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The Implementation of Sustainability Taxonomies

The Case of South Africa

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Abstract

In recent years, many jurisdictions have developed sustainability taxonomies that aim to increase transparency of financial markets and redirect capital flows to sustainable investments. Such sustainable finance policies can be important levers because today's investments shape economic production processes for decades. This case study on South Africa's Green Finance Taxonomy (GFT) addresses the question of what factors influence the adoption of sustainability taxonomies by potential users. It finds that one year after its publication, the GFT has hardly been used in practice. Important factors hindering an effective implementation are a lack of regulatory embedding, the absence of a legal recognition of the GFT by the European Union (EU), a hesitancy among financial market participants to build capacities to collect the necessary data, and fossil-fuel path dependencies in South Africa's economy. These findings have important policy implications (e.g. regarding accompanying governance measures) for implementation processes in many countries in the coming years.

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Contents

Abbreviations

CBAM	Carbon Border Adjustment Mechanism
ESG	environmental, social and governance
EU	European Union
DNSH	do no significant harm
FSCA	Financial Sector Conduct Authority
GDP	gross domestic product
GFT	Green Finance Taxonomy
IFC	International Finance Cooperation
JSE	Johannesburg Stock Exchange
MSME	micro, small and medium enterprises
NBI	National Business Initiative
NGO	nongovernmental organisation
PA	Prudential Authority

1 Introduction

To render our economies more sustainable, investments in carbon-intensive production processes and other unsustainable economic activities need to be stopped urgently. At the same time, large amounts of capital have to be mobilised to finance the investments that are necessary to achieve a just transition to a climate-neutral economy.[1] In addition, if market participants do not properly manage the risks associated with sustainability issues, the stability of financial markets will be endangered. Efforts to reform the financial sector in such a way that it supports rather than hinders the transformation of the real economy towards sustainability are thus crucial.

In this context, sustainability taxonomies are one of the most salient policy innovations of recent years. As comprehensive classification systems, sustainability taxonomies provide market participants with a definition of what constitutes a sustainable economic activity. While the idea of sustainability taxonomies is still relatively new, the pace of global diffusion of this policy tool is remarkable. By now, more than 25 jurisdictions have started to develop a taxonomy or have already introduced one (Cabrera, Youngeun Shin, & Hinojosa, 2022, p. 8). In most cases, though, the taxonomy process is still at an early stage and only very few taxonomies have already been implemented.

The ultimate aim of sustainability taxonomies is to redirect capital flows from unsustainable to sustainable investments. To do so, taxonomies should create transparency around the sustainability of economic activities and thereby reduce greenwashing.[2] A better availability of sustainability information on financial markets is supposed to help market participants in taking sustainability risks into account and in discharging their responsibility to align their investment decisions with sustainability goals. To further these objectives, taxonomies can, in principle, be used in several ways. For instance,

- financial market participants can disclose whether their assets are aligned to a taxonomy and take taxonomy-alignment into account in their investment decisions;
- taxonomies can be used to determine the eligibility of investment projects for green financial products (such as green bonds);
- real economy actors can disclose the share of taxonomy-alignment of their turn-over or investment expenditures;
- governments can report on the share of their spending that finances taxonomy-aligned activities; and
- information on taxonomy-alignment can be used in (public) procurement decisions.[3]

To what extent sustainability taxonomies can really live up to the promises that policy-makers associate with this governance tool remains to be seen. Due to the recent emergence of sustainability taxonomies, empirical evidence on their merits and pitfalls is very limited. This study contributes to closing the research gap on sustainability taxonomies by investigating their implementation, because a widespread adoption of a taxonomy by its intended users is a precondition for any positive contribution that it might be able to make.

1 For instance, according to an International Energy Agency scenario towards a net-zero economy by 2050, annual global investments in energy need to rise from just over USD 2 trillion (average between 2016 and 2020) to USD 4.5 billion in 2030 (IEA, 2021, p. 81).

2 “Greenwashing” refers here to a deceptive practice of displaying investment projects or financial instruments as environmentally sustainable when they in fact contribute to environmental damage.

3 For a comprehensive list of potential use cases of sustainability taxonomies, see World Bank Group (2020, pp. 15–16).

To this end, we conducted a case study on the South African Green Finance Taxonomy (GFT) that was introduced in April 2022. The GFT focuses on climate mitigation and adaptation, and shares its general structure and many of the criteria included with the EU taxonomy. Our qualitative and exploratory research design that builds on expert interviews allows us to generate insights on the causal mechanisms affecting taxonomy implementation.

We find that one year after its introduction the GFT plays almost no role in financial markets. Factors that hamper a widespread uptake of the GFT consist in the slow movement of governance actors, the lack of a legal recognition of the GFT by the EU, the hesitancy of market participants to use resources and build up capacities for GFT-adoption, and fossil-fuel path dependencies in South Africa's economy. These findings justify doubts that purely voluntary approaches to the implementation of taxonomies can be successful. Regulators should thus embed a taxonomy in regulatory frameworks and provide clear guidance on how market participants should use it. Trainings might be necessary to put the intended users in the position to conduct assessments of taxonomy alignment, which can be complex and require a lot of expertise. In addition, even if properly implemented, sustainability taxonomies can only be effective as one element of a larger policy strategy that aims at the greening of the finance sector and the real economy.

This paper is structured as follows. Section 2 provides a literature review of the research on sustainability taxonomies and identifies research gaps with respect to the implementation of taxonomies and the situation in other jurisdictions than the European Union (EU). Section 3 presents the methodology of this study and argues that a case study on South Africa's GFT is well-suited to address the research gaps identified. Section 4 provides background information on the development process and the design of the GFT. Section 5 presents the findings of the research project with respect to the implementation process of the GFT, and Section 6 provides some tentative remarks on the potential impact of sustainability taxonomies. Finally, Section 7 highlights policy implications and concludes.

2 Literature review

Research on sustainability taxonomies can be divided into two strands. First, scholarly literature addresses a diverse set of questions related to sustainability taxonomies but focuses in most cases on the EU taxonomy. Secondly, several policy publications by international organisations take a broader geographic perspective and address often mainly practical questions related to the design of taxonomies.

Some of the academic contributions on sustainability taxonomies discuss on a general level the role that the EU taxonomy can – or cannot – play in the transformation of the economy towards sustainability (Ahlström & Sjåfjell, 2022; de Oliveira Neves, 2022; Knoll, 2022). Critics fear, for instance, that another round of a problematic financialisation is associated with sustainability taxonomies because they see the introduction of taxonomies as an attempt to settle genuinely political questions with a highly complex, technocratic and potentially undemocratic accounting regime that is not able to accommodate distributive and participatory concerns (Knoll, 2022).

Other scholars address questions concerning the design of the EU taxonomy. For instance, Schütze and Stede (2021) assess the screening criteria included in the EU taxonomy and find that they are not ambitious enough to support the transformation towards climate neutrality. Some contributions investigate the relationship of the EU taxonomy with existing sustainability tools. Along these lines, Dusík and Bond (2022) argue in favour of integrating the EU taxonomy with environmental assessment systems, and Dumrose, Rink and Eckert (2022) find that the EU taxonomy could help to reduce divergence between environmental, sustainability and governance (ESG) ratings. Alessi and Battiston (2022) investigate the relationship between

taxonomy alignment and transition risks in financial portfolios and conclude that investors with comparatively large investments in green assets can still be exposed to large transition risks. Finally, some contributions focus on the EU taxonomy and specific sustainability objectives, such as the promotion of a circular economy (Moneva, Scarpellini, Aranda-Usón, & Alvarez Etxeberria, 2023) or social objectives (Hilbrich, 2021).

In general, though, the academic literature on sustainability taxonomies is still very limited and has several gaps. First, questions concerning the implementation of sustainability taxonomies play only a minor role (probably mainly due to sustainability taxonomies still being in the early stages of implementation). Secondly, with only a few exceptions (Nedopil Wang, Lund Larsen, & Wang, 2022), research has focused on the EU taxonomy and has neglected the situation in other jurisdictions. This reflects a problematic geographical bias that has repeatedly been lamented with respect to research on sustainable finance in general (Cunha, Meira, & Orsato, 2021, p. 3831; Monasterolo et al., 2022, p. 1). Thirdly, assessments of the impact of sustainability taxonomies on capital flows are lacking. However, due to the very recent nature of taxonomies, thorough analyses in this respect are at this point hardly possible.

The second gap in the academic literature, concerning its narrow geographic focus, is to some extent alleviated by several reports compiled by international organisations that also take the situation in other jurisdictions into account (Ehlers, Gao, & Packer, 2021; ICMA, 2021; OECD, 2020; UN-DESA & IPSF, 2021; World Bank Group, 2020). These reports map existing sustainable finance definitions and taxonomies in different jurisdictions and provide recommendations for policy-makers that are involved in the development of a taxonomy. However, the methodological approach and empirical basis of these reports is sometimes unclear and – as with the academic literature – these publications pay only comparatively little attention to the implementation of sustainability taxonomies and the question of what factors influence whether market participants actually use taxonomies in practice.[4]

3 Research design: A qualitative case study on South Africa's GFT

This study addresses two of the research gaps identified in the last section: the lack of research on the implementation of sustainability taxonomies and the lack of research on the situation in jurisdictions other than the EU. In particular, we investigate the question of what factors influence the adoption of taxonomies by potential users. We focus on the adoption of taxonomies by financial market participants, such as banks, asset managers and pension funds, and the real economy firms they invest in.[5] We are interested in factors internal to these actors, such as their motivations and capacities, but also factors that concern more systematic framework conditions. In the following, we argue that a qualitative case study on South Africa's GFT is well-suited to address this research question.[6]

4 To our knowledge, there are only two publications that extensively discuss implementation challenges (Arnold, Cauthorn, Eckert, Klein, & Rink, 2023; Platform on Sustainable Finance, 2022). However, both of these reports focus on the EU taxonomy.

5 For instance, we will thus not consider the adoption of sustainability taxonomies in public procurement. As the main motivation behind the development of these taxonomies is to contribute to redirecting investments, the focus on financial markets seems to be warranted.

6 Our methodological approach also caters to the need for more qualitative research in the area of sustainable finance in general, for instance on the motivation of relevant actors. That there is a research gap in this respect is one of the conclusions of the systematic literature review on sustainable finance of Cunha et al. (2021, p. 3832).

3.1 Methodology

Due to the taxonomy processes being at an early stage, and the lack of existing theories and empirical evidence on the research question, our research takes an exploratory form and aims to generate initial insights into factors that influence the implementation of taxonomies. We focus on illuminating causal mechanisms rather than on estimating the precise magnitude to which a certain factor affects implementation. For these purposes, case study research has its strengths; for instance, because it enables the investigation of several factors at the same time, it can generate a detailed picture of the relevant processes and maintain openness to new factors that might arise in the data collection and analyses (Gerring, 2007, chapter 3). The application of a qualitative approach that builds on semi-structured expert interviews allowed us to gain detailed insights into the perspectives and motivation of the actors involved in the processes and social structures we are interested in.[7] Common alternative data collection methods are, in the context of our research, either not feasible or appear as less illuminating. For instance, approaches that rely on secondary data (such as data on characteristics of firms that adopted or did not adopt a taxonomy) are currently not feasible because relevant data is not yet available.

Implementing the described research approach, the team conducted 44 semi-structured expert interviews with representatives of financial market participants, real economy enterprises, consultancies, government departments, regulators, development finance institutions, business associations, civil society organisations and research institutions between February and April 2023. Interview participants were purposely chosen to gain insights into the perspectives of different stakeholder groups. The interview guides were adapted to focus on those issues for which the respective interview partner was well-positioned to provide insights. Interview partners were assured anonymity.

We recorded, transcribed and analysed the interviews following the method of a (structuring) qualitative content analysis (Kuckartz & Rädiker, 2023). Using the software Atlas.ti, the interview transcripts were coded with thematic categories that were partly derived deductively from the research question and assumptions about potentially relevant factors, and partly developed inductively while engaging with the transcripts. Findings from the analysis were validated during two workshops in Cape Town and Johannesburg in April 2023, at which preliminary results of the study were presented and discussed with stakeholders of the GFT. Discussions at these workshops helped to clarify misunderstandings and gain insights from additional stakeholders, and were useful in better assessing the relative importance of factors influencing taxonomy implementation.

3.2 Case selection

In the case selection, the range of candidates was restricted by the fact that – despite the recent global push for taxonomies – only a limited number of jurisdictions had at the time of our data collection already completed the development of their taxonomies. Among these countries, South Africa is a particularly interesting case, because, first, with respect to some of the factors of potential relevance for taxonomy implementation processes, South Africa can be described as an “extreme case” – a type that is often considered especially illuminating in exploratory case-study research (Gerring, 2007, pp. 101-105). The carbon-intensity of South Africa’s economy is extremely high, and vested interests in the minerals and energy sector are very influential in the economic and political sphere of the country (Baker, Newell, & Phillips, 2014; Fine & Rustomjee, 1996). Extreme economic inequalities and widespread poverty are additional

7 For the method of semi-structured interviews, see Flick (2022, chapter 9). For a discussion of the question of who should be considered an expert in the context of studies that focus on expert interviews, see Meuser and Nagel (2009).

challenges that can affect public and political support for the transformation towards climate-neutrality in South Africa. The pronounced form that fossil-fuel path dependencies in the economy and related political economy factors have in South Africa's "economy of extremes" (Ashman, 2021) can make mechanisms fostering or hindering an implementation of sustainability taxonomies – that are in a less-pronounced form also of relevance elsewhere – particularly visible.

Secondly, keeping in mind the caution that should be taken in generalising findings from single cases, investigating the GFT can generate findings valid in contexts in which the potential impact of sustainability taxonomies is especially great. While some of the findings of the study will probably hold true for all jurisdictions that are pursuing the introduction of a sustainability taxonomy, the external validity of our results will be higher for countries that are similar to South Africa with respect to the general set-up and development of their financial sector, such as the relevance of different financial instruments and the overall size of the financial market, the role, type and origin of international capital flows, existing capacities for sustainability reporting of financial market actors, and the financial governance system in place. In this respect the external validity of our findings will be higher for a group of middle-income countries, such as Brazil, India, Nigeria, and Indonesia. This can be considered as an advantage because, in these countries, the stakes for a successful implementation of a sustainability taxonomy are especially high as they have – just like South Africa[8] – large financial markets that have an important regional role.

Sustainable finance instruments are potentially important levers for the transformation on large financial markets. An influential role in the region can lead to an application of a taxonomy beyond the respective country. For instance, the Johannesburg Stock Exchange (JSE) is by far the largest stock exchange on the continent, and many South African banks, such as Standard Bank, First Rand, and the ABSA Group, are important players in many countries in Southern Africa. If these institutions adopt the GFT, they might use it not only for their activities in South Africa but also in other countries. Only very few countries of the group of middle-income countries with large financial markets and an influential regional role have taxonomy processes that have reached a stage at which the implementation process can be studied. The GFT is thus a rare case, investigation of which allows the generation of findings that are valid for contexts in which a successful implementation of a sustainability taxonomy could be particularly impactful.

4 Background: Development and design of the GFT

South Africa's GFT was published in April 2022. The development process of the taxonomy was initiated and financed by International Finance Cooperation (IFC) in partnership with other donors. The process was overseen by a Taxonomy Working Group chaired by the National Treasury of South Africa. This Group included several private financial market participants and industry associations, South African development banks, government departments and financial sector regulators. Civil Society Organisations, such as environmental groups and trade unions, were not part of the group. On behalf of the Taxonomy Working Group, the business association National Business Initiative (NBI) and the consultancy Carbon Trust drafted the GFT and conducted stakeholder consultations.[9]

8 For instance, domestic credit provided by the financial sector as a share of GDP amounted to 122% in 2021 in South Africa (World Bank, 2023).

9 The NBI is an association of South African and multinational companies. It has members from different sectors, including the heavyweights of South Africa's carbon-intensive economy such as Sasol, Anglo-American, and Eskom, and international oil companies such as BP and Shell. The Carbon Trust is an international not-for-profit consultancy that focuses on climate change.

The GFT is based on the EU taxonomy for sustainable activities and is in its structure and criteria very similar to this taxonomy.[10] To be taxonomy-aligned, an economic activity has to fulfil three conditions. First, it has to make a substantial contribution to one environmental objective. Secondly, it has to Do No Significant Harm (DNSH) to the other environmental objectives included in the GFT. Thirdly, it has to comply with social minimum safeguards. So far, the taxonomy specifies only criteria for two environmental objectives: climate mitigation and climate adaptation. (Future expansions might add criteria for additional environmental objectives concerning the sustainable use of water and marine resources, pollution prevention, sustainable resource use and circularity, and ecosystem protection and restoration.)

The Carbon Trust and NBI conducted several pilots with potential users of the taxonomy between November 2021 and June 2022. The pilots covered different potential use cases, including the use of the GFT by asset managers, its use in determining the project eligibility for green bonds, its inclusion in decision-making of development finance institutions and its use in public procurement of municipalities.[11] However, the pilots often remained rather theoretical, and participants usually did not get to the stage of actually using the GFT, such as, for instance, successfully producing a disclosure report on the share of taxonomy alignment of a financial product.

5 Findings: Key factors shaping the slow start of the GFT implementation process

While the GFT sparked some attention from financial market participants around its launch and the implementation of the pilots, momentum waned between the completion of the pilots in June 2022 and the period of the main data collection from February to April 2023. Our data revealed that the GFT had hardly been used and there seemed to be not much intention by most financial market participants to start an implementation process in their respective institutions in the near future.[12] Based on our data, we identify the behaviour of governance actors, the relationship of the GFT with the EU taxonomy, the usability of the GFT and capacities of potential users, and fossil-fuel path dependencies in South Africa's economy as crucial factors hampering taxonomy uptake. In the following, we describe why these factors play an important role and provide details on how they influence the implementation process of the GFT.

10 A comparison study found that, for instance, 78% of the criteria for a substantial contribution to one of the environmental objectives of both taxonomies are very similar (National Treasury, 2022, p. 7). Where both taxonomies differ, the level of ambition can be higher in either of the two taxonomies. For instance, nuclear and gas-fired electricity generation is under certain conditions taxonomy-aligned, according to the EU taxonomy, while the GFT excludes these activities. For other activities, such as the manufacturing of plastics in primary form and centralised wastewater treatment, the GFT includes less ambitious criteria than the EU taxonomy (National Treasury, 2022, pp. 48–49).

11 Lessons learnt from the pilots have been published in four brief case studies (Carbon Trust & NBI, 2022a, 2022b, 2022c, 2022d).

12 This finding might be taken to contradict the rationale given above for the case selection that built partly on the relatively advanced state of the South African taxonomy process. However, in February 2023 most other relevant countries did not even complete the drafting process of a sustainability taxonomy. Unlike in these countries, in South Africa it was already possible to investigate the question of why potential users had at that point refrained from adopting the GFT that was available for the usage of market participants for almost a year when we conducted our interviews.

5.1 Governance and regulatory embedding

Governance actors are not only primarily responsible for the development of a sustainability taxonomy; they also play an important role in its implementation. Until now, though, engagement of governance actors in South Africa in the implementation process of the GFT has remained limited.[13] For instance, unlike in the EU, no mandatory disclosure requirements with respect to the GFT have been issued so far, and no standards for sustainable financial products based on the GFT have been developed. The purpose, main use cases, and timeline of implementation of the GFT have not become entirely clear to the financial sector.

Many financial market participants are also not convinced that the GFT will really provide an authoritative definition of green activities that will lead to a harmonisation of the different existing understandings of "green" in the sector and thereby realise its promise to reduce transaction costs and improve transparency. A factor contributing to the lack of confidence of market participants in this respect might be that public institutions in South Africa themselves develop and use other classification systems for sustainable activities. For instance, the government developed a climate budget-tagging system for its own spending and those of other public entities which differs from the GFT (although the tagging system at least allows for the optional and additional marking of certain spending as GFT-aligned).[14] In addition, there are efforts of different actors in South Africa to develop principles or criteria for just transition finance that might lead to another parallel system in the future if no reasonable way of achieving alignment is found (e.g. Lowitt, Mokoena, & Steuart, 2023).[15]

The most explicit action of a governance actor concerning the regulatory embedding of the taxonomy is arguably the reference to the GFT by an important regulator, the Financial Sector Conduct Authority (FSCA), in the *FSCA Statement on Sustainable Finance and Programme of Work* from March 2023:

> FSCA will through endorsement and engagements with supervised entities, actively encourage voluntary adoption and use of the taxonomy in relevant activities. Over the longer term, work will be done to consider the extent that the taxonomy should be mandated. (FSCA, 2023, p. 7)

The activities of regulators with respect to the GFT follow a strategy of gradually increasing over time the extent to which governance measures are binding. This approach is common in the governance of South Africa's financial market. Regulators start, for instance, with a communication that includes an endorsement of certain general principles or documents, publish guidance notes or set voluntary standards later on, before they issue a directive or implement a fully fledged regulation.[16] This governance approach follows the intention to create space to experiment with and adjust new governance measures and give market participants time to adapt their procedures before new rules become mandatory. Usually, a few frontrunners will start to align their procedures with the new rules and can test and give feedback on their

13 Original plans to expand the taxonomy by including additional environmental and social objectives have also been put off by the relevant governance actors.

14 That South Africa will arguably not report on GFT-alignment of its public budget is also problematic for the implementation of the GFT because it impedes the determination of the extent to which sovereign bonds (and financial products that invest in sovereign bonds) are aligned with the GFT.

15 That market participants sometimes also use additional classification systems developed by international organisations, such as the IFC, might contribute to this problem.

16 An example of a gradual approach to the governance of financial markets in South Africa concerns the consideration of ESG factors by pension funds. In 2011, a very general requirement for pension funds to consider ESG issues in investment decisions was included in Regulation 28 of the Pension Funds Act. In 2019, the FSCA released a more concrete guidance note on how pension funds should comply with this requirement (FSCA, 2019).

practical applicability. Other market participants are supposed to follow later on when more binding governance measures are taken.

However, whether the mere endorsement of the GFT and the mentioning of the possibility of a regulation at a later point in time in the FSCA statement will be sufficient to drive GFT uptake is questionable. With respect to the implementation of the GFT, the stepwise uptake of the taxonomy with some frontrunners and others that follow is associated with challenges related to data availability. For many types of financial instruments, it is hardly possible (or at least very costly) to assess GFT-alignment if most financial market participants and real economy firms do not disclose on the GFT. Take, for instance, a mutual fund that invests in many different securities. To report on the degree of GFT-alignment of this fund, each of the securities would have to be checked for alignment. If investment chains are complex, fund managers are quite remote from the economic activities they are investing in. In addition, each fund that holds, for instance, a share of a company will have to do the same assessment again.

This would be different if mandatory disclosure rules ensured that the assessment is done only once, at the point in the investment chain when it can be done with the least amount of effort. All other financial market participants could then use this data. Along these lines, an investment manager told us that

> a next step that would be very helpful to players such as ourselves is if companies themselves actually calculate their alignment and then we can incorporate it. Then it's simply a case of these are our holdings; this is the percentage alignment that the company has calculated themselves and hopefully it's been audited in some way and then we can just apply portfolio weights to come up with an alignment metric.

The adoption of the GFT is thus associated with a coordination problem that the described gradual approach to governance cannot solve. If it is very difficult and costly for individual market participants to start using the taxonomy if many others do not, becoming a frontrunner in adopting the taxonomy is not attractive.

A reason for the slow movement of South African governance actors with respect to the taxonomy might be that responsibilities with respect to the governance and regulatory embedding of the GFT are distributed among several actors. For instance, the National Treasury chaired the Taxonomy Working Group responsible for the development of the taxonomy. The Prudential Authority (PA) within the South African Reserve Bank (SARB) and the FSCA are important financial market regulators that could potentially integrate the taxonomy into guidelines and regulations. In addition to such public institutions, private bodies that also provide a form of governance to financial markets could potentially play a role in the implementation process. For instance, the JSE could link its requirements for listed firms and listed debt instruments with the GFT (or create at least a separate segment for taxonomy-aligned debt instruments).

The extensive need for coordination among these actors, and the narrow mandates all of them have to operate in, might have slowed down the implementation of governance measures concerning the GFT. While a coalition of several governance actors driving implementation – considering the complexity of financial governance and the different use cases of the taxonomy – is necessary, the current institutional set-up has apparently led to a diffusion of responsibility. That implementation measures with respect to the taxonomy affect the mandates of various institutions also increases the probability that not all of them show the same degree of buy-in the taxonomy process.

5.2 Relationship of the GFT to the EU taxonomy for sustainable activities

The motivation behind the development of the GFT was at least partly linked to international capital and the establishment of the EU taxonomy. Proponents of the taxonomy process wanted to ensure that South Africa is "ready" if, at some point, disclosure on a taxonomy is required by (international) investors. The similarity of the GFT to the EU taxonomy could, in principle, provide a push for the implementation of the GFT because financial and non-financial companies of a certain size in the EU have to disclose also the taxonomy-alignment of their undertakings outside the EU. In addition, disclosure of taxonomy-alignment is mandatory for financial products offered in the EU. Data on taxonomy-alignment of investments in South Africa that are financed with financial instruments sold in the EU will thus need to be collected in the future.

However, so far, external pressure related to the introduction of the EU taxonomy has not provided a clear incentive for the implementation of the GFT. Disclosure requirements related to the EU taxonomy are only coming into force one step at a time (Commission Delegated Regulation (EU) 2021/2178). In addition, the EU did not recognise the GFT as equivalent to its own taxonomy (and, as emphasised by some of our interview partners, is hesitant to do so). Such a recognition would mean that investments that have been shown to be GFT-aligned would be treated as being aligned with the EU taxonomy without further assessment.[17] Initially, by aligning the GFT so closely with the EU taxonomy, South Africa's government hoped to achieve such a recognition and avoid the EU taxonomy, a tool not adapted to the South African context, becoming a standard in its financial market.

Due to the similarities of both taxonomies (rendering these taxonomies to a relatively high extent interoperable), a prior assessment of GFT-alignment would still make it easier for investors to show alignment with the EU taxonomy (even without a formal recognition). However, in the absence of any further incentives to use the GFT, investors might decide to opt for the EU taxonomy directly and refrain from adopting the GFT.

5.3 Usability of the GFT, data availability, and capacities of potential users

The GFT is a complex document, and assessing GFT-alignment of economic activities requires resources. A great share of the data necessary for GFT assessments is not yet available and would have to be collected before assessment and disclosure of taxonomy alignment can take place. Along this lines, some of our interview participants emphasised the costs associated with GFT adoption. Checking whether an activity meets the DNSH criteria included in the taxonomy is especially burdensome. Additional costs can also arise if disclosure reports are verified by external service providers to increase their credibility.[18] In addition, the efforts associated with reporting on GFT-alignment would add to the work that goes into other types of non-financial

17 Such a recognition would have a precedent, as the China Green Bond Principles (China Green Bond Standards Committee, 2022), published in July 2022, allows overseas issuers to use the EU taxonomy (and the Common Ground Taxonomy) for the identification of green projects instead of the Chinese taxonomy (the Green Bond Endorsed Projects Catalogue). To establish a process to legally recognise other taxonomies is also one of the preliminary recommendations to the European Commission by the High-Level Expert Group on scaling up sustainable finance in low- and middle-income countries that was initiated by the EU itself (HLEG, 2023, p. 9).

18 To what extent taxonomy-disclosure reports will be verified is still unclear. However, a well-functioning (and maybe even public) infrastructure for verification and certification related to taxonomy assessments will probably be necessary to achieve the objectives to increase transparency and reduce greenwashing.

reports that potential users of the taxonomy already publish (Stolowy & Paugam, 2018).[19] The efforts that are associated with adopting the GFT have contributed to the hesitancy of market participants to start an implementation process – in particular as the economic benefits of adopting the GFT (e.g. in terms of an improved access to capital) are unclear.

Adopting the GFT also requires specific expertise. In many cases, GFT-disclosure would require that not only the specialised ESG-teams within the institutions, but also staff in other departments, have a good understanding of the GFT because they would have to conduct the assessment of GFT-alignment in their daily work. The institutions responsible for South Africa's taxonomy process tried to address capacity constraints by conducting the above-mentioned pilots, providing potential users with a number of templates, tools and checklists, and organising a few webinars.[20] These activities, though, were not yet able to dispel the concerns of financial market participants regarding the expertise needed to adopt the GFT.

As the GFT can be used by diverse actors (e.g. real economy firms, banks, pension funds etc.), existing expertise and capacities vary considerably among the relevant actors and arguably depend, for instance, on the legal form, size and business model of the respective institution. Listed companies already collect much more sustainability data than unlisted companies. In addition, to conduct assessments of GFT-alignment is certainly less viable for smaller investment projects and for micro, small, and medium enterprises (MSMEs). At the moment, the GFT does not include provisions to make GFT-application easier in such cases.[21]

5.4 Fossil-fuel path dependencies and vested interests

Carbon-intensive industries, such as mining, chemicals, and fossil-fuel-based energy generation have a central role in South Africa's economy. The financial sector of the country is heavily geared towards financing investments in these sectors (Lowitt, 2021; Neumann, 2023, chapter 6). In this context, one could expect that the introduction of the GFT would be met with resistance of many real economy firms and financial market participants. After all, sustainability taxonomies ultimately pursue the aim of steering investments away from the business models that still dominate South Africa's economy.

However, the development of the GFT does not seem to have stimulated to the same extent lobbying activities than could be observed when the EU taxonomy was developed.[22] As the GFT was not part of a comprehensive policy package aimed at the greening of the economy, and was planned from the beginning as a voluntary tool, the relevant actors in South Africa might simply not have considered the GFT as a serious threat to their business models.

19 Important regulations and guidelines that include requirements on sustainability reporting in South Africa are, for instance, the King IV Code (mandatory for companies listed at the Johannesburg Stock Exchange) and the Code for Responsible Investment in South Africa (CRISA). In addition, international guidelines such as those of the Task Force for Climate-Relate Financial Disclosure (TCFD) play an important role in the country.

20 The tools, templates, checklists and recordings of webinars can be accessed on the website of South Africa's Sustainable Finance Initiative: https://sustainablefinanceinitiative.org.za/working-groups/taxonomy-working-group/.

21 However, as the GFT is a voluntary tool, market participants can themselves decide to focus on specific parts of the GFT and refrain from applying other (more complex) requirements.

22 A major point of controversy in the development process of the EU taxonomy was the decision to classify energy generation using natural gas or nuclear power as, under certain conditions, sustainable in the taxonomy. Lobbyists seem to have made quite some effort to achieve this classification (Schreiber, Pinson, Can Ileri, & Jeandon, 2020). Even prior to this, several environmental nongovernmental organisations had temporarily suspended their participation in the expert group that advised the European Commission in the development of the taxonomy, in protest. They criticised, in particular, the criteria for forestry and bioenergy included in the EU taxonomy, and the influence that lobbying had on their formulation (WWF, 2021).

At the same time, the political and economic pressure to shift to less carbon-intensive ways of production in South Africa increases. For instance, the Carbon Border Adjustment Mechanism (CBAM) of the EU spurs considerable concerns in export-oriented industries in South Africa.[23] In this context, some actors that have economic stakes in carbon-intensive economic activities might see also benefits in the introduction of the GFT if they assume that the GFT would rather mobilise additional (foreign) capital for green investment without steering investments away from their traditional business models. They might consider the GFT as a tool that facilitates the transformation of production processes in some carbon-intensive industries and thereby helps to remedy their transitional climate risks.

That does not mean, though, that fossil-fuel path dependencies do not hinder the implementation of the GFT. For instance, due to the amount of assets they own, pension funds are often considered as potential drivers of taxonomy uptake. If pensions funds were to declare disclosure on GFT-alignment a prerequisite for their investments, this requirement could be passed on through the investment chain and lead to a widespread uptake of the taxonomy. However, some of the largest South African pension funds are the retirement funds of the large fossil-fuel companies of the country, such as Eskom and Sasol. Incentives for those funds to push for the implementation of the GFT are probably low. In addition, the South African pension funds are required to invest primarily domestically (this is especially the case for the largest pension fund of the country, the Government Employees Pension Fund (GEPF)). Due to the limited number of firms in South Africa's formal economy, and the very high carbon-intensity of the country's economy (Arndt, Davies, Makrelov, & Thurlow, 2013), the potential of these pension funds to shift investment away from dirty activities can be limited if they want to keep a diversified portfolio. Due to the negative picture they will arguably have to report, pension funds might have little incentive to disclose the share of their portfolios that is GFT-aligned.

In general, interview participants often mentioned a lack of bankable green projects conducive to a just transition as an important barrier to green finance, which is at least partly the result of fossil-fuel path dependencies. If investment opportunities that are aligned with the GFT are limited, this will not only decrease the motivation of pension funds but also of other market participants to report on the GFT and take GFT-alignment into account in their investment decisions. Similarly, existing research found that fossil-fuel path dependencies played an important role in preventing a take-off of green bonds in South Africa (Neumann, 2023).

6 Potential impact on capital flows

While this paper did not focus on the impact of the GFT, the data collected in this study provides also preliminary insights with respect to the question of the ways in which sustainability taxonomies are able to contribute to transforming the economy, and where their limitations lie (which was one of the research gaps identified in Section 2). On the one hand, many of our interview participants from the financial sector expressed their willingness to consider GFT-alignment in their investment decisions. This suggests that a properly implemented GFT can have impacts on financial flows. On the other hand, it remains unclear to what extent these statements would be translated in action, and how large the contribution of the GFT in shifting capital flows would then be. Apparently, the outlook of a better access to capital does not yet incentivise actors to show GFT-alignment of their projects or financial products. Expectations in this respect by financial market participants do not seem to be strong enough to drive uptake. Besides redirecting capital flows, a widely adopted GFT might make other positive contributions. For instance, taxonomy assessments can help real economy actors to monitor and manage

23 CBAM puts a tariff on imports to the EU from countries with no or a lower carbon price than the EU. It will gradually be implemented in the coming years.

their own transition, and the data generated in taxonomy-disclosure can be used in research and evaluation.

In spite of the potential contribution of the GFT, taxonomies will not address many of the existing barriers that hamper the financing of projects that are conducive to achieving a just transition to a sustainable economy. For instance, in the South African context, it is especially challenging to get finance for early stage and high-risk projects, MSMEs and small projects, and for actors with limited commercial track record (Lowitt, 2021). The GFT cannot alleviate these issues. Furthermore, a just transition also requires investments in social sectors, such as education and reskilling and social protection. At least as long as the GFT is not expanded to include also social objectives, it will not contribute to channelling finance to projects in such sectors.

These claims concerning the impact of sustainability taxonomies on investments remain at this point somewhat speculative. It will thus be an important task for future research to generate stronger evidence in this regard.

7 Conclusion and policy implications

This study finds that the implementation of South Africa's GFT has shown little progress so far and explains this fact by the behaviour of governance actors, the lack of recognition of the GFT by the EU, the additional burden that potential GFT users associate with its adoption, and fossil-fuel path dependencies in South Africa.[24] As it is only a short time since the publication of the GFT in April 2022, the lack of uptake could be mainly due to the need for stakeholders to get used to the taxonomy and integrate it in into their procedures. However, as we did not observe potential users taking significant steps in this direction we assume that the GFT will only be widely adopted in the future if at least some of the identified factors change.

As described, it is too early to provide definitive evidence on the impact of sustainability taxonomies. However, due to the time pressure in which the economy has to be transformed, policy-makers often cannot wait for the evidence to accumulate and have to take decisions under a considerable amount of uncertainty. In addition, every lever that is at least somewhat promising is worth trying. If policy-makers decide along these lines to pursue the introduction of a sustainability taxonomy, we recommend – based on our findings – the following measures to facilitate the implementation process.

First, in developing a taxonomy, policy-makers should have a clear purpose in mind that is widely communicated. To increase clarity on expectations, governance actors need to provide guidance on by whom and for what the taxonomy should be used (in the South African context this could, for instance, take the form of guidance notes issued by the PA and the FSCA). However, it is not to be expected that a good communication of purpose and potential use cases alone is sufficient to achieve a widespread taxonomy adoption. Mandatory taxonomy-assessments and disclosure rules might also be necessary, because, as described above, it is very difficult for individual frontrunners to disclose on the taxonomy if most others do not.[25] In any case, stakeholders will only put efforts into adopting a taxonomy if they receive a credible signal by legislators or regulators that the taxonomy will indeed become a common language on financial markets. To achieve this, a coherent approach of all relevant governance actors is necessary. To avoid a diffusion of responsibility, it is important that a significant governance

24 Given the lack of uptake of the GFT so far and its similarity to the EU taxonomy, one could consider it to be a case of what Pritchett, Woolcock, and Andrews (2013) call "isomorphic mimicry", i.e. the imitation of institutions of other jurisdictions without achieving functionality.

25 Along these lines, one of our interview participants stated: "the only way it has to be made, it's just if it's compulsory".

actor assumes ownership for the taxonomy, and champions and coordinates the implementation efforts of different institutions. In South Africa, the National Treasury would probably have to take up this task, e.g. through its role as chair of the Taxonomy Oversight Committee that was announced to serve as custodian of the taxonomy. International fora, such as the Sustainable Banking and Finance Network (SBFN), hosted by IFC, the International Platform on Sustainable Finance, initiated by the EU, and the G20 Sustainable Finance Working can facilitate exchange among countries on best practices in the implementation of taxonomies.

To set incentives for the usage of a taxonomy, development banks could support the spread of a taxonomy by requiring taxonomy assessments in their financing decisions. Reputational pressure to start disclosing on a taxonomy could be increased by establishing an online database that collects disclosure reports and makes them easily accessible (this could be done, for instance, by a financial market supervisor or even by an NGO). Introducing tax incentives for taxonomy-aligned investments would be another option to improve uptake if benefits are considered to outweigh the reduction of tax revenue and potentially detrimental distributive consequences.

Secondly, if the purpose of the taxonomy is at least partly to attract or keep foreign capital, it is important to achieve a high degree of interoperability with other relevant taxonomies. In the case of South Africa, the GFT is very similar to the EU taxonomy. However, the EU is currently not willing to formally recognise the taxonomy as equivalent. For taxonomies of countries such as South Africa to play an important role, it might be necessary, though, to develop mechanisms to achieve some form of recognition, be it in bilateral negotiations or in a multilateral forum. Otherwise, there is a risk that taxonomies of important markets (above all the EU taxonomy) will ultimately prevail also in those jurisdictions that are currently trying to develop and implement their own taxonomies.

Thirdly, concerns regarding the complexity of taxonomies and the amount of effort associated with disclosing on it should be addressed with the provision of trainings, exchange formats and supporting services. Domestic agents, such as supervisory authorities and national development banks, and international development cooperation actors should develop targeted formats for this purpose. Simplifying taxonomies is in most cases not advisable because a substantial degree of complexity and granularity is necessary for a taxonomy to be able to fulfil its role to create transparency and avoid greenwashing.[26] However, it would be an option to somewhat ease the burden of implementation by allowing for materiality considerations in the application of DNSH criteria. In addition, it is beneficial if regulators and private standard-setters align different reporting requirements as much as possible, and taxonomies are developed in a way that existing data collection systems can be used. In any case, it can be expected that the burden of implementation will decrease once reporting procedures are established, digital tools for the assessment process become available, and consultancies offer targeted support for the implementation.

Going beyond the question of what policy measures could facilitate a widespread uptake of taxonomies, it is important to note that taxonomies will arguably only make a substantial positive contribution if they are part of a comprehensive policy strategy aimed at a just transformation of the economy. With respect to policies that address the financial sector,[27] it is, for instance, not

26 The following quote from one of our interview participants reflects this point: “I think it's necessarily complex. I think, the topic that it's dealing with is a complex topic and it's not straightforward. So I mean, I think, training on the taxonomy is probably the most useful approach rather than trying to simplify the taxonomy itself.”

27 The success of sustainability taxonomies is also dependent on transformative policies that target directly the real economy because regulatory and fiscal reforms (e.g. a carbon tax or the Carbon Border Adjustment Mechanism (CBAM) of the EU) might only create the business case for shifting to less carbon-intensive investments. Only if financial market participants see credible steps in the direction of more effective climate policies, might they react to the sustainability information that taxonomy disclosure provides, because only in this case might they consider sustainability risks as financial risks.

only important to provide clarity on what projects qualify as green investments but also to ensure transparency on what economic activities need to be phased out (e.g. by developing “dirty taxonomies”). In addition, policies that merely improve transparency, such as taxonomies and disclosure obligations, will not be sufficient. At the same time, governments and regulators must pursue measures that push financial market participants to act on the transparency provided and redirect investments in alignment with sustainability goals. Mandatory transition plans can, for instance, be one of these measures (Dikau et al, 2022). Furthermore, our tentative findings on the potential impact of sustainability taxonomies, and the barriers to financing a just transition that taxonomies cannot help to overcome, suggest that public investments need to play a crucial role in the transformation.

Section 3.2 argued that an investigation of the South African case can generate interesting insights also for other countries that are currently in the process of developing and implementing sustainability taxonomies. Certainly, some of our findings might be influenced by idiosyncratic factors of the South African context; fossil-fuel path dependencies might be somewhat less important in many other countries, the relationship with the EU taxonomy might play a different role depending on the importance of EU investments, and capacities of financial market participants to conduct taxonomy assessments might be less or more developed. However, it is plausible that the main conclusion of this paper is also valid for many other countries. If a sustainability taxonomy is introduced without enforcing its adoption by regulatory measures, without having clear incentives for an adoption in place, and without ensuring sufficient knowledge among the desired users of the taxonomy, there is a great risk that the taxonomy will simply not be used.

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