| **Implementing Organizations** | EU Commission; the Technical Expert Group on sustainable finance (TEG); the Member States Expert Group on sustainable finance (MSEG), and the Platform on Sustainable Finance (PSF); Member States |
| **Change** | |
| **Outputs** | The TSC; The Taxonomy reporting framework |
| **Intervention** | The creation of a mandatory sustainability reporting framework for financial and non-financial undertakings |
| **Leverage mechanism** | Transparency: increasing transparency in sustainability reporting; EU companies' environmental performance: ramping up their environmental performance |
| **Short term Outcomes** | Stimulate investments in Taxonomy aligned activities; Hinder greenwashing |
| **Medium term Outcomes** | Stimulate companies to improve their sustainability performance |
| **Long term Outcomes** | Significantly improve the overall EU environmental performance |
| **Goals** | Meeting the EU Green deal environmental objectives |

The results of modelling the EU Taxonomy with the conceptual framework developed here are presented in Chapter 5, as part of the findings. They play a pivotal role in answering to RQ1.2 and RQ.2.

## 3.2 Resource Dependence Theory

In order to determine which framework could be used to analyse the data collected through the interviews, I considered Resource Dependence Theory, Institutional Theory, and Behavioural Theory of the Firm, Resource Based View and Organisational Ecology. Resource Dependence Theory (RDT) was the more intuitive fit for the research as, of the different theories, it seems

to be the most appropriate to conceptualise the relationships between institutions, financial actors and SMEs.

Within RDT, organisations are modelled as open systems entangled in multiple resources that flow in and out of the organisation, focusing on both tangible and intangible resources (Biermann, & Harsch, 2017; van Mossel et al., 2018). According to RDT, a firm can exercise partial control over its resource flow to maintain operational stability; however, it is far from being autonomous: other organisations have a certain degree of power over the selected firm due to resource dependencies (van Mossel et al., 2018; Pfeffer and Salancik, 2003).

The tension between the flow of resources and internal capabilities is crucial to identify how different SMEs may have different problems in different contexts. The results of the data collection will be analysed in these terms. RDT will be used to model the relationship between SMEs' internal capabilities and financial firms' requirements for Taxonomy reporting in order to highlight resource dependencies.

RDT plays a minor role in this research. It is used to answer RQ1.1 by classifying the data collected from the interviews and desk research into either impacts on internal capabilities or impacts on resource flows. It also plays a complementary role in the intervention theory model developed, as it is used to show how the relationship between direct target groups, indirect target groups and intermediaries would hold with the introduction of the EU taxonomy in terms of resource flows and capabilities.

# 4 Research Design and Methods

In this chapter, the research design and the methodology are presented.

## 4.1 Research Design

The research design for this thesis is a qualitative exploratory single case study. It is a qualitative study because it aims to collect, analyse and interpret qualitative data, such as practitioners' insights into Taxonomy reporting. These data are based on perceptions, beliefs and social meanings; hence their qualitative nature (Creswell & Creswell, 2018).

A case study design method was chosen for its ability to analyse complex social phenomena in depth and to understand the current conditions of a context with a holistic, real-world-based investigation (Yin, 2014). Part of the case study focuses on determining the current attitudes of practitioners towards potential issues in the near future. Case studies are well suited for determining the functions of an object of study in a larger context, allowing the researcher to outline its position and effects in a system and, conversely, the effects of the system under consideration on it (Verschuren, 2003). In the context of this research, a case study allows me to analyse the expected impact of Taxonomy reporting and voluntary Taxonomy reporting on different market entities (SMEs, audit firms, financial institutions), while maintaining a holistic perspective with background desk research and expert interviews.

This study takes an exploratory approach. Yan (2014) describes an exploratory case study as a study that aims to identify a set of preliminary conclusions that will guide future studies. This type of study does so by providing organised background knowledge to better identify research problems and procedures. Given the scarcity of publicly available data on voluntary taxonomy reporting and SME Taxonomy reporting, and the novelty of the legislative acts under consideration, an exploratory approach was the most appropriate for this research.

As shown in Table 4.1, this research explores the current perceptions of practitioners and academics on the relationship between the EU Taxonomy and SMEs, and identifies potential strategies to make reporting against the Taxonomy attractive and feasible for SMEs. As this research is a single case study conducted in three out of twenty-seven EU countries, there are limitations in terms of the reliability of the findings and the external validity of the research, i.e. the extent to which the findings of the research can be generalised (Yin, 2014). However, although the single case study approach produces context-sensitive results, this does not undermine the value of the findings (Flyvbjerg, 2006). This research provides new, organised knowledge about SME engagement strategies in sustainability reporting and about SME behaviour, both in general and in the energy market. This knowledge is a starting point for both practitioners and researchers.

*Table 4-4 Research questions, methodologies and purposes*

| Research Question | | Methodology | Purpose |
|---|---|---|---|
| **RQ1.1** | What are the likely impacts of the EU Taxonomy on non-financial SMEs in the energy sector regarding a company's internal capability and inward and outward resource flows? | -Desk research (EU legislative acts, reports by private and public organizations, academic papers) | Identify the main areas in which SMEs might face issues. The results will feed into RQ1.2 |

| | | -Interviews with experts of SMEs<br><br>-Using RDT to organize the data collected | |
|---|---|---|---|
| **RQ1.2** | What are the socioeconomic mechanisms through which these impacts can occur? | -Using intervention theory and RDT to model the results from the interviews and the desk research | Determine the interdependencies between these issues and the components of the intervention theory framework developed |
| **RQ2** | How can Taxonomy reporting be made more feasible and attractive for non-financial, unlisted SMEs? | -Extract from the intervention theory framework and from the answers to the previous questions | Determine the elements that would potentially solve some of the issues identified in RQ1 |
| **RQ3** | What strategies can be developed to make voluntary Taxonomy reporting attractive for financial institutions? | -Desk research (EU legislative acts, reports by private and public organizations, academic papers)<br><br>-Interviews with economists and experts on financial institutions | - Determine what type of data on SMEs' taxonomy performance might interest financial institutions<br>-Determine how to deliver the value of taxonomy performance data to financial institutions |

> **Goal 1: identify some impacts of the introduction of the EU Taxonomy and its associated regulations on SMEs, and determine the causes of those impacts**
>
> **Goal 2: explore different strategies to make voluntary Taxonomy reporting attractive and feasible for financial institutions and SMEs**

## 4.2 Method Used to Collect Data

Besides presenting the potential biases and influences in section 1.4, and the underlying theoretical framework in section 2.2, in the following sections, the methodology of this study is going to be rigorously discussed. As Creswell & Creswell (2018) suggests, triangulation has been adopted to guarantee external validity of the results: different sources (experts on SMEs, experts on finance, experts on environmental economics, academics, and practitioners), and different methodologies of data collection (interviews, desk research) were deployed to determine results convergence. Lastly, during this project, there has been a fruitful information and opinion exchange with other CONFESS project members, both researchers and expert practitioners.

The interpretations of these experts were compared with the results of the interviews and the desk research to reduce biases.

## 4.2.1 Actor Selection

The selection process for respondents in this study was carried out carefully. Three key factors played a crucial role in determining the individuals to be interviewed: availability, geographical location and relevance.

In terms of availability, the aim was to contact individuals who were willing to participate in this study within the given timeframe in order to ensure a smooth and efficient data collection process and to allow for timely analysis and interpretation. The CONFESS network of professional contacts was used to contact experts, as my team collectively had a wider reach than I alone.

The geographical location of the experts was taken into account in order to capture a wide range of perspectives. By considering only people working in the EU, the study aimed to obtain fairly accurate results without being biased by the market conditions of a single country. The experts who agreed to be interviewed work in Germany, Belgium and Italy.

Finally, relevance played an important role in the selection of interviewees. I sought for people with knowledge, expertise or experience on SMEs, green finance or environmental economics. This criterion ensured that interviewees could provide valuable insights and informed opinions from different perspectives, so that the information gathered could be easily triangulated. Their expertise and perspectives facilitated an in-depth exploration of the research questions and a nuanced analysis of the findings.

By applying these three criteria, a well-rounded sample was obtained for this study. The different perspectives of the participants ensured a comprehensive exploration of the research topic and provided a rich and insightful understanding of the subject. However, there is a risk that the results may be biased towards a particular interpretation of the market, as the experts were mainly from Central Western Europe. In future research, it would be valuable to gather insights from experts working in other areas of the EU.

Finally, this study lacks engagement with SMEs and industry associations. Despite repeated efforts to engage with these actors, the groups were largely unresponsive or uninterested in discussing the issue. Part of my team for the CONFESS project was able to make contact with SMEs, but they were unable to provide any valuable input on the subject. Hopefully, future research will be able to overcome this problem by contacting these stakeholders and having a productive discussion with them.

## 4.2.2 Desk Research

A desk research was conducted both as the first stage of this thesis, and after the interviews. 38 online peer-reviewed articles from academic journals were selected, alongside with 1 company report, 10 reports from NGOs and other organizations, 4 websites, and 14 EU legislative acts. The purpose of the desk research was trifold. Firstly, it laid the foundations for the research by helping to identify the research gap and, by contrast, the data that needed to be collected and the information available on the topic. Secondly, it was used to categorise the available information into themes and to tailor the interview questions to these themes. Thirdly, the research was enriched with further sources after the interviews to complement and cross-check the interview findings.

Both academic articles and grey literature were identified through Google Scholar and the Google Search Toolbar, using different combinations of the following expressions: "SMEs"; "Financial institutions"; "Large companies"; "Taxonomy reporting"; "Voluntary Taxonomy reporting"; "Non-financial Reporting"; "Sustainability Reporting" "Issues with – on -"; "Corporate Sustainability Reporting Directive"; "Implications of – on -"; "Technical Screening Criteria"; "Green Asset Ratio"; "EU Taxonomy"; "Disclosure Delegated Act"; "Climate Delegated Act"; "KPI for financial performance"; "Green revenues". Besides the results gathered with this direct form of research, sources were also identified adopting a snowball method, i.e. identifying relevant sources from other researchers' bibliographies. Due to the novelty of the topic, a limited amount of sources was selected, based on relevance, pertinence, and novelty. In cases where a paper on one or more relevant legislative acts was published before a relevant regulation entered into force, and the paper provided useful insights for the research, then it was double checked that the data provided by the paper were still valid by determining whether the causal reasoning was dependent on dated information. The data gathered were fed in a synthesis matrix.

## 4.2.3 Semi structured interviews

The other stage of the research involved qualitative interviews. The purpose of the interviews was to gather different expert perspectives on the current and future relationship between SMEs, financial institutions and the EU Taxonomy. As the EU Taxonomy is a relatively new topic, the insights that could be gathered from papers and reports were limited, and the data relevant to the research even less. Direct contact with experts allowed for the collection of targeted, qualitative data on actors' behaviours, needs and beliefs, while receiving commentary, input and inspiration from knowledgeable people in the field.

Due to the novelty of the topic, it was necessary to keep the interview flexible enough to ensure adaptability, i.e. to guarantee the possibility to deepen the topics in the interviewees' areas of expertise and to extend their reasoning. For these reasons, it was decided to use semi-structured interviews to collect data directly from experts. In addition, as Horton and Macve (2004) point out, semi-structured interviews make it easier to assess the credibility of certain answers by giving the interviewees the opportunity to elaborate on their answers in order to identify the foundations of these answers (data, causal reasoning, etc.).

Different interview guides were developed to provide a structure to the discussions. The interview guides were slightly personalised, based on the interviewee's specialization. They can be divided into two macro-groups: experts in SMEs and experts in financial institutions. In Appendix A: Interview Guide (SMEs) and Appendix B: Interview Guide (Financial Institutions) two interview guides prototypes can be found, one for macro group. This division was motivated by the variety of topics covered by the research: the results of the interviews with experts in SMEs mainly feed into RQ1 and RQ2, while the results of the interviews with experts in financial institutions mainly feed into RQ2 and RQ3. Within each group, the structure did not vary significantly between the guides in order to ensure the comparability of the results, thus ensuring that the results could be organically organised and cross-analysed in a comparative way.

The interviewees were contacted by me via email, recruited by Climate & Company, or contacted through the CONFESS project intranet. The interviewees were selected on the basis of their publications, area of specialisation or available knowledge of their current work.

Since the interviewees were located in different areas of the EU, the interviews were carried out via the digital platforms Zoom and Microsoft Teams. Either the interviews were recorded or notes were taken, based on the preferences of the interviewees. Consent was obtained for all interviewees, either via email or orally for the interviews that were recorded. The interviews

usually lasted between 30 and 60 minutes. The names of the interviewees and their organizations are not disclosed. Both transcripts and notes were taken on Microsoft Word.

Five of the interviews were conducted directly by me, while the other four were held by Climate&Company, as part of the CONFESS project, using the interview guides I developed. One interview was conducted in two tranches; since only one of the two interviewees participated to the second tranche, the interviews have two different codes, namely A.1 and A.2, as Table 4.2 shows.

One of the limitations of this research is that some of the interviews were not conducted directly by me. This was a consequence of both a professional agreement between me and Climate&Company, and a language barrier between me and some of the interviewees, who preferred to be interviewed in German. My lack of supervision over those interviews might affect the results, since I cannot guaranteed the same level of control over the material. To partially compensate for my absence, the interview guide was made slightly more detailed than what is expected by a guide for a semi structured interview. However, given the significant congruence between the objectives of this research and the current stage of the CONFESS project, it is appropriate to emphasise that the potential for compromised results is extremely low. Both the CONFESS project and this study rely on accurate and unbiased market data and therefore require the interviews to provide such information.

Another limitation of interviews, as argued by Creswell and Creswell (2017), is that they provide information filtered through the interviewee's worldview and beliefs, so the data may be skewed by the interviewee's perception of the general topic of discussion. In addition, the setting and the presence of the researcher may condition certain responses towards certain outcomes. To partially overcome these limitations, data were cross-checked between different interviews and with the supporting literature.

*Table 4-5 List of interviewees*

| Category | Interviewee Role | Duration (minutes) | Code for in-text references |
|---|---|---|---|
| Accounting services | Deputy CEO; Director (SMEs; sustainability reporting) | 30 | A.1 |
| Accounting services | Director (SMEs; sustainability reporting) | 60 | A.2 |
| Financial services | Director | 30 | B |
| Academia | Researcher (green finance) | 40 | C |
| Academia | Researcher (environmental economics) | 60 | D |
| Academia | Researcher (green finance) | 35 | E |
| Consulting services | Sustainable Finance specialist | 60 | F |

| Financial services | Senior Economist (environmental economics) | 60 | G |
|---|---|---|---|
| Think Tank on sustainable finance | Analyst | 60 | H |

## 4.3 Data Analysis

As part of the data analysis, information was organised to identify commonalities, contradictions and dependencies between otherwise scattered data from the interviews. After transcribing the interviews and collecting notes, the dataset was uploaded into Nvivo, a qualitative analysis software. Due to the number and length of transcripts and notes, this software was chosen as the most efficient way to structure a disparate corpus of information. Here data were organised into themes to gain a better understanding of the information collected. Although Nvivo provided some valuable support for this research, I have kept in mind some of the limitations of this tool, that is, as argued by Heracleous and Fernandes (2019), that a software ought not to replace the researcher regarding interpretation and abstract analysis, especially in terms of generating insights.

The data from the interviews were analysed through the lens of thematic content analysis (TCA), a method developed to classify and analyse qualitative data in terms of patterns (Braun and Clarke, 2006). This method has been found to be particularly useful for analysing data about people's perspectives on a particular topic (Brulé, 2020; Braun & Clarke, 2006). As the main data collected for this research consists of actors' perceptions and beliefs about the current market for taxonomy-related products, TCA seems appropriate for this study. The data were first coded on the basis of some themes previously identified through an analysis of the desk research, the various pieces of legislation read (the EU Taxonomy, the DDA, the CSRD and the CDA) and the theoretical framework presented in Chapter 3. Additional themes were then identified inductively based on what emerged from the transcripts. The coding structure was adapted to the newly identified themes. The themes that arose from the transcripts were identified mainly using a semantic approach, i.e. analysing what was said more than the underlying meaning (Braun & Clarke, 2006). However, latent themes were determined to understand the underlying beliefs and assumption of the interviewees and researchers (Braun & Clarke, 2006).

The desk research followed an iterative approach. First, various macro themes were identified from academic literature and from ESMA's final report on Article 8 (ESMA, 2021). These themes were then confronted with those emerging from the interviews, and a second round of source research was conducted to further refine the information within these themes, and to back up or contradict the newly gathered data from the interviews with reports and academic papers. The main sources identified at this later stage mainly focus on sustainability reporting by SMEs and ESG reporting by financial institutions.

# 5 Findings and Analysis

This chapter presents the results of the qualitative content analysis using Nvivo software and the analysis of the EU taxonomy using intervention theory. This chapter provides an in-depth analysis of each theme, describing how its content organically flows into one or more RQs, as shown in Figure 5.1. The findings from the interviews are presented in section 5.1. Here, the findings are organised into themes. The themes branch out into sub-themes in order to provide a more detailed analysis of the findings. Section 5.2 then presents the results of the desk research. The desk research is used to complement the interviews in order to gain a better understanding of the overall knowledge on a particular theme identified in this study. Finally, section 5.3 analyses the intervention theory model constructed on the basis of the EU taxonomy. The results of the analysis provide the basis for answering RQ1.2 and provide background knowledge for answering RQ.2 and RQ.3.
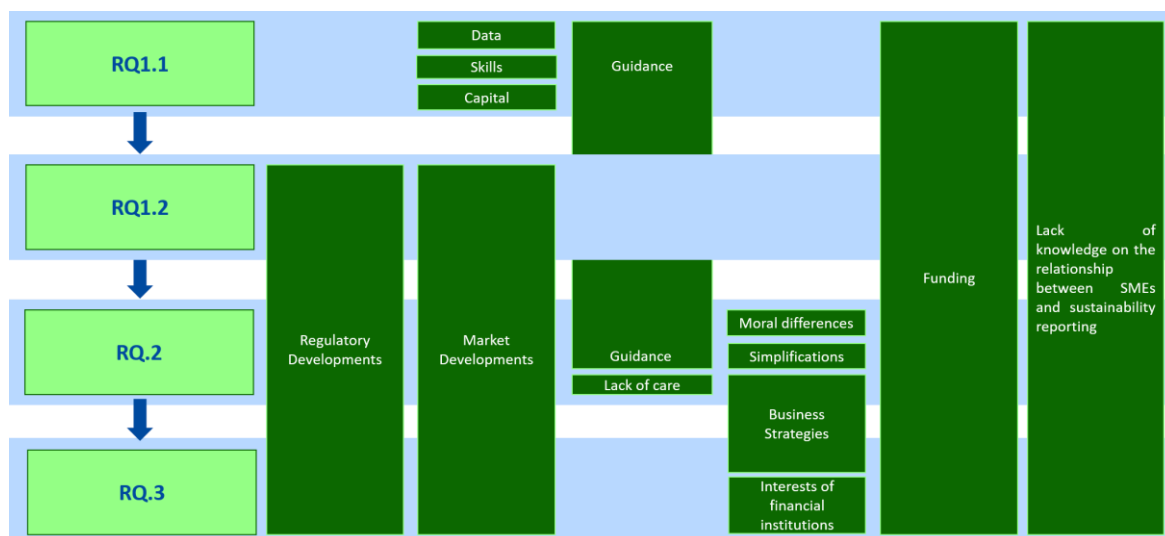


*Figure 5-4 represents the relationships of RQs with each other and of RQs with the selected themes*

## 5.1 Themes

### *Lack of Knowledge on the relationship between SMEs and sustainability reporting*

The findings highlighted that both SMEs and financial institutions have some knowledge gaps in relation to sustainability reporting.

Respondent H had the opportunity to discuss the relationship between sustainability reporting and SMEs with different stakeholders. Her analysis showed that SMEs are currently not knowledgeable about sustainability reporting and, by extension, the EU taxonomy. The discourse with these stakeholders is still at a stage where SMEs are reluctant to integrate sustainability considerations into their business model. This is in line with what Respondents A.1 reported about SMEs as well. It is worth noticing that both Respondent H and Respondents A.1 comment were limited to non-listed SMEs in Central Europe. To this group, Respondents A.1 excluded also start-ups, since they have different business ambitions than SMEs regarding growth, and this leads to differences in behaviour.

Regarding the financial sector, Respondent C had several interviews with corporate client consultants and sustainability experts working with large and small banks. She noted that financial actors do not yet have much experience with the EU taxonomy. She stated that it was difficult to discuss with them even on elementary components of the EU Taxonomy, such as

the non-financial disclosure KPIs. The lack of knowledge of the EU Taxonomy made it difficult to clearly identify the needs of financial institutions with quantifiable, easily comparable data.

The limited understanding of the EU Taxonomy among these stakeholders could be attributed to a lack of attention from banks and SMEs towards sustainability reporting, as explored within the "lack of care" theme.

## *Data*

Among the challenges of the EU Taxonomy for SMEs that have been identified in this study, the most significant ones are linked with data availability and data gathering. Some respondents have argued that SMEs face constraints in gathering, analysing and disclosing the data required by the EU taxonomy. These limitations are due to lack of resources, lack of expertise, lack of incentives and lack of regulatory pressure (Respondents A.1; Respondent A.2). According to Respondent F, the main challenge is data acquisition, i.e. it results burdensome for an SME to gather data about its own environmental impacts without relying on averages or proxies. This comment matches Respondent A.2 beliefs that the data available to SMEs are inadequate or inappropriate to assess their compliance with the EU taxonomy. The existing regulatory requirements are not aligned with the information required under this Regulation. Therefore, SMEs will have to collect new data without using proxies and averages (as required by the DDA) and this requires skills and resources that SMEs do not seem to have, as mentioned above.

On voluntary taxonomy reporting for SMEs, Respondent A.2 expressed considerable scepticism about its potential adoption and the benefits it would bring. She argued that voluntary disclosure by SMEs could potentially undermine their competitive advantage. For example, the mere act of disclosing information that would allow competitors to identify an SME's top three suppliers and customers could allow competing companies to adjust their own business models to the detriment of the SME. She furthermore highlighted the gap between current SME reporting practices and the EU Taxonomy by comparing the taxonomy requirements with current mandatory national information requirements for SMEs. While the former is extremely demanding for SMEs, the latter usually requires information mainly on personnel. Given the view of Respondent A.2 that SMEs typically do not attempt to go beyond the minimum mandatory reporting requirements, this comparison can be interpreted as highlighting the significant change in mind-set and resource allocation that would be required for SMEs to adopt Taxonomy reporting. While there are barriers to collecting, analysing and disclosing data for taxonomy reporting, Respondent D believes that it is crucial that SMEs undertake this effort, as large companies rely on this data for the supply chain considerations required by the EU taxonomy.

In relation to the feasibility of taxonomy reporting for SMEs, Respondent E provided a diverging perspective. She emphasised that it is not possible to make a broad statement about the difficulty of data collection and analysis without narrowing the focus to specific sectors. This is due to the significant differences in Taxonomy-Specific Criteria (TSC) across sectors, as well as the inherent heterogeneity of SMEs as a group in terms of capabilities, development of sustainable practices, size and resources, as noted by Caputo et al. (2017) and Respondents A.1.

Regarding SMEs in the energy sector, Respondent E stated that calculating taxonomy alignment is way less burdensome that what companies lament, especially regarding electricity generation. She argues

> "All companies (*in the electricity production sector*) have lots of details on how to produce electricity. If that is not the case, a company is not on the market. In

this field, being in business means already having data on energy production divided by technology. In these cases, you just need to do a sum. In several sectors is easy to calculate taxonomy alignment, while in sectors such as manufacturing and chemistry, this is way harder..." (Respondent E)

Certain TSC related to activities in the energy sector confirm the view expressed by Respondent E. An example is the SC criterion for the activity 'electricity generation from wind': an activity that generate electricity with wind power has a substantial contribution to the EU Green Deal objectives *because* it produces electricity this way (European Commission, n.d.-d). It is also worth noting that DNSH criteria tend to focus on compliance with regulations and best practice, which is relatively easy to assess by referring to the relevant recommendations or using consultants. This limited scope of assessment simplifies the evaluation process for DNSH criteria.

## Guidance

It has been noticed by Respondent A.2 that both financial and non-financial companies are in need for external guidance and clarifications. According to their analysis, SMEs experience a sense of disorientation with regard to the reporting requirements of the taxonomy. These requirements deviate from their usual practices and are exacerbated by their complex nature. While financial institutions theoretically have the potential to help SMEs navigate sustainability reporting, this group faces a lack of internal harmonisation of sustainability requirements and knowledge about the EU Taxonomy. As Respondent A.2 stated

> "Financial institutions have no idea of what they want from businesses. There is no standardizations (*of sustainability reporting*) across Europe or within member states. Banks know that they have to include SMEs in their sustainability reporting, <u>but they do not know what they need to know</u>. All this uncertainty makes it very difficult from SMEs to think about voluntary reporting, especially considering that financial institutions have different demands and formats" (Respondent A.2)

The lack of guidance regarding taxonomy reporting for financial institutions might negatively affect SMEs, as they risk being left out of funding opportunities due to a lack of shared reporting practices. Although this does not necessarily entail a lack of support for financial institutions to orient themselves in the new regulatory scenario, Respondent A.2's comment can be read as such in light of the other data gathered.

## Funding

Respondent A.2 highlighted the importance of funding in SMEs' transition to sustainable practices. However, contrary to the conventional belief that companies with superior sustainability performance have greater access to funding for green initiatives, this perception does not hold for the renewable energy sector. Respondent H observed a lack of interest among companies involved in renewable energy production and energy efficiency in reporting their sustainability performance. She argued that this is mainly due to their perception that their financial market performance is not affected by their sustainability performance. This perception stems from investors' current satisfaction with investing in such activities without necessarily knowing the company's sustainability performance. According to Respondent H, this attitude of investors is due to the current high demand for renewable energy, partly influenced by the ongoing geopolitical situation with Russia's invasion of Ukraine. As a result,

sustainability superiority over competitors does not emerge as a key driver for investors in the renewable energy sector.

However, Respondent H argued also that SMEs in the renewable energy sector are facing difficulties when the activities are trying to get funded are not-so-well known, i.e. when they want to implement new technologies or they are trying to insert themselves into in-development markets. In these cases, voluntary Taxonomy reporting could be a way to demonstrate that a new technology for a taxonomy-eligible activity presents a low sustainability risk, as it can potentially be in line with the EU Green Deal Goals, while presenting the direct costs and revenues associated with that activity.

As presented in the previous chapter, there is a risk of an exclusion of SMEs from the green market, since the GAR might become the main channel for funding sustainable activities and SMEs are excluded from the GAR. This concern is shared by Respondent D and Respondent H. Respondent E commented on this risk arguing that financial institutions are interested in declaring the tax alignment of their loans to SMEs since this group is a huge percentage of the total loans. Hence, they might push for SMEs to be put under the scope of the GAR. This might be true for smaller banks, since there a correlation between size of the sources of funding and size of the company receiving funding: small banks provide funds to SMEs, while bigger banks have bigger clients (Respondent C).

Lastly, Respondent F maintained that the benefit of funding from green activities do not outweigh the costs yet. As she pointed out, many actors are currently afraid of miscalculating their data and presenting a higher alignment than their actual one. This might heavily backlash for a company, causing a green washing scandal. Hence, they prefer to declare a 0% taxonomy alignment and reduce their costs than to disclose information that might end up damaging the company.

### *Capital*

In relation to taxonomy reporting for SMEs, Respondent A.2 identified capital costs as a prominent barrier to active engagement in this area. She argued that one of the main reasons why SMEs limit their reporting to the mandatory one is costs. When asked about the potential increase in costs associated with taxonomy reporting for SMEs, Respondent E, offered a more critical perspective on this alleged rise in costs linked with the EU Taxonomy, highlighting the importance of socio-economic changes in this context.

> "The general reaction of companies within the scope of the EU Taxonomy is: well, this impose on us increased reporting and management costs. I believe that we need to analyse this topic to understand where it holds and where it does not. In my opinion, an argument that can be discussed is that in a transaction towards a more sustainable economy, business model shift and, like keeping track of a company's activity is part of the business, in the future keeping track of their sustainability impacts is going to be part of the business. This is not a top-down costs that was imposed by evil bureaucrats obsessed with reporting, this is part of the costs of the current and future business models. Knowing that, anything that require a cost in the short term and effort, usually is objected by companies – except by the ones that understand how to gain competitive advantage by this change." (Respondent E)

Concisely, Respondent E argues that some of the short-term costs are part of a natural process of adapting to a new way of doing business in which sustainability plays a more prominent role.

The strong reactions of SMEs in this respect are a natural response to an anticipated change that requires the allocation of capital to be managed. The different views expressed by Respondents A.2 and E are not inherently contradictory as they focus on different aspects. One perspective addresses the current situation faced by SMEs, while the other focuses the potential for overcoming these challenges. Without denying the additional costs of taxonomy reporting for SMEs, Respondent E seems optimistic about the possibility of overcoming these difficulties. She seems to imply that this burden is not as heavy as SMEs complain but is perceived as such because of the inherent tendency of businesses to resist change.

## *Lack of Care*

To set up a voluntary reporting system, it is essential that stakeholders have a full understanding of the benefits of such an initiative and a desire to capture the associated value. However, from the sources, a general lack of care from the SME's side for sustainability reporting emerged. Respondent A.1 pointed out that SMEs are need-driven: they are mainly reactive towards new regulatory changes, not proactive. Respondent A.2 stated that the idea that SMEs would want to disclose more information is false: SMEs often perceive reporting as burdensome, resulting in a general tendency to comply only with minimum reporting requirements without actively engaging in voluntary reporting initiatives. Moreover, according to Respondent A.2, most SMEs never look at legislations; their main considerations are linked to costs and turnover and they are not inclined to link legislative developments with economic opportunities. She compared legislative developments with IT protection: SMEs that are not in the sector know they should take care of this aspect, but they do not have the resources to study it, thus they will hire third parties. Hence, if an industry is not directly related with taxonomy activities, they will not take the time to understand this piece of regulation, and they will not try voluntary sustainability reporting. Respondent A.2 specified that this line of reasoning does not hold for sustainability-driven businesses; however, this group is a minority in the market. Briefly, according to Respondent A.2, unless someone does not require SMEs to disclose certain information, no business will try Taxonomy reporting, *modulo* sustainability-driven ones. However, even among sustainability driven business, certain conditions have to be in place for SMEs to be interested in sustainability reporting. As Respondent H pointed out, since the renewable energy sector is currently prosperous due to an excess of demand for renewables, SMEs do not care about disclosing their sustainability performance since they currently have sufficient customers without it.

A lack of care for sustainability reporting, caused by a lack of prioritization of this aspect over other concerns, has been noted also by Respondent F and Respondent D. To persuade SMEs to prioritise sustainability reporting, Respondent D suggested the involvement of financial actors. By demonstrating the existing demand for sustainable products, SMEs can be encouraged to adopt sustainability reporting practices. A similar recommendation can be also inferred from Respondent A.1 reasoning

> "Reporting is not the first step to involve SMEs in sustainability. The first step is to make them start to care about it. A good approach is to show them the benefit of sustainability. This is why energy saving was rather effective with SMEs, because it revolves around cutting down energy costs. […] We have to offer them something, namely, *money*. We have to convey the value […] in economic terms" (Respondent A.1)

Respondent C noted that there is limited pressure from banks for SME sustainability reporting. The interviewee reported that, for this group, looking at the sustainability performance of SMEs is still in its early stages; currently only sustainability-oriented banks are starting to ask for

sustainability reports, while the rest are stalling due to a lack of normative push from public authorities. She argued that one of the reasons for this attitude in banks is the perception that poor sustainability performance is not an investment risk. A lack of care from banks for SMEs' sustainability performance has been noted by Respondent G as well, although not as explicitly as Respondent C.

Concisely, the sources suggest that there is a compelling need to prove the business value for sustainability reporting, emphasising its potential as a long-term cost saving opportunity or as a means of attracting lucrative funding prospects.

### Moral Differences

In the proposed scheme, the difference between the themes "Lack of Care" and "Moral Differences" lies in the perspective on the "mind-set" of different actors. "Lack of Care" focuses on the lack of focus on sustainability issues by certain actors and some of the underlying reasons that partly describe why this is the case. "Moral Differences", on the other hand, focuses on the mind-set of non-financial companies and identifies their drivers for action.

Respondent H noted that the SMEs she worked with tend to prioritise sustainability considerations when there are tangible benefits to be gained. These SMEs do not appear to have an inherent integration of environmental responsibility within their organisational framework and tend to prioritise economic factors over other considerations. This mind-set might explain the general resistance of companies towards sustainability reporting: it is not perceive as a source of economic benefits. This line of reasoning is supported by Respondent A.2, who also pointed out that this mind-set could be used to implement economically advantageous sustainability measures. For example, she noted that one of the current benefits of the energy crisis for sustainability is that it has led SMEs to focus on reducing their energy consumption in order to cut costs - and thus reduce their emissions.

### Business Strategies

Considering the significant influence of the EU market in the global economy, and that the EU Taxonomy is the first major certification scheme in the world to adopt the layered, multi-dimensional approach described in Chapter 2, it is expected that taxonomy reporting will provide first mover advantages to EU based companies. (Hummel and Bauernhofer, 2022). However, as presented in the previous themes, there are several potential shortcomings for SMEs, both in the short term (implementation costs, resource-intensive reallocation, new skills required) and in the long term (data collection and data analysis). According to Respondent E, taxonomy reporting is an inevitable step for SMEs, and the perceived shortcomings for some sectors, such as energy, are either a natural reaction to an anticipated change, or potentially solvable. Nevertheless, it is crucial to explore the strategies to reduce the negative impacts that these shortcomings could bring. In this theme, insights on how to develop a business strategy in which voluntary Taxonomy reporting is advantageous are gathered. This theme is divided in two subthemes: *General Suggestions* and *Voluntary Certification*.

*General Suggestions:* Restrictions on whether voluntary taxonomy reporting might be worthwhile for SMEs were highlighted by Respondents A.1. They maintain that this form of reporting would be beneficial for SMEs only if it eases their burden by being the only reporting tool used, i.e. only if SMEs do not have to submit different reports to different organizations, and if SMEs gets direct benefits, easily quantifiable in economic terms.

Respondent A.2 identified a number of elements that would encourage SMEs to voluntarily disclose their taxonomy alignment. First, they would need to be sure that taxonomy reporting is a selling point for their business, i.e. that they have good financial reasons to take the time to publish information that they would not necessarily share. They need to see the benefits in economic terms, whether it is a competitive advantage over their competitors or better access to finance. Secondly, SMEs would need to see taxonomy reporting as a marketing advantage, i.e. a chance to 'brag' about their business. Finally, they would need to perceive the information shared as a marketing tool to attract staff. This is because, according to Respondent A.2, SMEs have problems attracting new staff because they pay less, they are less 'glamorous' than large companies and they offer fewer career opportunities. The fact that younger people seem to be more attracted to sustainability issues could be a valuable marketing point for SMEs, in addition to the local aspect.

Finally, in terms of how to approach SMEs, Respondent F suggested to be proactive in approaching SMEs to show them the knowledge in reporting and to force SMEs to think strategically. In addition, she suggested focusing on small improvements in SMEs' sustainability reporting as SMEs have limited capacity. She mentioned materiality analysis as an example of an issue to prioritize when developing a voluntary reporting tool. Convincing companies to prepare a small amount of data could be a good starting point to show the importance of voluntary reporting: this data could be integrated into a risk analysis framework, allowing companies to take a more systemic view of their materiality impacts.

*Voluntary Certification*: One of the main solutions analysed in this study to make taxonomy reporting feasible to SMEs is the creation of a voluntary certification. The reason behind this decision is that the market is evolving in this direction: currently, several certifications and reporting tool are either in place or in development, like the CONFESS one, the European Green Bonds Standards, the Frankfurt Taxonomy reporting Tool, Liberbyte Taxonomy reporting tool, DydonAi TAXO TOOL and the PwC EU Taxonomy Tool (Frankfurt School of Finance and Management, n.d.; Liberbyte, 2023; Dydon AI., n.d.; PwC, n.d.; Respondent B; Respondent H; Respondent A.2). One of the main challenges highlighted by Respondent D in relation to voluntary certifications is their limited leverage on financial actors compared to mandatory certification. Therefore, the implementation of a business strategy for this type of certification must be sufficiently enticing to induce financial actors to engage with it autonomously. According to her, a voluntary certification is attractive if it has a credible and transparent system of certification and if it is clear what it is certifying. In addition, having the backing of an influential and resourceful organization, particularly a government or supranational body such as the EU, further enhances its attractiveness (Respondent H).

A challenge faced by the taxonomy reporting tools currently on the market is the interpretation of the data. According to Respondent F, these tools are simply checklists that can automatically read energy certificates and determine whether an activity is above or below the taxonomy threshold for the relevant TSC. However, they fall short on criteria that are linked to other regulations and require more interpretation - such as the DNSH ones.

According to Respondent D, a voluntary certification might be developed using the EU Taxonomy as an informal reference. This way, an organization might act as a third party certifier that guarantee the "taxonomy compliance" of a company's activities. Third certification might act as a voluntary complement to the GAR to avoid penalizing actors with significant investments in SMEs.

Respondent B maintained that an interesting business case for a voluntary certification might be translating qualitative results into a quantitative metrics. She argues that the majority of non-

financial reporting is qualitative in nature and translating them in quantitative terms might ease comparison and provide a competitive advantage of this tool over the others. This also match the results of the PRI's reports on the issue in comparing DNSH criteria due to their qualitative nature (PRI, 2020). Regarding entering the market, Respondent B argued that docking with regional saving banks might be a great strategy for a voluntary certification. They might appreciate a form of simplified taxonomy reporting for marketing reasons and they have a strong presence at the regional level. Responded D reasoned in a similar fashion, arguing that seeking the support of small banks that focus on providing loans to SMEs, since these organizations has to report the GAR as well and might be the most affected by the exclusion of SMEs from its scope.

An ambitious business strategy suggested by Respondent D is to create "taxonomy credits" that can be exchanged on the market to increase taxonomy alignment.

> "A product of this kind is ideally possible and could have a market, since SMEs can certify that they can do something coherent with the taxonomy and they can also sell this certification on the market saying "I don't have an obligation but I am behaving coherently with the EU Taxonomy at X percentage and I can certify that through a third party" (Respondent D)

Respondent D also identified potential limitations of a "Taxonomy Credit Scheme", pointing out that the market equilibrium price of 1 tons of $CO_2$ voluntarily reduced is much lower than the price of pollution permits and voluntary credits in the EU ETS. There is demand, but not enough to make this voluntary scheme comparable to regulatory schemes. Another problem is that there is still less incentive for banks to invest in voluntary certified activities than in activities covered by the GAR. Respondent D suggested that such certification might be possible using a blockchain as a distributed database, although she did not go into detail due to her limited knowledge of the technology.

Respondent A.2 emphasized that voluntary certification should focus on a smaller set of criteria than mandatory certification due to the limited resources of SMEs. Moreover, a taxonomy reporting tool would face issues of complexity, considering how vary and detailed the TSC are. Respondent A.2 maintains that a tool that take into account all of these elements might not be feasible for SMEs, but a more specialized one might. Going for low hanging fruits first should be promoted. Ideally, a certification should be presented with a phased approach, focusing on low-hanging fruits as a starting point and then nudging SMEs to do more with more rewarding awards for better performance. To achieve this, Respondent A.2 argued that an information-sharing approach could be useful. She claimed that a system where certification provides SMEs with anonymized information about their competitors' performance could be a useful benchmarking tool. In addition, SMEs wishing to promote their commitment to sustainability could share their information without anonymity. This tool could also be important to determine at what stage of development a company is with its sustainability practices: if it is just starting to develop them, it might need more basic suggestions and support. Then it might start to share its plans to reduce its environmental impact. After that, it might start to organize its information more organically, showing both what it has done and what it plans to do in the future. This step-by-step approach could lead to regular improvements in the SME's sustainability performance (Respondent A.2).

> "With monitoring and evaluation there is an expectation that in 18 months SMEs would come up with an environmental management systems. SMEs might not be able to do this. They are still in the dark about sustainability data, both regarding finance and for supply chain considerations" (Respondent A.2)

As presented in the theme "Funding", SMEs in the energy sector do not have issues with attracting investors for their activities. However, according to Respondent H, SMEs in this sector face challenges in securing funding for new technologies. This is mainly due to investors' limited knowledge and understanding of sustainability initiatives in the clean energy sector, which makes them reluctant to invest in emerging markets. In those cases, voluntary taxonomy reporting might be a way to show that an activity is going to be profitable, since the taxonomy alignment could present to the investors how the activity is sustainable and how it is aligned with the EU Green Deal goals. The tool would leverage on the risk aversion tendencies of investors, showing that there might be a market for the product.

Instead, regarding the SMEs market for well-known products, Respondent H is more sceptical about the practical applications of a voluntary certification. This is probably due to the perspectives of SMEs on sustainability, as presented in the themes "Lack of Care" and "Moral differences".

## *Regulatory Developments*

In this theme, the findings on the prospected (or desired) regulatory changes linked with the EU Taxonomy are gathered.

Different courses of action to solve the current issues with voluntary reporting were identified during the interviews. Respondent C believed that taxonomy reporting should be made mandatory to SMEs – with some adjustments. Respondent B reported that some countries are suggesting to amend the Taxonomy by removing SMEs from the denominator of the GAR, which represent the total investments of a financial organization. This way the GAR performance of a financial organization is measured independently from their investment in SMEs. Different respondents argued that the best ways to avoid excluding SMEs from the green market is including SMEs in the GAR while providing support to SMEs through the introduction of standards and reporting templates (Respondent H, Respondent E). Respondent E argued that this is the direction in which the EU is going, suggesting that some ways to further support SMEs in their reporting are in the making.

Respondents A.1 believe that taxonomy reporting should be voluntary, but ultimately, they would like to see the creation of an SME reporting standard to rebalance the power relation between SMEs and large companies. EFRAG is currently developing some voluntary reporting standards to support SMEs out of the scope of the Taxonomy with their sustainability reporting (EFRAG, 2022). Respondent H also expressed an extremely negative opinion of the last draft of these standards. She found them to be too unambitious, as they mainly suggest SMEs to report their energy consumption, the geographical location of their suppliers, and how they manage waste (EFRAG, 2022; Respondent H). On the other hand, Respondents A.1 argued that these standards mandate to disclose too much information, more than what SMEs can handle. Moreover, they maintained that disclosing the supply chain information suggested in the draft would negatively affect SMEs, as already presented in the "Data" theme.

Although Respondent H takes a slightly less pessimistic view of the capabilities of SMEs than Respondent A.1, she also believed that adaptations for SMEs should be made, in particular by carrying out a sectorial analysis to identify specific simplification criteria for each sector.[4] Moreover, Respondent H argued that the EU Taxonomy might benefit from the introduction of the double materiality principle of the CSRD, which basically mandates to report both the

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[4]   Additional suggestions regarding simplification of taxonomy requirements are presented in the theme "Simplification"

impacts caused by a company's activity and the future environmental impact that might affect a company's production system. If this principle were to be applied to the EU Taxonomy, the double materiality would have to be disclosed for each activity, as this regulation operates at this level. Lastly, Respondent H pointed out that the EU Taxonomy is "past oriented", i.e. it focuses mainly on reporting the turnover and expenditures coming from activities in place, with the exception of the Capex Plan in which planned expenses are written. She presented this as a limitation and suggested that it could be beneficial to include a requirement for companies to disclose their commitments and plans for improvement in terms of alignment with the Taxonomy, along the lines of what is required by the CSRD (Directive 2022/2464). This would allow investors to gain a deeper understanding of the company's sustainable growth strategy, increasing transparency and investor understanding as a result (Respondent H).

An alternative line of development for the EU Taxonomy is to move from a binary framework (aligned/not aligned) to a traffic light model, where specific activities that cause significant environmental harm are categorised as 'brown' and can potentially be transformed to cause no harm. This change, integrated into the EU taxonomy, could act as a catalyst to encourage sectors with limited alignment percentages to improve their performance. By visualising the areas for improvement, these sectors would be motivated to make the necessary improvements and progress (EFAMA, n.d.). This would also compensate a hostility to foster transformative effort of the EU Taxonomy, as highlighted by Respondent G. In addition, this approach would address the structural resistance of the EU Taxonomy to promoting transformative efforts, as highlighted by Respondent G. According to her, the existing binary framework of the Taxonomy does not take into account a company's potential for improvement and its ongoing efforts to improve sustainability. However, Respondent H noted that it has been decided not to include brown activities. She did not specify which organization or group decided so, although it could be inferred that this might have been a suggestion of the EU Platform of Sustainable Finance, as this group have the role of providing technical suggestions to the European Commission on how to amend the Taxonomy.

Finally, it is important to stress that no respondent or source analysed suggested that the EU Taxonomy should be abolished. Despite being "probably the private sector's most hated piece of legislation", as remarked by Respondent H, the importance of the EU Taxonomy in driving the sustainability transition was recognised even by its critics. The EU Taxonomy is a tangible reflection of the profound shifts in climate policy that are currently taking place, and effectively highlights the urgency for companies to step up their sustainability efforts (Respondent D).

### *Market developments*

The future developments of the green market for SMEs was a theme touched or implied by all the respondents and some of the academic sources. There are two prospected scenarios that were outlined by the respondents and academic sources.

The first scenario is that SMEs will be left out of the green market due to a lack of incentives, and the burdens and costs of reporting (Respondent H). Respondent H considered this scenario as the business-as-usual one, i.e. what would happen if no integration of SMEs in the GAR takes place or if voluntary reporting fails to gain traction in the market. Respondent E stated that the exclusion of SMEs from the Taxonomy is the consequence of political pressure from the SMEs sector on the European Commission. This decision by SMEs could be seen as short-sighted, focusing on immediate cost reduction rather than long-term planning and implications.

The second scenario is one in which SMEs will be fully integrated into the sustainability transition and sustainability considerations become the norm in business. Respondent E

believes that the initial exclusion of SMEs will not change the trajectory envisioned by the European Commission, as this group will have to report their taxonomy alignment anyway due to increasing pressure from financial institutions and large companies. In addition, Respondent E believes that the current market trajectory will lead to the full integration of sustainability considerations into business operations. Businesses that will be able to integrate these considerations in their business strategy and improve their taxonomy alignment will adapt to the new market, while companies that do not will disappear (Respondent E).

### *Interest of Financial Institutions*

Under this theme all the data regarding the interests of financial institutions are collected.

*Attitude of different financial actors:* Respondent G argued that there is currently a lack of confidence in the sustainable finance sector. Moreover, according to Respondent B, the financial sector has currently no incentive to map green SMEs that are not covered by the CSRD. Some institutions might be willing to incorporate in their credit evaluation qualitative and quantitative reported information, but they will have to be easily accessible (Respondent B). However, currently banks are incentivized to take SMEs out, so that they can have a higher percentage of companies that are under the EU Taxonomy's scope in the GAR denominator. Hence, there seems to be the need for substantial changes to restore confidence of the financial sector in sustainability, and to reintegrate SMEs within the sustainability transition.

Regarding which financial actors might be interested in voluntary Taxonomy reporting, Respondent B argued that creditors such as insurance companies might be interested in a similar certification. She claimed that these groups do not care about the entity they are financing, but they are interested in green returns that are certified with the highest level of clarity available. Respondent G also argued that asset owners may be more inclined to engage in sustainability-driven initiatives, such as voluntary reporting, due to their focus on long-term returns and greater familiarity with them. However, she emphasized how asset owners needs to develop a culture that promote the creation of sustainability goals for companies.

According to Respondent C, banks are either beginning to include sustainability in their decisions or had plans about it (based on a sample of twenty interviewees working in banks or as corporate client consultants). The ones that started motivated their decision on an ethic ground, i.e. they claim to be doing this since "they want to do something good" (Respondent C). However, Respondent C maintains that if they will invest more resources in integrating their sustainability in their considerations, it will be for business related reasons. This is probably because assessing the climate risk of SMEs is extremely resource demanding for financial institutions, posing a serious obstacle for banks to integrate taxonomy consideration in their credit evaluation process (NSRS, 2021; PRI 2020). Hence going above an initial stage will require more practical considerations.

Respondent B claimed that savings banks could be a valuable asset to developers of voluntary taxonomy certifications (as seen in the "Business Strategy" theme), but these groups are not particularly interested in investing in green activities. She claimed that they only engage with sustainability for marketing reasons and perceive green activities only as a cost, not as a source of benefit. Respondent G and Respondent H also argued that sustainability is not taken into consideration by banks, since it requires long-term thinking about the impacts the investments have, and this kind of considerations are extraneous to banks organizational culture. However, Respondent F argued that promotional banks take sustainability into account, and since they are also one of the main provider of funding for SMEs, they are frustrated by the exclusion of the latter group from the GAR. From this, it might be inferred that promotional banks might

be interested in voluntary reporting, if the benefits coming from it are worth the costs. Besides a general lack of interest in sustainability reporting, banks also lack knowledge: according to Respondent A.2, the lack of standardization of sustainability reporting across Europe before the EU Taxonomy caused an uncertainty on the banks side on what they need to know from SMEs regarding their sustainability performance. This uncertainty is a serious obstacle for SMEs to consider voluntary reporting, as banks have different demands and reporting formats.

*Innovations for voluntary Taxonomy reporting*: since the EU Taxonomy leave SMEs out of the scope of the GAR, voluntary reporting is a problem untied with the financial market (Respondent D). Since no mandatory requirement is in place, the financial system have to react autonomously to voluntary reporting. In other words, with voluntary reporting, companies have still less incentives to invest in SMEs than to invest in bigger companies. A value for voluntary reporting has to be found, and that value has to be significantly attractive for financial companies (Respondent D). Regarding voluntary disclosure, Respondent C argued that, according to the corporate client advisors she interviewed, a certification with simpler requirements than the EU taxonomy would be accepted by smaller banks. Although not explicitly stated by the respondent, the acceptance of coarser requirements seems to be a consequence of the fact that banks are in the early stages of integrating sustainability considerations into their investment decisions. In this context, sustainability plays a subordinate role in the investment assessment and the assessment of a company's sustainability performance is not carried out with the aim of reducing risk.

According to Respondent G, the creation of a platform bringing together different stakeholders on a voluntary basis could be a useful tool to make sustainability more attractive for insurance companies and asset owners. Based on cloud sourcing, this platform could provide low-cost services to assess taxonomy alignment. She argues that a similar platform should be supported by government to encourage companies to undertake an assessment that they would not do on their own. With a digital portal and an external insurance agent performing this function, insurance would be cheaper, and the data provided would be of higher quality than that provided directly by customers.

Lastly, according to Respondent B, financial institutions might find valuable to have a voluntary Taxonomy reporting system for SMEs if it focuses structured financial products. She argued that banks have to ensure that they have sufficient data on the assets backing securization and, as banks are the main financing partners of SMEs, they might gain significant benefits from the introduction of this system.

## 5.2  Results from the Desk Research

Like section 5.1, this section is divided into themes. For each theme, additional data gathered through the desk research is presented. The desk research complements the interviews, corroborates some of the information provided by the interviewees and deepens the knowledge of some criticalities. It was also used to identify potential solutions to some of the issues identified during the interviews, and to determine two themes not touched by the respondents: "Skills" and "Simplifications".

### Lack of Knowledge on the relationship between SMEs and sustainability reporting

Asides from the Stakeholders' Knowledge Gap identified with the interviews, the desk research identified a lack of fine-grained knowledge on what issues SMEs have with Taxonomy-reporting. The only sources identified describing in detail the potential impacts of the EU taxonomy on SMEs were a report, two academic articles, and two online articles. This gap is

part of a wider research gap on non-financial sustainability reporting of SMEs (Ortiz-Martínez, Marín-Hernández, 2021; Gjergji et al, 2021). Hence, sources partially overlapping with the topic under discussion were used in this study to triangulate information relevant for my analysis.

## *Data*

SME's constraints in gathering, analysing and disclosing Taxonomy data were also identified by the academic sources. As Giacomelli (2022) pointed out, to do taxonomy reporting, SMEs will need to develop a management plan to gather data, analyse them, carry out assessments, and report the results, which will require significant time and resources. The UNEP FI & EBF report (2021) backed up Respondents A.1 and A.2's claim that the limitations with data are due to a scarcity of resources, incentives, expertise and regulatory pressure, and Respondent A.2 and F' claims on data acquisition issues. Although all of these issues may hinder the engagement of SMEs in taxonomy reporting, the NSRS report (2021) confirms the statement of Respondent D that data on SME taxonomy performance will be needed by large companies for supply chain considerations, adding that this data will also be needed to calculate their own taxonomy performance.

Aside from the SME-specific issues with data and taxonomy reporting discussed during the interviews, the desk research identified a general issue for non-financial companies with data. The EU Taxonomy has been criticized both by non-financial and financial companies for its complexity, for being too data-intensive, and for requiring too fine-grained data (Och, 2020). These criticalities were manifested before both the EU Taxonomy and the DDA entered into force.

Already in ESMA's round of feedbacks on Article 8 of the EU Taxonomy in 2021, comments regarding data intensity of taxonomy reporting were raised by stakeholders (ESMA, 2021)[5]. Despite arguments from several stakeholders that the disclosure of KPIs at both activity and entity level would be excessively burdensome, data-wise, ESMA disagreed with these concerns. This is because the calculation of KPIs is intended to be done at the activity level, and disclosure only at the entity level would be inconsistent with the principle of the EU Taxonomy of evaluating the performance of *activities* not of *organizations* (ESMA, 2021). Moreover, an approach as the one suggested by the comments would prevent financial institutions from fulfilling their disclosure obligations (ESMA, 2021). However, the document did not further address stakeholders' concerns about the intensive nature of the data and SMEs continue to raise these as unresolved issues now that the EU Taxonomy and the DDA are in force. In addition to the concerns presented, Sweatman, & Hessenius (2020) identified lack of access to data as a further challenge for companies.

Regarding data granularity, the UNEP FI & EBF, and the European Securities and Markets Authority maintain the necessity of stating in the sustainability report the performance indicators at the group level, for every single activity, and individually for each environmental objective (UNEP FI & EBF, 2022). The EP FI & EBF's report suggests that both SMEs that fall under the CSRD and the ones that voluntarily decide to disclose their taxonomy alignment should report the performance indicators for each activity individually. This information has to be traceable since financial undertakings will need it for disclosing their GAR (UNEP FI & EBF, 2022). Research from EnBW and Deloitte (2021) objected that following this recommendation would cause an ulterior burden on the accounting capacity of a company, since

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[5]    The comments reported in this research are only the ones who demanded changes that did not take place, i.e. the comments still applicable to the final version of the EU Taxonomy and of the DDA.

even more granular data than what is suggested by the EU Taxonomy requires to be generated. EnBW and Deloitte question the utility of such fine-grained data.

Data granularity however does not seem to be the only obstacle to data evaluation. According to Hummel and Bauernhofer (2022), since the modality in which the KPIs have to be calculated is unclear, it has been perceived difficult by evaluators to compare the performances of different companies, especially in the first year of disclosure. Moreover, the authors argued that qualitative information are essential to interpret the data from the KPIs. The PRI (2020) argued that evaluators will also have issues with DNSH criteria, both for lack of data and for the qualitative character of several DNSH criteria. The disclosure of the percentage of "Taxonomy-aligned" OpEx has also been questioned since it does not provide fundamental information for investors, and it increases the reporting burden of companies (EnBW and Deloitte, 2021) (Olivera Neives, 2021).

### *Skills*

A theme that was not touched during the interviews was the lack of preparation of SMEs' staff to deal with taxonomy reporting, a topic that was instead discussed by all the academic sources and the reports that explicitly addressed the relationship between the EU taxonomy and SMEs. The Economic Policy Director of SMEunited highlighted how the lack of skilled personnel for taxonomy reporting feeds into the current shortage of sustainability reporting staff in the SME sector (Huemer, 2022-a). He linked this consideration to a survey by the European Investment Bank, in which the lack of skilled personnel was identified by SMEs as one of their key challenges for the green transition (EIB, 2021).

The lack of personnel within SMEs to develop sustainability practices was also highlighted by Journeault et al. (2021), whose reflections were supported by a significant body of literature. The authors argue that this shortage stems from the organisational structure prevalent in SMEs: in these companies, employees are often involved in several business functions, and this dispersion of their focus hinders the organic integration of new responsibilities and challenges introduced with sustainability (Journeault et al., 2021). Furthermore, the need for employees with a broad skill set conflicts with the need for highly specialised knowledge required to develop sustainable practices (Journeault et al., 2021). These considerations are of significant importance when focusing attention on taxonomy reporting, which is recognised for its intensive data requirements and the need for expertise at least on EU environmental law, accounting and environmental science.

Giacomelli (2022) delved deeper into this topic, identifying four key challenges for SMEs concerning specialized staff and taxonomy reporting. First, the top management of SMEs needs to become familiar with the EU Taxonomy and its implications, which requires time and knowledge. Second, in order to maximise their alignment with the EU Taxonomy, SMEs will need to develop internal rules and design their organisational set-ups to ensure that their planned activities comply with the relevant TSC. Thirdly, SMEs will need tools to design sustainability plans and to support the coordination of different professional profiles. Finally, compliance with the EU Taxonomy will require an increase in the number of highly specialised staff with legal, engineering, auditing and financial planning skills.[6]

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[6] It is worth pointing out that the author determined these issues relying only the text EU regulations and six academic sources. However, these seem to be educated guesses on SME's needs, and the underlying reasoning used by Giacomelli to identify these issues is intuitive.

Lastly, Och (2020) pointed out that to gather data and assess them, SMEs with limited accounting capacity will have to rely on external agencies, the importance of which is expected to grow in the following years. These external agencies are less supervised than companies and usually lack transparency - especially if not subjected to EU Law (Och, 2020).

These reporting challenges are part of a wider discussion about the pressing need for companies to have additional staff with expertise in both sector-specific and general sustainability reporting principles. Such skills are essential for accurate interpretation of the TSC – with an emphasis on the DNSH criteria - and the KPIs (Hummel and Bauernhofer, 2022; PRI, 2021).

### *Guidance*

Several sources agreed with Respondent A.2's comment on financial institutions and SMEs being disoriented and in need for external guidance on taxonomy reporting (NSRS, 2021; Hummel and Bauernhofer, 2022; ESMA et al., 2023; PRI; 2021; Journeault et al., 2021). The inadequacy of the current guides on taxonomy reporting was outlined in the PRI (2021) report 'Testing the Taxonomy: Insights from the PRI Taxonomy Practitioners Group'. Based on feedback from investors, the report highlights a lack of comprehensive guidance for EU Taxonomy users and a lack of clarity on reporting expectations. The results of the PRI report matches what reported by some investors in Hummel and Bauernhofer (2022). Moreover, in this latter paper, different stakeholders reported the lack of administrative assistance as one of the main reason for having an inadequate reporting system.

When in need to determine a company's taxonomy alignment, the lack of guidance becomes crucial for non-financial companies, as many TSC require interpretation (PRI, 2021). For instance, the DNSH criterion for the sustainable use and protection of water and marine resources usually requires the activity to "complies with the provisions of Directive 2000/60/EC", also known as the Water Framework Directive (EU Commission, n.d.-d). However, the Water Framework Directive's provisions apply to *countries*, not to companies (Directive 2000/60/EC). This make the DNSH criterion open to interpretation: do companies have to be in a country where the directive (or equivalent) is translated into national law? Do they have to verify autonomously whether they are causing some environmental harm which the Water Framework Directive is supposed to prevent? There are several possible interpretations of the requirements. External guidance is needed to provide a univocal meaning to them.

The lack of guidance for SMEs leads to a higher risk of providing misinformation regarding their taxonomy alignment, the liability for which, according to Hummel and Bauernhofer (2022), percolates from the company to the regulator (Hummel and Bauernhofer, 2022). This issue cannot be solved by seeking support from audit firms, as this group also lacks the expertise to provide a high level of assurance on sustainability information (Hummel and Bauernhofer, 2022).

Lastly, Journeault et al, (2021) argued that guidance plays an important role in supporting SMEs in the transition to sustainability, helping them to face and overcome the various risks and challenges of sustainable development. For instance, they claimed that one of the main issues for managers regarding implementing new sustainability practices is to assess the benefits and costs of change. External support has been identified as a way to provide further knowledge to managers, and give them the tools to make more conscious decisions regarding sustainability practices. The authors categorized the support that local stakeholders can have in improving the sustainability performance of SMEs into five roles: the trainer, the coordinator, the specialist and the financial provider. Each of these roles provides a service that it usually missing from an

SME's organizational structure:

1) *The trainer*: providing training to the SME's employee regarding sustainability development and awareness of sustainability issues.

2) *The analyst*: supporting the SME in doing a strategic assessment of its environmental impacts.

3) *The coordinator*: supporting the SME as an intermediary, with the role of coordinating with other stakeholders, linking the SME with actors that might help it overcome its limitations. Moreover, it might support SMEs in managing the sustainability impacts of their projects.

4) *The specialist*: supporting the SME with technical expertise in a specific area.

5) *The financial provider*: supporting the SME with financial support, and helping the SME to strive for improvement with sustainability demanding funding criteria

### Funding

No relevant additional data on funding were identified from the sources, aside from Och (2021), who, similarly to Respondent F, maintains that there is the risk that companies will opt for declaring a 0% alignment to avoid facing the potential backlashes of unintentionally declaring a false taxonomy alignment.

### Capital

Through a quantitative analysis of the Italian Alternative Investment Market, Gjergji et al. (2021) confirm their hypothesis that non-financial reporting increases the cost of capital for SMEs[7], since the costs of collecting and sharing these data do not match the benefits that they receive – contrary to what happens to large companies (Gjergji et al, 2021). Focusing on taxonomy reporting, in ESMA's report different stakeholders argued that calculating the KPIs are going to cause a radical cost increase for the companies (ESMA, 2021). However, they were not able to quantify these costs. On this theme, it is relevant to reconnect to Respondent E's comments on the differences in requirements for different sectors, which will probably led to different capital costs.

Regarding SMEs and taxonomy reporting, different sources identified capital costs are one of the main challenges for SMEs to actively engage with it (Hummel and Bauernhofer, 2022; NSRS 2021; Respondent A.2; Och, 2020; Giacomelli, 2022). According to Hummel and Bauernhofer (2022), the costs of taxonomy reporting are too high for SMEs to consider voluntary disclosure. According to the authors' interviewees, these expenditures are due to the need to adapt internal processes, data infrastructure, and organisational responsibilities. This is supported also by a NSRS's report commenting the EU Taxonomy, in which it is stressed how costs are the main obstacle for SMEs to include climate risk considerations in their business model (NSRS, 2021). The increase in costs for EU SMEs might also cause competitive disadvantage over non-EU companies, since they are linked with higher prices for their products (Hummel and Bauernhofer, 2022). In the same paper, however, Hummel and Bauernhofer point out that NGOs commented that the costs lamented by the other stakeholders are short term costs. NGOs argue that they overlooked the long-term cost reduction and the favourable balance of benefits compared to the costs associated with Taxonomy reporting over time. The benefits identified were linked with strategic market positioning, and financing opportunities.

Regarding costs allocation, Och (2020) also questioned how the costs for taxonomy reporting are going to be distributed among actors. If the costs are entirely covered by the end actors,

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[7]   Apart from family SMEs. Gjergji et al (2021) also focus on other organizations. I will not concentrate on these organizations here, as they are beyond the scope of this study.

then there is the risk of making the green financial market less alluring for non-financial companies, which might perceive as more profitable to disclose that they are not taxonomy aligned without measuring their alignment than to actually do so (Och, 2020). To my knowledge, there is no plan to allocate costs differently than non-financial companies covering them in full.

## Lack of Care

This theme as not been discussed by the sources selected for the desk research.

## Moral Differences

Various sources have identified that SMEs give low priority on the management agenda to improving their sustainability performance as a consequence of a misperception of the impact of sustainability on their business, which is perceived to be minimal and therefore not worthy of proactive action (Brammer, et al., 2012, Johnson and Schaltegger, 2016, Parker et al., 2009, Revell and Blackburn, 2007, as cited by Journeault et al., 2021). This might be caused by a knowledge gap about the benefits and costs associated with sustainability issues (Hilliary, 2004, as cited in Journeault et al., 2021).

Isensee et al., (2021), identified six ways to steer SMEs towards a more proactive attitude regarding sustainable development:
a) *Increasing awareness of digitalization to shift employees' attitudes about it*,
b) *Fostering a culture of sustainability, providing learning material for value creation, and management support for value creation and internal capability development,*
c)*Developing the cultural dimension of a company through pro-environmental actions to affect employees moral system*
d)*Developing an environmental organizational culture*
e)*Adopting of green digitisation tools to measure and enhance the company's environmental performance*
f) *Integrating digital development into organisational culture*

These six recommendations underline the link between digitisation and the sustainable development of SMEs. Given the heterogeneous nature of the SME sector, it is likely that the content of these suggestions was deliberately broad to avoid inadvertently excluding parts of the market (Caputo et al., 2017). Nevertheless, their lack of specificity makes them difficult to be applied by practitioners. Furthermore, the strong emphasis on digitalisation fails to recognise the limited capabilities of SMEs, which typically lack the expertise and resources to carry out a digital transformation.

From the data collected, it appears that a change in the temporal perspective of a business could contribute to the integration of sustainability considerations in SMEs. As noted by Tsvetkova et al. (2020) in their analysis of Swedish SMEs, SMEs that give high consideration to sustainability issues expect longevity from their business, i.e. their strategic thinking is framed in such a way that their business will be competitive for a long time into the future.

## Business Strategies

Regarding general suggestions for developing a business strategy for voluntary reporting, Nipper et al. (2022), using an online experiment, gather some insights on investors' behaviour in relation to sustainability ratings and green revenues. The results obtained were that disclosing green revenue is positively correlated with investor's willingness to invest in a company, while the impact of few green revenues in the willingness to invest of investors can just be partially mitigated by a positive sustainability rating. Moreover, the results from Nipper et al. (2022)

shows that investors react positively to green revenues disclosed with a rule-based metrics backed up by governments. Based on these results, the authors argued that voluntary taxonomy disclosure for SMEs is valuable only in a situation where a company has much green revenues that they could report.

Giacomelli (2022) argued that "cost sharing" could serve as key motivator for SMEs to disclose taxonomy information. The author suggested that banks could partially compensate SMEs for the costs associated with taxonomy reporting with a portion of the cost reduction in capital requirements resulting from the GAR. Furthermore, additional cost recovery could be facilitated by public intervention, such as tax deductions for expenses related to the implementation of the taxonomy, avoiding an excessive burden on banks.

On designing a certification, Nipper et al. (2022) validate Respondent H's suggestion about the benefits of getting backed by a powerful organizations, best if a public one. Sweatman and Hessenius (2020) described some good practices for financial institutions and non-financial companies to facilitate taxonomy reporting, which might be easily adapted as good practices to develop a voluntary certification. Similar to what Respondent A.2 suggested, the authors recommend to actors to share information through data providers about CapEx and OpEx alignment criteria, easing the data verification and validation process. The creation of a network of actors sharing non-sensitive information might be put in place in a voluntary certification system, and might speed up the harmonization of interpretation of the KPIs and the TSC within the market.

## *Regulatory Developments*

According to the findings presented by Giacomelli (2022), loans to SMEs constitute an important part of the total loan portfolio and of the interest margin of financial institutions. The exclusion of SMEs would result in a persistently low GAR for some EU banks, thereby limiting the benefits in terms of capital requirements and cost of lending.

A potential solution to the exclusion of SMEs from the Taxonomy that was not discussed by any of the respondents comes from the amendment of the implementing technical standards laid down in Implementing Regulation (Regulation 2022/2453), in which the Banking Book Taxonomy Alignment Ratio (hereafter, BTAR) is introduced (UNEP FI & EBF, 2022; EBA, 2022; Regulation 2022/2453). Similarly, to the EU Taxonomy, Regulation 2022/2453 provides a framework for financial institutions for voluntary disclosure of the taxonomy alignment ratio of companies not under the CSRD in which the institution is investing, i.e. the BTAR. The BTAR allow companies that are outside the scope of the CSRD to use proxies if they are unable to collect relevant information for Taxonomy reporting, or if it is over burdensome for them to do so (Regulation 2022/2453). Such information should be verified by the financial institution receiving in the credit review process (EBA, 2022). Moreover, to simplify reporting for SMEs, this regulation mandates that only the main activity of companies out of the CSRD is going to be considered by financial institutions when disclosing their BTAR (EBA, 2022).The first disclosure date using the BTAR template is the 31st of December 2024 (Regulation 2022/2453).

There is a scope overlap between the BTAR and voluntary taxonomy reporting. Partiti (2023) made a comparison between the two forms of reporting: the BTAR has the advantage of establishing a uniform method for taxonomy reporting of SMEs, while voluntary reporting allows greater flexibility in reporting formats, as there is no single authority dictating reporting requirements. Although the BTAR offer a possibility of avoiding an exclusion of SMEs from the market, while simplifying some of the requirements, the BTAR was not mentioned by any of the respondents. Moreover, no academic source was found mentioning the impacts of the

BTAR on SMEs and taxonomy reporting besides Partiti (2023). Given the scarcity of data, assessing the feasibility of the BTAR as a replacement for voluntary taxonomy reporting and its potential to address the reporting challenges faced by SMEs is problematic. This aspect is addressed in Chapter 5, in which considerations for future research are presented.

### Market developments

Regarding SMEs being left out of the green market by the introduction of the EU Taxonomy, Och (2020) agrees with Respondent H in considering this option a concrete possibility. Furthermore, she added that, given the potential cost efficiency in disclosing a 0% taxonomy alignment, which would also limit the risks associated with greenwashing, there is a concern that if a significant number of companies choose this approach, sustainability reporting could become an exclusive and expensive niche product, rather than being adopted as a mainstream reporting practice (Och, 2020).

On the other hand, Respondent E's view that sustainability will be fully integrated in the business operations is shared by Hummel and Bauernhofer (2022). The authors report that various stakeholders expect the KPIs of the EU Taxonomy to become part of financing conditions or to be used to determine eligibility for tenders and grants. In addition, audit firms expect these KPIs to be increasingly included in rating systems. While these developments are still in their initial stages, the landscape is expected to change rapidly in the coming years, positioning the EU Taxonomy as the primary sustainability-benchmarking tool (Hummel and Bauernhofer, 2022). This is expected to cause a change in mindset among top management, making double materiality considerations play an integral role in a functioning business model (Hummel and Bauernhofer, 2022).

### Simplifications

This topic was not discussed during the interviews, except for a comment by Respondent C on the attitude of financial investors towards a possible simplification of the requirements for a taxonomy-like certification. As the current Taxonomy requirements and the TSC were not developed to be suitable for SMEs, several simplifications of the Taxonomy requirements are suggested here below (Giacomelli, 2022). These changes could be easily adopted for SME voluntary certifications as they do not have to meet the same requirements as mandatory reporting (Respondent C). Based on her interviews with various financial market participants, Respondent C argued that these adjustments to voluntary taxonomy reporting would be welcomed by financial institutions.

One of the changes discussed since the early stages of the EU Taxonomy development is the use of proxies and estimates in the disaggregated KPIs (ESMA, 2021). Huemer (2022-b) from SMEunited and Sweatman & Hessenius (2020) also agree that the use of proxies and estimates for Taxonomy reporting, especially for SMEs. The proposal of using proxies and estimates to measure SMEs alignment has also been suggested in Regulation 2022/2453 as part of the requirements for SMEs that want to report voluntarily their alignment to be included in the BTAR. According to this Regulation, financial institutions are allowed to use of proxies and estimates to calculate the alignment of a SMEs only in cases in which the company is not willing or able to provide the data. When these methods are used, then an explanation of why it is so should be presented as well. A similar approach is proposed in the UNEP FI & EBF (2021) report.

An example of the use of estimates to calculate taxonomy alignment is provided in Alessi and Battiston's (2022) paper, in which the authors were able to calculate the taxonomy alignment of

each sector using estimates. The results are shown in Figure 5.2. It is worth noticing that in their analysis they did not take into account compliance with DNSH criteria.

Another implication suggested both by Giacomelli (2022), and in Regulation 2022/2453 is allowing SMEs to report their taxonomy alignment of their main economic activities, i.e. the one that generates the highest turnover. This simplification significantly reducing the reporting load of a SME, although it risks to leave out important information regarding the plan of the SME to improve its sustainability performance (CapEx plan).

In order to address the lack of guidance previously identified and to reduce subjectivity in the interpretation of the TSC, the PRI (2020) report proposed to carry out a joint operation on the TSC, simplifying the presentation of the TSC in the EU Taxonomy, while adding information to provide further clarity. However, Och suggests being cautious with simplifying the TSC since improper simplifications might cause greenwashing and market confusion.

Lastly, Huemer (2022) argued that the EU should only require SMEs to comply with DNSH criteria and minimum social safeguards. This can be interpreted as a call for simplification of Taxonomy reporting for SMEs, although this proposal may not be ideal for SMEs; as discussed before, DNSH criteria are the more difficult to assess by third party evaluators and financial institutions - therefore this simplification may still lead to a reduced interest in SMEs' performance. Furthermore, as discussed above, it is fairly straightforward and simple to determine the alignment of certain activities with their SC criteria. Therefore, the value of this proposal depends on the activities considered.
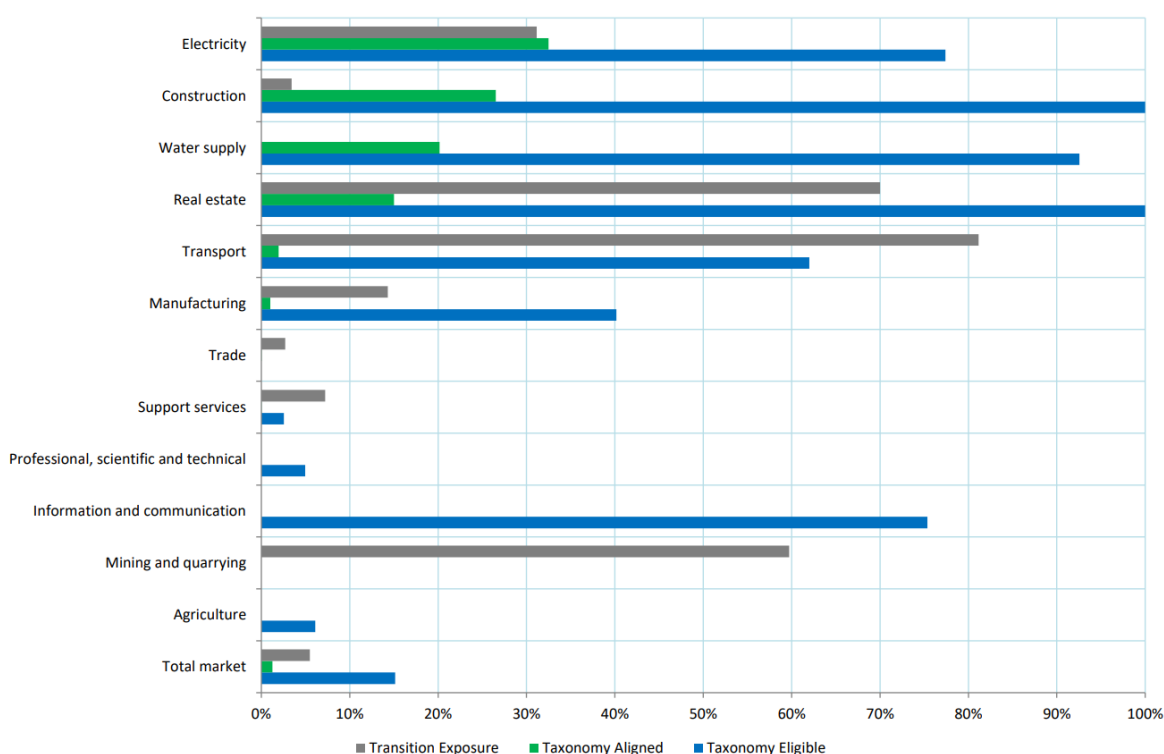


*Figure 5-5 Taxonomy alignment and transitional risk exposure by economic sector. Adapted from Alessi and Battiston (2022)*

### *Interest of Financial Institutions*

Under this theme all the data regarding the interests of financial institutions are collected.

Regarding the attitude of different financial actors, according to the NSRS report (2021), several of the banks they contacted maintained that they would include taxonomy consideration from the early stages of their credit evaluation process as a crucial factor for financing. In addition, they claimed that they would incentivise SMEs' Taxonomy reporting by linking better financing opportunities (better interest rates, longer repayment period, etc.) to better taxonomy performance. This does not match the results form Respondent C's interviews, according to which few banks are beginning to do so, and Respondents B, G, and H's comments on banks' general hostility and scepticism towards taxonomy reporting.

Regarding innovations for voluntary taxonomy reporting, Respondent B's idea to improve metrics and expand disclosures for climate-related risks in securitisation transactions was also expressed by the joint report by ESMA, EBA, EIOPA and ECB (2023). These organizations aim to identify and assess climate-related risks associated with structured financial products internally, rather than relying solely on external sources. The assets that back securitization transactions might be exposed to climate-related risks, therefore they might benefit from a metric that allow to assess the climate—resilience of an asset like the EU Taxonomy (ESMA, EBA, EIOPA and ECB, 2023).

Different initiatives are being developed for voluntary disclosure of climate related risks for securitisations. The European Supervisory Authorities (ESA) has developed voluntary sustainability reporting templates for "simple, transparent and standardised" securitisations. While disclosure remains voluntary, the European Central Bank (ECB) and the ESA are actively engaging with companies to collect data to help investors assess the climate-related risks of the underlying assets. The European Banking Authority (EBA) has issued guidance on the implementation of ESGG standards for structured finance products, while European Securities and Markets Authority (ESMA) is reviewing the disclosure template for loan-level securitisations. Climate-related disclosures are important for the ECB, as because asset-backed securities are often used as collateral in Eurosystem credit operations (ESMA, EBA, EIOPA and ECB, 2023).

Lastly, Giacomelli (2022) pointed out that banks might have a secondary benefit from voluntary taxonomy disclosure from SMEs *via* providing sustainability services to SMEs, such as training on taxonomy reporting, advisory to support SMEs in calculating taxonomy alignment, and checklist or digital tools for taxonomy alignment assessment.

## 5.3 Results from the Change/Action Model

In this section, my model of the EU Taxonomy intervention developed using the intervention theory framework described in Chapter 3 is presented. Figure 5-3 presents the interlinkages among components in the change model and in the action model. As the TEG, MSEG, and PSF had only a consulting role in this process, in the visualization of the Change/Action model (Figure 5-3) they are not going to be mentioned due to space constraints. The arrows in the Action model and in the Change model indicate what components influence other components. The dashed arrows in the "Action Model: Rules" part indicate which population are the most affected by the newly introduced rules.

### *The Change model*

In the Change model, two leverage mechanisms were identified: ramping up EU companies' environmental performance, and increasing transparency. In this research, transparency is defined as the widespread availability of company-specific information concerning a company's environmental performance. This definition is grounded on Bushman et al.'s (2004) definition of the term.

The two outputs of the planned intervention have different impacts on the two identified leverage mechanisms. The Taxonomy reporting Framework sets the requirements for the development of the TSC, so it will have an indirect impact on "Ramping up EU Companies Environmental Performance" (Regulation 2020/852). It also increases transparency in the EU market by requiring companies to disclose their environmental performance according to a standardised reporting framework (Regulation 2020/852). Instead, the introduction of a set of TSC has an impact only on "Ramping up EU Companies Environmental Performance" as the requirements to meet the TSC have been designed by the European Commission to be ambitious enough to require the different sectors to significantly improve their current environmental performance (Regulation 2020/852).

Increasing transparency through a standardized reporting framework contributes to streamline investments towards "Green Deal-aligned activities". This causal link is based on the assumption that if a mandatory framework for disclosure of environmental performance is in place, then financial companies will use that framework to benchmark the environmental performance of potential investments. It follows that companies are incentivised to have a better taxonomy alignment in order to have more opportunities in the market. This is where the second leverage mechanism in this virtuous circle comes into play: the TSC are designed to have a positive environmental impact without a significant negative impact. If, after an initial assessment of its taxonomy alignment, a company invests in improving its taxonomy alignment, this will necessarily improve its environmental performance, as new environmental value will be created without significant environmental cost.

Over time, these factors are expected to lead to an improvement in the environmental performance of the EU market as a whole. Lastly, the two leverage mechanisms will naturally impede greenwashing (Regulation 2020/852). Assuming that taxonomy alignment is a good indicator of environmental performance, third party certified disclosure of taxonomy compliance will provide reliable information on a company's environmental performance. If both short-term outcomes are achieved, companies will be encouraged to improve their environmental performance (medium-term outcome), which in the long run will significantly improve the overall environmental performance of the EU (long-term outcome). If the expected changes take place at the right pace, the European Commission believes that the EU's Green Deal targets are likely to be met (Regulation 2020/852)
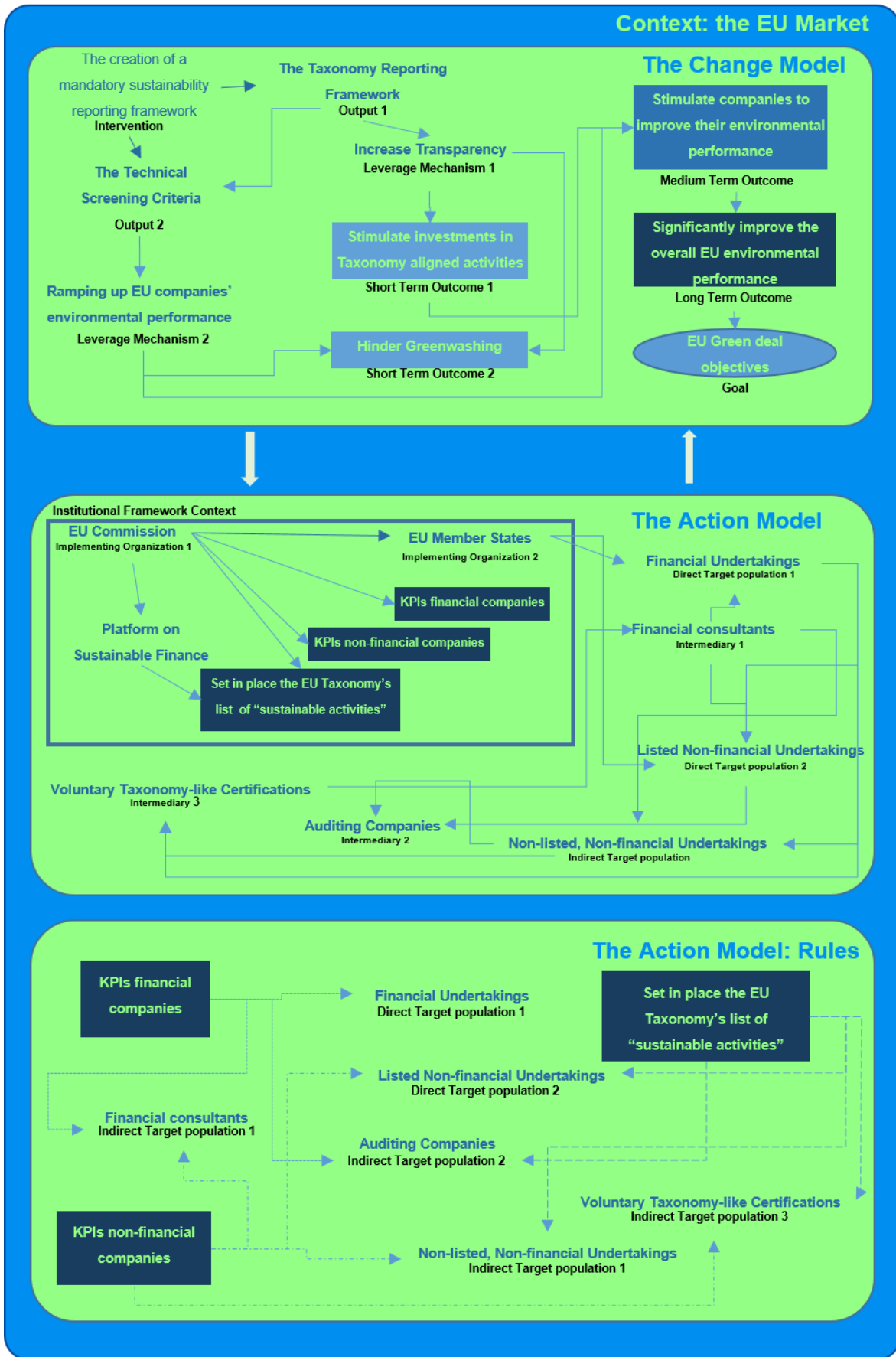
*Figure 5-6 A visualization of the causal links in the Change/Action model of the implementation of the EU Taxonomy*

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## *The Action model*

The Action model sets out the institutional context and by whom and how the implementation of the intervention take place. The EU Commission asked the Platform on Sustainable Finance - a team of experts, multi-stakeholder representatives, academics and civil society - to advise the Commission on the design of the TSC, both to meet the objectives of the EU Green Deal and to be applicable in the current EU context (Regulation 2020/852). The other supporting actors that helped to develop the KPIs will not been mentioned, as they are less relevant for my modelling, and they are not mentioned in the analysed regulations[8].

The Action model shows the complexity of interdependencies between target groups. Although indirect audiences are not mentioned in the EU Taxonomy, my interpretation is that they will be involved as a result of the ripple effect caused by the introduction of a new mandatory EU reporting framework. The indirect target population and intermediaries presented in Figure 3.1 are a subset of the cluster of entities indirectly affected by the EU Taxonomy. The entities in this subset have been selected for their relevance to this research and the potential impact they may have on non-financial undertakings.

Financial undertakings are affected by the implementation of the EU Taxonomy by EU Member States, which transpose the EU Taxonomy into national law, and by financial advisors, on whom they will rely for portfolio evaluation and GRI calculation. On the other hand, the new data requirements of financial firms will likely affect both listed and unlisted non-financial firms, in particular SMEs. According to Boata et al. (2019), about 70 per cent of SMEs in the EU are dependent on financial institutions for their external financing. The power relationship between the parts is unbalanced in favour of financial institutions, so it is likely that the needs of the more powerful group in terms of data will strongly influence what data is collected, how it is collected and how it is reported by SMEs. Regarding large non-financial undertakings, although the relationship between large non-financial undertakings and financial institutions has not been examined for this research, it is reasonable to assume that the needs of financial institutions will also shape the taxonomy reporting requirements of large corporations, as the former group is the recipient of the data and the one that uses the data in its financing decision.

In addition, the new reporting requirements for financial companies will affect companies and organisations that plan to develop voluntary certifications based on the taxonomy requirements; this group is also affected by the needs of unlisted, non-financial companies, as they will be the users of voluntary certifications. The needs of listed and unlisted non-financial companies will also affect audit firms, as this latter group will provide third party certification of the taxonomy alignment information companies disclose.

"Action model: Rules" presents the interaction between the rules and target populations, i.e. what populations will have to learn and adapt their practices based on the introduction of a certain rule. The introduction of KPIs for financial undertakings is going to have an effect on financial institutions since they will have new reporting requirements, and on auditing companies and financial consultants since they will have to be familiar with this new rule to provide their services. Audit firms and financial consultants will also be affected by the introduction of KPIs for non-financial undertakings. Audit firms may be required to audit both financial and non-financial undertakings, and some financial consultants will provide Taxonomy reporting advice to both groups of companies.

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[8]   Neither in the EU Taxonomy (Regulation 2020/852) nor in the DDA (Regulation 2021/2178).

The KPIs for non-financial undertakings will play a role in the development of Taxonomy-based voluntary certification for companies excluded by the scope of the EU Taxonomy. Although there may be differences in the KPIs for voluntary reporting from the one used in the DDA, these KPIs are likely to be harmonised with those of the EU taxonomy to simplify the reporting requirements of financial institutions (the recipients of the data). Finally, the KPIs for non-financial corporations will determine the reporting practices of listed and unlisted non-financial undertakings, as the former group will have to report their Taxonomy alignment using these KPIs and the latter group could use these KPIs for voluntary disclosure.

Lastly, the list of EU Taxonomy's "sustainable activities", i.e. the list of TSC for the selected economic activities, will affect voluntary "taxonomy-like" certifications and listed and unlisted non-financial undertakings. Non-financial undertakings will have to familiarise themselves with the TSC in order to report on their alignment with the taxonomy (voluntary or not), and certifications that wish to reflect the EU taxonomy will either have to study the TSC in order to use it as a basis for developing their own criteria, or adopt it as the scientific basis for their certification.

### *Analysis of the Change/Action model*

With the framework developed in this section, the prospected relations between actors linked with the implementation of the EU Taxonomy have been determined.

The absence of any mention of the indirect target audience and intermediaries in the EU Taxonomy and related documents does not allow me to accurately map how the aforementioned groups should be involved in the regulatory change foreseen with the introduction of this new regulatory framework. This lack of focus on SMEs in the EU Taxonomy and its delegated acts is at odds with the desired outcomes identified in the Change Model. More than 99% of all European non-financial enterprises are SMEs, accounting for 70% of employment and almost 60% of gross value added in the non-financial sector in the EU[9] (Boata et al., 2019). Hence, it could be safely inferred that to reach the prospected outcome, the European Commission should have presented in one of the aforementioned documents ways of engaging with SMEs. Instead, the only provision directed towards SMEs in terms of Taxonomy reporting came from the CSRD, which only extended the scope of the EU taxonomy to listed SMEs, and neither the reporting requirements (KPIs) nor the TSC were changed to reflect the differences in capacity between SMEs and large companies (Directive 2022/2464). Moreover, no EU official document or EU guideline for intermediaries on Taxonomy reporting was identified.

These limitations reduce the predictability of the outcomes. As the Action Model shows, there are several interdependencies among target populations and intermediaries. Not taking into consideration these interplays might have unexpected consequence on the overall EU environmental performance. For instance, let us assume that GAR becomes the standard to benchmark the sustainability performance of financial institutions. In that case, the exclusion of unlisted SMEs from the GAR might have a negative impact on the sustainability performance of this group, since sustainability will not be a factor for getting external loans and financing opportunities. Another potential risk is that the lack of focus on intermediaries might slow down the implementation of Taxonomy reporting within companies since learning a complex framework like the Taxonomy one requires time and resources and there is a lack of explanatory resources made available from the EU Commission.

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[9]  These data were gathered before the United Kingdom left the European Union.

Briefly, the impact of the implementation of the Taxonomy on SMEs and intermediaries has been overlooked by the European Commission. In this and the following chapters, I hope to shed some light on the interrelationship between some of the presented actors and the EU Taxonomy, to determine whether the consequences of this policy on these actors might have a negative impact on the desired change. The intervention model presented in 3.1 contributed to this research by mapping the desired change and identifying the knowledge gap. This framework also played an important role in framing the questions for the interviews conducted (as presented in Chapter 4).

# 6  Discussion

In this chapter, first, the Research Questions are answered. After this, the significance of the findings is presented. The generalizability, validity and reliability of the theoretical research methods is assessed, and the limitations of the study are presented. Then, the legitimacy of this study is addressed. Lastly, the significance of the conceptual framework developed is presented.

## 6.1  Answering the Research Questions

This section interprets the main findings and organises them into responses to the RQs. As shown in Figure 5.1, the findings are unevenly distributed across the RQs as they cover different themes. RQ.1.1, was mainly answered using the findings from the themes of 'data', 'guidance', 'skills', 'funding' and 'capital' and organised using RDT. The results from answering RQ1.1 and the findings from the themes of 'regulatory developments' and 'market developments' feed into the answer to RQ1.2, as the socio-economic mechanisms causing these impacts will be outlined using intervention theory. Some of the conclusions from answering RQ1.1 and RQ1.2 complement the data gathered from the themes to answer RQ2 and identify some solutions to make taxonomy reporting more feasible for SMEs. Finally, the results of RQ2 provide background knowledge for answering RQ3, as a reasonable criterion for selecting the best strategies to make voluntary taxonomy reporting by SMEs attractive for financial institutions is to exclude all options that would not be beneficial for SMEs. The theme "Lack of Knowledge" does not directly contribute to any of the research questions (RQs), but it effectively underlines the existence of a knowledge deficit in relation to all the issues examined in this study, both within the academic community and among stakeholders.

### 6.1.1  Answering RQ1.1 about the likely impacts of the EU Taxonomy

As previously stated, RQ1.1 is "What are the likely impacts of the EU Taxonomy on non-financial SMEs in the energy sector regarding a company's internal capability and inward and outward resource flows?". In this section, the issues identified are going to be quickly listed and analysed.

As presented in sections 5.1 and 5.2, data gathering, data novelty and data disclosure have been identified as an issue. It was found that SMEs are at a much more rudimentary level of reporting than what would be required to them by the EU Taxonomy. The disclosure of information at the activity level without the use of proxies or estimates has been lamented by companies as too burdensome for their current resources. Currently companies, especially SMEs, do not have reporting system in place that are sufficiently developed to face these new reporting burden, nor they have the expertise to interpret the EU Taxonomy requirements, gather data, or analyse data. Moreover, the current organizational structure of SMEs favours employees with a broad set of skills more than specialized knowledge, thus not many SMEs will have employees able to perform the highly technical tasks necessary to measure taxonomy alignment. From this, it follows that there will be a rise in service providers specialized on taxonomy reporting. In addition, for SMEs wishing to mirror the requirements of the CSRD for listed companies, the data provided may need to be certified by third parties. This is likely to lead to an increase in the number of voluntary certification providers.

The increased need for specialized personnel, for building a new reporting company framework, for collecting different data than before, for hiring experts to fill a company's knowledge gap are expected to increase capital costs of SMEs. It remains uncertain at this stage whether these increased costs will be matched by corresponding benefits in the market. Moreover, since SMEs have usually easily replicable business models, taxonomy reporting bear the risk of causing SMEs to lose competitiveness in the market, as SMEs would be disclosing information that

might allow competitors to compromise the business of SMEs, either copying their business model or trying to cut them off from their suppliers.

The issues linked with these new data demand have been objected by Respondent E, who argued that calculating the SC and the DNSH criteria for SMEs in the energy sector is generally not burdensome, as some TSC are easy to assess and others depend mainly on data that SMEs in this sector should already have. While I agree with the view expressed by Respondent E, I maintain that there is a significant disparity in complexity between the prevailing reporting obligations for SMEs and the taxonomy requirements specifically tailored to the energy sector. As a result, it is premature to suggest that SMEs will be exempt from the burdens associated with these emerging obligations.

Regarding funding, it is not expected that SMEs in the renewable energy sectors producing energy with well-known technologies will face difficulties to secure funds, as currently there is a high demand for energy in EU. However, all things being equal, if the market were to become more competitive, the exclusion of SMEs from the GAR will likely diminish the investments in green activities carried out by SMEs.

Lastly, it has been reported a fear for reporting misinformation among non-financial companies, which might be a consequence of the lack of guidance to do taxonomy reporting and the need of interpretation to understand certain TSC and Taxonomy requirement. The impacts for an SMEs to be identified as having disclosed false data, the impacts of disclosing taxonomy alignment on funding, and the costs associated with taxonomy reporting all play a role in the decision of SMEs to report their alignment. Even if taxonomy reporting were mandatory for SMEs, or strongly encouraged by financial institutions, if the benefits are not sufficient then a trend of SMEs declaring a 0% alignment might take place.

The results presented can be elaborated using RDT, i.e. in terms of resource flows. These flows can be integrated in the Change/Action model for the EU Taxonomy described in Chapter 3 by determining towards/from which other components of the model the resources flow. At this stage, it is expected that SMEs will have an increased outward resource flow with taxonomy reporting, both in terms of data and capital. Capital will be directed to intermediaries, such as consultancies and accounting firms, to assist with reporting and to fill a company's knowledge gaps. In addition, some of it will go directly to strengthen their internal reporting capabilities. Data, on the other hand, will be directed either to intermediaries to help them with taxonomy reporting and then to financial institutions and large companies to meet their reporting obligations, or directly to the latter two groups. In terms of inward resource flows, it is expected that SMEs will need to train their staff in taxonomy reporting in order to increase their accounting capacity for the new reporting requirement. Therefore, there is a need for knowledge flows towards SMEs in the form of training, new staff, or the engagement of service providers specialising in taxonomy reporting. Resources for knowledge acquisition are expected to come mainly from intermediaries. However, based on the sources, knowledge and support could also come from public organisations in the form of training, financial support and material support, or from financial institutions in similar forms.

As the outward flow of data could jeopardise the business model of SMEs, it is possible that SMEs will decide not to disclose their taxonomy alignment (or to declare 0% alignment) to avoid disclosing their suppliers or the specificities of their products. However, this latter impact is less likely than the others, as it depends heavily on the benefits they will derive from reporting and the modality of disclosure, i.e. whether it is mandatory or voluntary. The current lack of knowledge about future regulatory developments of both SMEs and financial institutions, the lack of clarity by financial institutions about what information they need from non-financial

companies, and the lack of knowledge about current market trends in green finance signal the absence of a sufficient flow of information and knowledge on this topics towards SMEs. These gaps make it difficult to assess confidently the benefits of Taxonomy reporting for SMEs, and thus whether the costs outweigh the benefits or vice versa. In addition, the current high demand for renewable energy products further discourages SMEs both to undertake Taxonomy reporting and to be interested in improving their knowledge in this area as they find themselves in a prosperous context.

## 6.1.2 Answering RQ1.2 about the socioeconomic mechanisms causing the impacts

RQ1.2 is "what are the socioeconomic mechanisms through which these impacts can occur?". This question focuses on identifying the causes of these impacts, based on the intervention theory framework developed in Chapter 3 and analysed in section 5.3.

The impacts linked with data intensity and additional expertise are intrinsic risks of the introduction of an ambitious, never-before-seen regulatory framework. To ramp up the environmental performance of EU companies and hinder greenwashing, granular data are needed. Forbidding the use of averages, proxies and estimates will contribute to have a more precise and realistic vision of the current EU situation, while simplifying the identification of top performers and underperformers. To interpret the EU Taxonomy and carry out the necessary calculation to determine the taxonomy alignment, additional expertise is needed, as these calculations are generally considered too complex for SMEs average personnel.

Although not directly caused by any element of the intervention, besides the misreporting risk, which caused by the complexity of the requirements, shortcomings in the EU Taxonomy's design may have exacerbated the problems identified above. As mentioned in Chapter 3, one of the risks to the achievement of the objectives of the intervention was the lack of focus on SMEs in the EU Taxonomy and related documents. This did not allow for a smooth uptake of taxonomy reporting, as the requirements were not adapted to take into account the limited resources of SMEs and no EU digital tool/checklist was created at least to support initially SMEs in considering their sustainability impacts. In addition, the lack of clarity on how to interpret the TSC and KPIs, and the absence of documents to help companies interpret them, has led SMEs to seek support from specialized services and NGOs, increasing the risk of a proliferation of interpretations of the requirements.

Lack of clarity also affected the cost allocation process. In the absence of explicit European Commission guidelines or recommendations on cost allocation, financial institutions are not obliged to contribute to the costs of taxonomy reporting. Nevertheless, these institutions benefit from the market advantages gained when companies within their portfolio disclose their taxonomy alignment. This would be a fair exchange if and only if the benefits of taxonomy reporting for non-financial companies were far greater than those for financial institutions. Leaving aside considerations of fairness, this lack of clarity is a disincentive for financial institutions to take on part of the cost. As the market for taxonomy-aligned products is still developing, the risk of making a bad investment by offsetting part of the cost is unclear, as the profitability of a high GAR is not yet defined. This lack of clarity over whether the costs from taxonomy reporting might exceed the benefits also affects SMEs. As reporting is not mandatory for SMEs and the value of taxonomy alignment on the market is still unclear, the most risk averting decision at the moment would be not to disclose the taxonomy alignment voluntarily, as this resource intensive, costly practice is not sure to hold benefits – especially for the energy sector, considering the current excess of demand. However, if the market evolves in a direction where either taxonomy disclosure is made mandatory for SMEs or the voluntary disclosure of the BTAR effectively become one of the standard benchmark for the green performance of

companies, then it might have been beneficial for SMEs to have moved ahead of the competitors. The likelihood of these scenarios, though, is unclear.

Respondent E argued that full integration of taxonomy reporting is inevitable as SMEs will either be incentivized by favourable market conditions or pushed by financial institutions and listed companies - for reporting and supply chain reasons respectively. However, the other interviews, the desk research and the intervention theory framework do not seem to indicate that this trajectory has the degree of likelihood presented by Respondent E. Although this scenario could take place with additional incentives from stakeholders, the current lack of attention from SMEs and the mind-set of banks leads me to conclude that, in the current scenario, the strong resistance from financial institutions and companies could also lead the European Commission to revisit the EU Taxonomy, amend the regulation to reduce its ambition.

### 6.1.3 Answering RQ2 about ways to SMEs do taxonomy reporting

RQ2 is "How can taxonomy reporting be made more feasible and attractive for non-financial, unlisted SMEs?" Different strategies were developed. These strategies are not mutually exclusive, i.e. they can be developed in parallel, based on which actors are involved.

### *Attractiveness*

To make taxonomy reporting attractive to SMEs, it is necessary either to change the mind-set of SMEs or to express the benefits of taxonomy reporting in terms that will be positively received by this group. As shown in section 5.1, SMEs tend to be short-sighted regarding positive returns from investments, and positively value quantitative benefits expressed in economic terms (additional revenues, costs avoided, etc.). Respondent A.2 also noted that some SMEs might be interested in taxonomy reporting for marketing reasons, as SMEs have difficulties in attracting new employees and sustainability considerations are one of the positive values for the new generations. As mentioned in 5.2.2, it is difficult to calculate the benefits of taxonomy reporting at this stage, as taxonomy reporting is an emerging market. It is therefore not yet possible to put a monetary value on it. In addition, taxonomy reporting cannot be branded as a way to identify 'sustainable' cost savings, such as reducing utility costs, because the calculations required for taxonomy alignment go far beyond that: taxonomy reporting is far more precise, time and resource intensive and expensive than simply calculating energy and water consumption. Without operating on the current mind-set of SMEs, the attractiveness of taxonomy reporting can only be linked to funding opportunities and marketing, although in both cases this is only worth doing if either a high flow of green revenue can be demonstrated or a significant positive impact on nature can be highlighted.

In order to change the mind-set of SMEs regarding integrating sustainability considerations into their business model, the support of other stakeholders is crucial. As identified by Journesault et al. (2021), stakeholders such as industry associations, government, community representatives, or NGOs could play the role of trainers for employees on the importance of sustainability considerations and facilitators for the adoption of sustainable practices. Providing this knowledge might contribute in creating pressure to disclose sustainability data, while normalizing introducing sustainability consideration and sustainability reporting in a company's business model.

Focusing on the energy sector, the short-sightedness of SMEs do not allow them to prepare for foreseeable future changes in the market. As the current situation in the renewable energy market is prosperous, i.e. there is high demand for renewable energy, and investors already perceive activities of SMEs in this sector as "sustainable", SMEs do not feel the need to measure and disclose their sustainability performance. However, they do not consider the threat of new

players entering the market, regulatory changes and geopolitical shifts, all issues to which SMEs are more vulnerable given their size and resources.

Raising their awareness on
1) *potential shifts in demand due to more stable geopolitical conditions,*
2) *potential shifts in supply due to new actors,*
3) *the value of taxonomy reporting for social and environmental issues, and*
3) *first-mover benefits of investing in taxonomy reporting early*

could be a strategy to increase their engagement on these issues. This new knowledge could be coupled with practical support for SMEs to develop a risk avoidance strategy and secure a first mover advantage over their competitors who have not started reporting. In addition, taxonomy-based voluntary reporting could be attractive for SMEs developing or using new technologies to produce heat and electricity, or for activities within the scope of the EU Taxonomy, such as technologies to produce electricity from ocean waves. As Respondent H noted, investors perceive new technologies in energy production as risky investments; alignment with the EU Taxonomy could ensure that an activity with such characteristics has a low sustainability risk, while providing data on its costs and revenues.

## *Feasibility*

In the context previously outlined, it appears that implementing taxonomy reporting poses several challenges for SMEs. However, there are various measures that can be taken to enhance its feasibility within the current socioeconomic context.

A strategy to make taxonomy reporting feasible for SMEs would be to increase the reporting pressure on this group. Two possible courses of action would be to allow SMEs in the GAR nominator, or making a simplified version of taxonomy reporting mandatory for SMEs. Regarding the former option, increasing the pressure on financial institutions would lead to increased reporting pressure on SMEs, which in turn would lead to increased engagement of SMEs with reporting issues. If no SME could actually comply with the requirements of financial institutions due to the difficulties mentioned in the previous sections, measures could be taken to support SME reporting, such as subsidies, knowledge support, further incentives or cost sharing. While these measures can be implemented in the current 'baseline' scenario, their adoption is more likely in a context with higher pressure to prioritise and implement them from financial institutions and SMEs. A similar scenario could unfold also if taxonomy reporting were made mandatory for SMEs, with the difference that in the latter case there might be too much regulatory pressure on SMEs with significantly limited capacity.

Both solutions would be slightly different from the BTAR, as the voluntary nature of the BTAR risks keeping the pressure on financial institutions too low for them to exert significant pressure on SMEs. Given that SME financing is only the core business of some specific financial actors, such as small savings banks, it is unclear to me how likely it is that these actors would invest resources in the BTAR rather than simply ignore it and report a low GAR. According to the majority of respondents who discussed banks, this group does not seem to be as interested in sustainability issues as other financial actors. The importance of the BTAR for these actors therefore depends heavily on the role that the GAR will play in the market, the importance of the BTAR in relation to the GAR, and the GAR of their competitors. Given the paucity of comments from respondents and mentions in the sources on the BTAR, and the novelty of GAR disclosure, I cannot formulate an informed judgement on this aspect.

In terms of practical simplifications to reduce costs and burdens associated with taxonomy data, Regulation 2022/2453 introduced proposals for SME reporting that are very similar to those

suggested by the interviewees: allowing the use of proxy, averages or estimates for SMEs that are unable to provide the data on their own impact, and allowing SMEs to report only the taxonomy alignment of their main activity (highest turnover). Another possible course of action would be to develop a separate, less ambitious set of TSC for SMEs, taking into account their limited resources, and to develop some interactive tools to complement the Taxonomy Compass for additional support. It has also been suggested that the need to comply with the DNSH criteria should be removed for SMEs, as these criteria require time and resources to interpret and calculate compliance. This latter suggestion goes against the basic principle of the EU Taxonomy: an activity makes a substantial contribution to the EU Green Deal objectives if it meets certain criteria in one of the six environmental areas outlined in the EU taxonomy, without negatively impacting on the other five. Therefore, I do not believe that this approach should be pursued.

As presented in the Business Strategies theme, voluntary disclosure of sustainability information using the EU Taxonomy's KPIs could be valuable for an SME with good economic sustainability performance, as a positive flow of green revenues is well perceived by investors. Creating a certification for voluntary disclosure of taxonomy information can be a business strategy for companies aiming to assist SMEs seeking to capitalize on their eco-friendly investments and earnings, or those planning to invest in projects expected to yield substantial green revenues. This certification should provide a third party assessment of the data and be linked to a digital tool to support SMEs. A tool of this kind might also guide SMEs interested in taxonomy reporting, providing simplified description of the requirements, specialists support, and step by step stewardship for SMEs new to taxonomy reporting. If developed in consultation with financial institutions, a voluntary certification could be developed as a platform where companies periodically upload all the different taxonomy alignment information, which is then certified by a third party. Such a certification should be accessible to banks directly on the website. As a single reporting tool, SMEs benefit from not having to provide different pieces of information in different formats for financial institutions, while financial institutions benefit from having a simplified and organised way of accessing certified data. Due to the voluntary nature of such certification, there are no minimum mandatory requirements, so the structure of the reporting could be modified to address some of the data intensity issues SMEs face. For example, a voluntary certification could have a gamification structure with degrees of simplification for the requirements, so that an SME could start with the low hanging fruits (such as reporting their utility consumption) and aspire to get a better 'stamp' and thus further benefits. Moreover, a digital tool of this kind might have a feature for comparing SMEs' performances anonymously, so that actor can determine their position on the market, and the option to report without anonymity for SMEs that want to share their results. As noted by Respondent H, such certification would work if backed by a respected organisation that is well positioned in the market and has strong relationships with SMEs, such as savings banks, or an organisation with a regulatory role, such as the EU.

Conclusively, Respondent D discussed the possibility of developing a "taxonomy credit scheme" that would make taxonomy alignment tradable on the market. She also pointed out that this option is not yet feasible as there is no framework in place and the market for voluntary credits is still limited. However, it could be a valuable avenue to explore as the value of taxonomy alignment to SMEs would be easily quantifiable in monetary terms and would have a secondary purpose besides direct funding.

### 6.1.4 Answering RQ3 about how to make SMEs' taxonomy data attractive to financial institutions

RQ3 is "What strategies can be developed to make voluntary taxonomy reporting attractive to financial institutions?". In order to build a business case for voluntary taxonomy reporting for

SMEs, it is necessary to understand the mind-set and needs of both the data provider, i.e. SMEs, and the recipient, i.e. financial institutions. Answering these questions aims to provide more insight into the latter group, trying to identify the financial actors that are potentially interested in said product, as well as determining the preferred attributes for such a product.

As presented in the themes "Lack of Care" and "Moral Differences" there is a lack of internal driver regarding taxonomy reporting for SMEs. The involvement of financial institutions was identified as a key approach to stimulate interest among SMEs, as financing was recognised as a fundamental catalyst for this group. The main issues regarding engaging with financial institutions are a lack of confidence in the value of sustainable finance from the financial sector, and a lack of incentives to evaluate the performance of companies out of the GAR.

Two groups of stakeholders can be approached for cooperation in the development of a voluntary reporting solution. The first group is made up of lenders and insurance companies, as they are interested in certified green returns and long-term returns, while banks have shorter timeframes in mind and are more sceptical and uninterested in sustainability. The second group is made up of savings banks, promotional banks and small banks, as their clients tend to be SMEs. Their specialisation makes them more affected by the exclusion of SMEs from the GAR. If the green financial product market adopts taxonomy alignment as a standard metric for benchmarking, institutions may be interested in disclosing the BTAR or other forms of taxonomy information. If so, they could benefit from a certification scheme that provides third-party certification of taxonomy information and a digital tool that supports both SMEs in their disclosure and banks in their verification and comparison of assets.

Just as there are activities excluded from the scope of the EU taxonomy that could still make a significant contribution to the objectives of the EU Green Deal, there are also financial products outside the scope of the GAR of which the environmental risk could be assessed more easily with certified fine-scale data. As these products are outside the scope of the GAR, voluntary certification of data based on taxonomy alignment should be pursued primarily for risk mitigation reasons, as the EU Taxonomy is one of the most comprehensive and accurate frameworks for assessing a company's environmental impact. Measuring the impact of a company's activities on water, biodiversity, climate change, waste and pollution helps to determine the company's exposure to social or regulatory backlash due to its environmental impacts. In addition, determining whether a company has taken climate adaptation measures to safeguard its operations helps to determine its exposure to climate risk. A function to calculate and compare the environmental risks associated with different activities and companies could be implemented in the digital tool, so that financial institutions have organised, comparable data at their disposal when making investment decisions. In this context, the digital tool could also be used to translate qualitative data into quantitative terms to facilitate data comparison. Structured financial products were mentioned in the interviews as an example of financial products for which taxonomy reporting could be useful. Further research may enable to identify other financial products so that additional uses of a taxonomy-based environmental risk calculator can be identified.

All the suggestions described in this section need to be part of a join effort to change the organisational culture of financial institutions. The findings presented in sections 5.1 and 5.2 show that there is a lack of integration of sustainability considerations into the day-to-day business of the majority of SMEs and financial institutions. Accelerating the pace of this integration is crucial both for society as a whole, to mobilise more capital resources for the sustainability transition, and for companies to reap the benefits of being first movers.

## 6.2 Significance of the Findings

### 6.2.1 Applicability and generalization of this study: reflections and limitations

This exploratory study analysed the relationships between SMEs and Taxonomy reporting, a topic that has been little discussed in the academic literature due to the novelty of the EU Taxonomy and the lack of academic focus on the relationships between SMEs and sustainability reporting. Although this study relied mainly on a limited number of interviews as sources of information, the results of the interviews were compared and complemented with academic literature and practitioner reports in order to partially ensure the generalizability and legitimacy of the findings. No results from the desk research contradicted one or more of the conclusions regarding the impacts of taxonomy reporting on SMEs, nor regarding the ways to mitigate those impacts. The main divergence in perspectives, arising both from the interviews and from the desk research, is the perception of how the EU market might evolve in the future: a group of sources has a more "optimistic" approach and argue that the sustainability transition is inevitable and that the market will adjust accordingly, while the other adopts a more "fatalistic" approach and argue that without a radical push to act from different actors SMEs will be crowded out from the market from green financial products.

The findings of this study illustrate different perspectives on the adaptation of taxonomy reporting for SMEs, as well as a picture of possible courses of action to mitigate the potential negative impacts on SMEs presented in the previous sections. Triangulation has significantly improved the reliability of these findings, as the literature and interviews confirm and complement each other with similar comments and conclusions. However, several factors may have influenced the results. Most importantly, the academic gap on this topic negatively affects the overall reliability of the results, as having limited sources resulted in a limited perspective on the topic under discussion. Certain interpretative avenues may not have been explored, and this may have biased the results. Additionally, collecting data directly from SMEs could have provided valuable complementary insights and a more fine-grained analysis of this stakeholder group than the current one (Creswell & Creswell, 2018). However, it is unclear how much knowledge this group would have about the EU taxonomy at this stage. Unfortunately, it was not possible to engage directly with SMEs. Future research could benefit from focusing on collecting comments directly from a representative sample of SMEs to determine how they frame the regulatory changes introduced by the EU Taxonomy.

It seems to me that certain respondents may have been biased towards certain interpretations of the current market due to their involvement with specific groups of stakeholders, thus providing a subjective interpretation of the current and future scenarios that I have attempted to unfold in this thesis. I believe that the impact of these biases was limited by other sources. Finally, the fact that all interviewees operate in Central Europe limits the generalizability of these conclusions to other geographical areas. However, I believe that most of the identified effects and some of the solutions are applicable to other geographical contexts, as they are based on structural issues of SMEs with sustainability reporting. Moreover, these results are supported by academic sources, which are less linked to a specific geographical area than my interviews.

### 6.2.2 Legitimacy

In this section, it is addressed whether the two research objectives have been answered, and how they contributes in advancing the academic discussion on sustainability reporting, on the impacts of the EU Taxonomy, and on the relation of SMEs and financial institutions with sustainable practices.

### Exploring the potential impacts of Taxonomy reporting on SMEs and their likely causes.

Through qualitative analysis of the results of the interviews and desk research, I identified a group of themes representing the main potential impacts on SMEs: increased need for fine-grained data; need for technical expertise; need for knowledge; additional cost of capital; increased competitive risk; increased risk of misreporting. These impacts were modelled in terms of resource flows using Resource Dependence Theory. Using the change/action framework presented in Chapter 3 to model the EU taxonomy intervention, I found that no element of the intervention is a direct cause of these impacts, with the exception of the risk of misreporting caused by the complexity of the taxonomy requirements. Although the impacts are a consequence of the changing needs of different components of the intervention model, the lack of explicit consideration of the differences in resources between SMEs and large companies is what mainly determines the significance of these impacts. Without being adapted for SMEs, the requirements of the EU Taxonomy represent a significant burden for SMEs. In a scenario where the benefits of taxonomy reporting cannot be guaranteed, these burdens outweigh the benefits.

### Determining possible courses of action to encourage unlisted SMEs to report and improve their taxonomy alignment

By analysing the findings and results of RQ.1, RQ.2, and RQ.3 I have developed a number of courses of action with the dual aim of reducing the difficulties associated with taxonomy reporting and increasing the potential for SMEs to access specific benefits. These results were obtained by comparing the needs of SMEs with those of financial institutions, as the latter group is the main recipients of the reported taxonomy data.

To achieve this research objective, different strategies to increase the attractiveness of taxonomy reporting for SMEs were discussed. Firstly, I focused on strategies to promote the benefits of Taxonomy reporting to SMEs without changing their current mind-set, identifying the marketing benefits and funding opportunities linked with. Secondly, I presented the strategies to increase the attractiveness of taxonomy reporting by changing the mind-set of SMEs through external support and training to facilitate the reporting process and increase the awareness of SMEs. The analysis then described different strategies to increase the feasibility of taxonomy reporting. The main factor identified is to increase the reporting pressure on SMEs, as this would lead to more stakeholders either requesting support or requesting to amend taxonomy requirements to meet the needs of SMEs. In addition, some simplifications of the taxonomy requirements for SMEs were presented. One factor that was identified as crucial was the involvement of financial institutions. The groups identified as relevant for SMEs' taxonomy reporting are: lenders, insurance companies, savings banks, promotional banks and small banks. These groups could be interested both in financial products that currently fall within the scope of the EU Taxonomy and in calculating the sustainability risks associated with the underlying assets of financial products that fall outside the scope of the EU Taxonomy, such as structured financial products. Finally, I presented how a digital tool to support SMEs in their reporting could have a positive impact on the market, as it could be developed to meet the needs of both SMEs and financial institutions.

The research objectives and methodologies employed in this thesis have demonstrated their validity and strategic importance in initiating the resolution of the research problem. Although the thesis has not fully resolved the challenges presented in section 1.1, it has successfully identified the key issues affecting SMEs in this regulatory context along with their underlying causes, surpassing the clarity provided by the existing literature. In addition, the research has explored potential courses of action to mitigate the adverse effects on SMEs, providing valuable guidance for both researchers and practitioners in charting a way forward.

### 6.2.3  The conceptual framework

From a conceptual point of view, the results of this study demonstrate the value of integrating intervention theory and RDT. These two elements complement each other seamlessly and contribute to a more detailed assessment of the impact of a policy intervention on an indirect target population. As discussed in section 3.1, the intervention theory model used does not take into account side effects and unintended effects (Vedung, 1997; Mickwitz, 2006). Vedung (1997) developed a framework for the evaluation of side effects, but that model only adds the presence of side effects to the framework, without allowing the causal links between certain components and the indirect population affected to be mapped. The Change/Action framework I have developed, instead, does so by introducing the groups "indirect target population" and "intermediary" into the model. However, my change/action model does not describe what these effects are, as it only maps the influence that certain actors have on others. In order to determine exactly what the side effects and unintended effects are, RDT was used to model the data collected as resource flows. Due to the relational nature of resource flows, the identified impacts were easily integrated into the intervention framework as vectors, i.e. relationships between components with a direction: from an SME to another component or vice versa.

As no source using a similar framework was identified, this study has the additional value of exploring a new framework for policy evaluation that is able to integrate in an intervention framework side effects and unexpected effects with a higher degree of precision than other existing theories using RDT.

# 7 Conclusions

This thesis aimed to explore the current discussion on the impacts of taxonomy reporting on SMEs, identifying what issues this group is likely to face according to experts, and identifying some courses of action to diminish or avoid those negative impacts. This qualitative explorative study looks at experts' perspectives on this matter to understand the risks linked with voluntary taxonomy reporting for SMEs and determine its potential for growth based on the attitudes and prospected behaviour of different actors.

All three RQs were answered in the previous chapter. A summarized answer to each RQ is offered here below.

### RQ1.1: What are the likely impacts of the EU Taxonomy on non-financial SMEs in the energy sector regarding a company's internal capability and inward and outward resource flows?

SMEs face challenges in implementing the EU taxonomy on data collection, novelty and disclosure. Moreover, lacking reporting systems and expertise, SMEs will rely on specialised service providers. Exclusion from GAR could discourage future green investments. Taxonomy compliance is also expected to increase capital costs, which might be problematic for SMEs as the benefit that comes from taxonomy reporting are still uncertain. Furthermore, the detailed disclosure requirements of the EU Taxonomy could expose SMEs to competitive risks. While it has been argued that taxonomy reporting for SMEs in the energy sector is manageable resource-wise, the overall complexity gap between taxonomy reporting and SMEs' current reporting obligations remains. Moreover, it has been recognized how a fear of misreporting and the aforementioned uncertainty about reporting benefits could lead to low levels of alignment reporting. Regarding resources flow, data is expected to flow from SMEs to intermediaries and financial institutions, and capital flows from SMEs to the former group. On the other hand, knowledge flows are expected to flow to SMEs through training or support from specialised service providers. Regulatory uncertainty and information gaps prevent SMEs from confidently assessing the benefits of taxonomy reporting. High demand for renewable energy deters SMEs from engaging with the EU Taxonomy.

### RQ1.2: What are the socioeconomic mechanisms through which these impacts can occur?

Impacts related to data intensity and the need for additional expertise to interpret and calculate taxonomy alignment are inherent risks of introducing an ambitious, unprecedented regulatory framework. The EU Taxonomy intervention does not directly cause any of the issues identified in RQ1.1, apart from complexity-related misreporting risks. While the EU Taxonomy did not directly cause any of these impacts, other than the risk of misreporting caused by the complexity of the requirements, the lack of focus on SMEs in its design exacerbated the problems. Unclear criteria interpretation might drive SMEs toward various external support and criteria interpretations. The absence of cost allocation guidelines diminished financial institutions' incentive to support taxonomy reporting. Lastly, uncertainty in the value of a high taxonomy alignment shapes SMEs' voluntary disclosure choices. At this stage, the most risk-averse decision for SMEs would be not to voluntarily disclose taxonomy alignment as this resource-intensive and costly practice is not certain to bring benefit, especially in the energy sector, given the current excess in demand. If mandatory SME disclosure is introduced or if voluntary disclosure of the BTAR effectively become one of the standard benchmarks for corporate environmental performance, then the market could favour actors that began disclosing their taxonomy alignment earlier than their competitors. The likelihood of these scenarios, though, is unclear. Finally, while some respondents foresee a full integration of taxonomy reporting into SMEs' business practices in the future, the current resistance from financial institutions and

companies may lead the European Commission to revisit the EU Taxonomy and adapt this regulation to make it less ambitious than it currently is. The trajectory of market and stakeholders' actions in this regard remains uncertain at this stage, making difficult to predict how the market will develop.

### RQ2: "How can taxonomy reporting be made more feasible and attractive for non-financial, unlisted SMEs?"

To enhance the attractiveness of taxonomy reporting for SMEs, two approaches are proposed: changing their mind-set or communicating the economic benefits of taxonomy reporting in terms they can understand. As mentioned in the previous answers, calculating the monetary benefits of taxonomy reporting is complex given that this product's market is at its initial stages. Currently, SMEs are primarily drawn to reporting due to marketing and funding opportunities, which require a high flow of green revenue or significant positive environmental impact to be worthwhile. So, these two paths might be valuable to explore in order to increase engagement. An alternative approach involves influencing SMEs' mind-set with the support from stakeholders like industry associations and governments, which would act as trainers and facilitators for sustainable practices. Raising awareness about potential market shifts, the value of taxonomy reporting for social and environmental issues, and first-mover benefits could increase SME engagement with taxonomy reporting in the energy sector, especially if paired with practical support. Lastly, voluntary reporting aligned with the EU Taxonomy might appeal to SMEs involved in innovative technologies for sustainable energy production, as these are still perceived as a risky investment.

To make taxonomy reporting feasible in the current socio-economic context, several strategies can be implemented. Increasing reporting pressure on SMEs could lead to their inclusion in the GAR or the creation of a mandatory simplified reporting system. Subsidies, knowledge support, incentives, or cost-sharing measures can further aid SME reporting. Practical simplifications, such as using proxies or averages for data and allowing SMEs to report only the alignment of the main high-turnover activity, are suggested. Developing a certification for voluntary disclosure paired with an interactive digital tool and a set of simplified Taxonomy-like criteria could also prove beneficial for SMEs. The certification would involve third-party assessment and a digital tool to support SMEs while providing accessible information to financial institutions. A single reporting tool would streamline data provision for SMEs and simplify access for financial institutions. The adoption of a gamification approach could be used to address data intensity concerns, with the creation of milestones to slowly increase data disclosure by SMEs. In addition, exploring a 'taxonomy credit scheme' for 'trading' taxonomy alignment in the EU market is a potential option, although designing and implementing this is a challenging task and the market for voluntary credits is not yet sufficiently developed to ensure the profitability of this option.

### RQ3: What strategies can be developed to make voluntary taxonomy reporting attractive to financial institutions?

Engaging with financial institutions is crucial to stimulate interest among SMEs, as financing plays a critical role for them. Challenges in this area include a lack of confidence in sustainable finance among financial investors and limited incentives to assess companies beyond the GAR. Working with lenders, insurance companies, savings banks, small banks, and promotional banks could lead to a voluntary reporting solution. Voluntary certification of data based on taxonomy alignment can help mitigate risk for financial products not covered by the GAR. A digital tool to support SME disclosure and provide organised data for investment decisions could be well received by financial institutions. Lastly, a change in the organisational culture of financial institutions is crucial to accelerate the integration of sustainability considerations.

From this study, it emerged that the European Commission and financial institutions play a pivotal role in the overall impact of the EU Taxonomy. The way the European Commission will decide to accommodate the requests of different stakeholders might radically change the market for green financial products in the next years, and this could heavily impact SMEs. On the other hand, the attitude of financial institutions towards sustainability disclosure will shape the market for taxonomy aligned assets, determining the value of Taxonomy reporting, both voluntary and mandatory. Results suggest that the engagement of SMEs with taxonomy reporting will heavily depend on this latter factor, as this group will need tangible benefits to invest a significant amount of time and resources in carrying out this task.

Lastly, the best way to develop a voluntary certification for taxonomy reporting was discussed, as voluntary certifications seems to be the current trend in the private sector to assist non-financial companies with taxonomy reporting. The main features identified for such a certification are: a simplification of the taxonomy requirements, the possibility to benchmark the performance of different companies, and the possibility to upload all the information needed by financial institutions (different European and national reporting requirements, and internal policies) on the same digital tool to assess the sustainability performance of a company.

## 7.1  Further Research

This study has contributed to a better understanding of the problems associated with taxonomy reporting and their causes, and has developed various proposals for overcoming these problems. Additionally, a new theoretical framework for identifying the unintended effects of an intervention and the causal links between them and the components of the intervention was provided. Further research could build on these findings and assess more precisely what the specific problems of certain groups of SMEs are, quantifying the costs of taxonomy reporting, and which TSC are more burdensome. This work would require a survey of a representative sample of SMEs, ideally with knowledge on taxonomy reporting. As an educated guess, based on personal experience and feedback from colleagues and experts, this could be a challenging task due to difficulties in engaging with SMEs, the broad scope of the analysis, and the lack of knowledge of SMEs regarding the EU taxonomy (Respondent H, Respondent C, and Respondent A.2).

As presented in section 5.2, there is currently a gap in academic knowledge on the relationship between SMEs and the EU Taxonomy. This is part of a wider research gap on the relationship between sustainability reporting and SMEs. There is a need for further research in this direction so that the consequences of such an influential regulation can be thoroughly understood. In addition, further academic research is needed on the BTAR, on the role it plays within the European Green Deal, on the rationale behind its introduction, and on how it has been perceived by stakeholders. I believe that the conceptual framework developed here could also be a valuable resource for analysing the BTAR.

Finally, although papers that discussed ways to increase SME engagement with sustainability reporting were identified, none of these papers discussed taxonomy reporting. Therefore, it was not possible to identify engagement techniques in the literature that are tailored to this form of reporting. Some options have been presented in this study, but with further research on this topic a more rounded perspective will surely be developed by the academia.

## 7.2  Recommendations for Policymakers and Practitioners

This research contributed to the understanding of which factors might play a role in the adoption of taxonomy reporting as a practice among SMEs. Therefore, recommendations are

provided to policymakers, to SMEs in the energy sectors, to intermediaries, and to financial institutions

### *Recommendations for policymakers:*

I recommend to policymakers to develop a set of Technical Screening Criteria tailored to the resources of SMEs, especially for sectors with highly complex Substantial Contribution and Do Not Significant Harm criteria such as the manufacturing one. As discussed in Chapters 5 and 6, the current Technical Screening Criteria were not designed to be applied to SMEs. The multitude of activity specific criteria that have to be assessed to determine a company's taxonomy alignment, and their granularity might hinder the voluntary adoption of this reporting framework.

Including SMEs in the Green Asset Ratio or making the disclosure of the Banking Book Taxonomy Alignment Ratio mandatory for financial institutions could stimulate SMEs to report on their taxonomy alignment. In contrast to making taxonomy reporting mandatory for SMEs, these options focus on making financial institutions aware of SME taxonomy reporting, so that it would be in their interest to provide incentives and assistance to SMEs to disclose their alignment. This would make taxonomy reporting more attractive and feasible for SMEs interested in taking advantage of these incentives, while reducing the reporting burden on companies that are not equipped to deal with it. Requiring SMEs to report on the EU Taxonomy might be considered as an option if and only if the taxonomy requirements are heavily adapted, so that they result tailored to SME resources.

### *Recommendation for the EU*

It is recommended to the EU to provide resources (training, educational material) to assist SMEs in reporting under the EU Taxonomy, provide hand-outs highlighting the links between different reporting requirements for both non-financial companies and financial institutions, and develop initiatives providing economic support to SMEs willing to invest in voluntary taxonomy reporting. While financial support would act as an incentive for SMEs to offset part of the initial costs of setting up their reporting framework, management support and knowledge sharing would help to streamline the reporting process by helping SMEs to navigate through the complexities and interdependencies of the EU Taxonomy and all related documents, as discussed in Chapter 6.

### *Recommendations for SMEs*

For SMEs, I recommend that they identify in advance what information their suppliers and customers within the scope of the EU Taxonomy may need for their taxonomy reporting obligations. This way they can start collecting data in advance. As presented in Chapter 2, the latter group of companies will need to start reporting on their alignment with the Taxonomy and providing supply chain data in the next few years. An early start to data collection could reduce the risk for SMEs of being forced to collect data in a situation where they do not have the time or resources to do so. With regard to voluntary reporting, a dialogue should be opened with financial institutions (I would suggest through industry associations) to see if this form of reporting could be of value to savings banks and other relevant financial organisations. SMEs should try to find out what their reporting requirements are, for which products they might be interested in knowing a company's taxonomy alignment, and whether they would be willing to offer additional benefits if taxonomy data were provided.

For SMEs in the energy sector with taxonomy-eligible activities involving new technologies, I recommend to consider whether disclosure of their taxonomy alignment might be perceived positively by investors. If this is the case, then it would be worth developing a strategy to implement taxonomy reporting in a resource-efficient manner. The first two steps of this strategy would be to understand which Technical Screening Criteria would be relevant to their

business and to determine how feasible it would be for them to undertake taxonomy reporting. They should then seek to identify the key costs associated with reporting and work with financial institutions to mitigate these costs. More specific suggestions heavily depend on context specific factors such as geographical location, market conditions, sector of production, size of the SMEs, organizational structure, etc.

### *Recommendations for intermediaries interested in developing a voluntary certification*

For organisations interested in developing a certification for voluntary taxonomy reporting, I recommend seeking the support of savings banks, small banks, promotional banks, lenders or insurance companies. This way they can tailor the certification to the needs of the main recipients of the certified data and ensure their support for the tool once developed. In addition, I recommend identifying with SMEs what simplifications of the taxonomy requirements within the needs of financial institutions would benefit them, as this group will be the one who will carry out the reporting.

As discussed in Chapters 5 and 6, this certification should be linked to a digital platform where SMEs can upload their data and where financial institutions can see and benchmark the sustainability performance of different SMEs. I would recommend intermediaries to identify what data on SMEs' sustainability performance is needed by financial institutions beyond taxonomy alignment and try to include it in the certification. This way, the certification could be used as a single tool to determine if all non-financial requirements set by a financial institution are met. In addition, as noted in Chapter 5, allowing SMEs to benchmark their sustainability performance, anonymously or not according to the user's choice, could encourage SMEs to strive to perform better than their competitors and to promote their achievements.

Lastly, I recommend intermediaries to provide guidance to SMEs on how to interpret the Technical Screening Criteria, both the Substantial Contribution and Do-Not-Significant-Harm criteria, and the KPIs. Moreover, if needed, provide support to calculate the key performance indicators for non-financial companies.

### *Recommendations to financial institutions*

Financial institutions play a key role in assisting SMEs to report. Their support is the key component in getting SMEs to disclose their taxonomy alignment, as this group would undergo this costly practice mainly to ensure better funding opportunities. I would suggest to financial institutions with a high proportion of SMEs in their portfolios, and therefore with more to gain from SME taxonomy disclosure, to push for mandatory disclosure of the Banking Book Taxonomy Alignment Ratio or to raise awareness about this tool to increase its importance. Alternatively, they should push for the inclusion of SMEs in the GAR nominator. If either of these measures is successfully implemented, financial institutions will have an additional incentive to offer benefits to SMEs that disclose taxonomy data, which in turn will encourage the latter group to disclose. Another way to support SMEs in reporting would be to coordinate with other financial institutions at EU level to harmonise their criteria for assessing the sustainability performance of their potential investments. This would allow SMEs to streamline their reporting practices.

## 7.3  Final Considerations

The complexity of the relationship between taxonomy reporting and SMEs cannot be underestimated. It requires a multi-dimensional approach, taking into account public organizations, industries, the financial sector and environmental factors. In this study, I have provided an initial analysis of different perspectives on taxonomy reporting and tried to develop some suggestions that take into account the needs of different stakeholders. These suggestions

are broad enough to be considered by different sectors, although some suggestions are specific to the energy sector. Tailoring these suggestions to the specific needs of a particular organization will require careful research at the company level, particularly in relation to data analysis, stakeholder engagement and applicable regulations.

In the future, taxonomy reporting could bring a number of benefits to the market. By bridging the gap between SMEs, sustainability reporting and financial institutions, this study aimed to provide a clear and transparent understanding of the issues SMEs might face when it comes to taxonomy reporting and find ways to make it easier and more appealing for them to do so. It is hoped that the knowledge gained here will make it easier for SMEs to benefit from the "reporting revolution" initiated by the EU Taxonomy.

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# Appendix A: Interview Guide (SMEs)

**Notes on the Interviewee: [**background knowledge specific on the interviewee]

**Brief introduction of my research project**

The aim of this research is twofold. First, it aims to explore the potential impacts of the EU Taxonomy on SMEs, with a specific focus on data gathering. Determining what issues and risks negatively impact SMEs is going to provide a direction for future Taxonomy requirements adjustments, as currently no suggestion on how to adapt the Taxonomy requirements for SMEs has been raised – besides the BTAR. Moreover, identifying these issues is going to support developers of digital tools and consulting services with background descriptive knowledge, assisting them in designing state-of-the-art solutions for SMEs Taxonomy reporting.

Secondly, this research aims to determine what simplification of the Taxonomy requirements financial institutions would accept for voluntary reporting certification. Voluntary reporting is not bound by the strict formal reporting requirements of the EU Taxonomy. Determining what data financial institutions would accept, while maintaining the TSC as the scientific basis for evaluation, can provide valuable insights for the development of voluntary certifications with simplified requirements for unlisted SMEs.

To scope down the research, I decided to focus on the energy sector. Considering that, according to the European Commission, 75% of greenhouse gasses emissions can be accounted to energy use and that there are almost 200000 SMEs in the sector, this seemed to be the sector in which new knowledge could be more impactful.

**General Questions**

Based on your area of specialisation, my questions will concern mainly financial institutions and the EU Taxonomy. However, I thought it could be good, to begin with, some general questions on SMEs to familiarise with the problem at stake.

1. What do you think are the biggest challenges SMEs face with taxonomy reporting?
   a. Why?
2. What role do you believe the EU Taxonomy will play with respect to meeting the EU Green Deal Goals? Do you think it will be able to move sufficient capital towards "sustainable" activities?
3. In your opinion, how attractive is it to have a better sustainability performance than its competitors for an SME in the energy sector, at the present time?
   a. Why?
   b. (in case the answer is "low") how could that change?
4. What aspects of the EU Taxonomy will positively impact SMEs?
   a. In addition, what will negatively impact SMEs?
5. Does it seem to you that SMEs are mobilising at the right pace to face future reporting burdens?

**Questions about communication**

1. Do you think there are some potential benefits from the EU Taxonomy for SMEs?
2. How can we present to SMEs in the energy sector the future competitive disadvantages of not focusing on sustainability reporting in the close future?
3. How can sustainability be made more attractive to SMEs?
   a. What actors should be involved to do so?

**Questions linked with the EU Taxonomy**

1. SMEs are out of the GAR. For which other sustainability reporting obligations of financial institutions do you think a certification such as ours might be valuable?
2. Which of the KPIs for non-financial companies (CapEx, OpEx, Turnover) do you think will be taken more into consideration by financial institutions?
   a. Why?
   b. Do you think this will change?
   c. How?
3. There are going to be institutions that operate in the niche of SMEs-financing. Do you think that these institutions might create some pressure to SMEs in the future?
4. Do you think that the use of averages, indicators and proxies to allocate the percentage of CapEx, OpEx and turnover to certain activities would improve taxonomy reporting for SMEs in your sector?
   a. If so, which kind of proxies, indicators or averages do you think would satisfy financial institutions' needs without overloading SMEs?
5. In your opinion, what are the must-haves of a tool for supporting SMEs with taxonomy reporting (like a certification)?
   a. What are the features/aspects that should be avoided?
6. What services should such a tool provide? I.e, how much of the process of collection, analysis and verification of data should we leave to the SMEs to make them accept this?

# Appendix B: Interview Guide (Financial Institutions)

**Notes on the Interviewee: [**background knowledge specific on the interviewee]

**Brief introduction of my research project**
The aim of this research is twofold. First, it aims to explore the potential impacts of the EU Taxonomy on SMEs, with a specific focus on data gathering. Determining what issues and risks negatively impact SMEs is going to provide a direction for future Taxonomy requirements adjustments, as currently no suggestion on how to adapt the Taxonomy requirements for SMEs has been raised – besides the BTAR. Moreover, identifying these issues is going to support developers of digital tools and consulting services with background descriptive knowledge, assisting them in designing state-of-the-art solutions for SMEs Taxonomy reporting.
Secondly, this research aims to determine what simplification of the Taxonomy requirements financial institutions would accept for voluntary reporting certification. Voluntary reporting is not bound by the strict formal reporting requirements of the EU Taxonomy. Determining what data financial institutions would accept, while maintaining the TSC as the scientific basis for evaluation, can provide valuable insights for the development of voluntary certifications with simplified requirements for unlisted SMEs.

To scope down the research, I decided to focus on the energy sector. Considering that, according to the European Commission, 75% of greenhouse gasses emissions can be accounted to energy use and that there are almost 200000 SMEs in the sector, this seemed to be the sector in which new knowledge could be more impactful.

**General Questions**
Based on your area of specialisation, my questions will concern mainly on financial institutions and the EU Taxonomy. However, I thought it could be good, to begin with, some general questions to familiarise with the problem at stake.
1. What role do you believe the EU Taxonomy will play with respect to meeting the EU Green Deal Goals? Do you think it will be able to move sufficient capital towards "sustainable" activities?
2. What do you think are the biggest challenges SMEs face with taxonomy reporting?
   a. Why?
3. What aspects of the EU Taxonomy will positively impact SMEs?
   a. In addition, what will negatively impact SMEs?

**Financial institutions and intermediaries**

1) Do you think that financial institutions will put additional burdens on SMEs?
   a. How would you suggest SMEs should accommodate financial institutions' needs?
2) Which of the KPIs for non-financial companies (CapEx, OpEx, Turnover) do you think will be taken more into consideration by financial institutions?
   a. Why?
   b. Do you think this will change?
   c. How?
3) How likely do you think it is that some financial institutions will diminish their loans to SMEs for improving their GAR?
   a. There are going to be institutions that operate in the niche of SMEs-financing. Those companies face two options: either change their business model to

improve their GAR performance (unrealistic option) or come to terms with the fact that they have the worst sustainability performance than their competitors. Do you think these institutions exist?

      i. Would they then be interested in a voluntary certification?

4) Could you name some reporting obligations for financial institutions in which a voluntary Taxonomy-like certification might come in handy?

5) How much would financial institutions need the voluntary taxonomy alignment to be calculated like the mandatory one (in other words: would they accept proxies, indicators, and averages? would they need SMEs to disclose the OpEx…)?

6) Would you expect financial institutions to pressure the European Commission to put non-listed SMEs in the GAR?

7) Based on the results of some interviews previously conducted, voluntary taxonomy reporting might be relevant for structured financial products (securitisation). Banks would need to ensure that it has the data points from SMEs to reflect in the structured financial product. Do you agree with this consideration?

      a. For what other purposes voluntary taxonomy reporting might be of interest, in your opinion?

**Questions regarding Indicators, proxies and averages**

1) Do you think that the use of averages, indicators and proxies to allocate the percentage of CapEx, OpEx and turnover to certain activities would improve taxonomy reporting for SMEs in your sector?

      a. What about averages, indicators and proxies for

2) If so, which kind of proxies, indicators or averages do you think would satisfy financial institutions' needs without overloading SMEs?

      a. Why did you suggest (x)?

3) In your opinion, what are the must-haves of this certification?

      a. And what are the features/aspects that should be avoided?