



Testing the application of the EU Taxonomy to core banking products:

High level recommendations Case Studies

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Full report here

Case Studies - Annex

	Bank	Product	Sector	EU Based	Case Study
D	BNP Paribas	Mortgage loans to individuals	Real Estate		<u>Case</u> study
endin	BNP Paribas	Retail loan for electric vehicles	Transportation		<u>Case</u> <u>study</u>
etail L	Caixa Bank	Mortgage loans to individuals	Real Estate		<u>Case</u> study
R	Crédit Suisse	Mortgage loans to individuals	Real Estate		<u>Case</u> study
S	BNPP SME Loan for freight transport services Transportation		Transportation		<u>Case</u> study
SME	Nordea	SME general purpose loan for acquisition of additional forest land.	Forest & Agriculture	\checkmark	<u>Case</u> study
Corporate Banking	Swedbank	General Purpose Corporate Loan- RCF to a leading biogas group consisting of biogas CHP plants and an agricultural company.	Power & Agriculture	1	<u>Case</u> <u>study</u>
	SEB	General Purpose Corporate Loan- RCF to a Large Cap forest industry company	Forest & Agriculture	\checkmark	<u>Case</u> study
	FMO	Senior debt secured corporate financing forestry and timber product business	Forest & Agriculture	Africa	<u>Case</u> <u>study</u>
	Natixis	General purpose corporate loan- RCF to automotive sector company	Transportation		Case study

	Natixis	Green bond to finance new electrified metro lines and stations.	Transportation		<u>Case</u> study
	OP	Green loan following LMA Green Loan Principles. Proceeds are used for modernizing an existing CHP (combined heat and power)	Energy	V	<u>Case</u> study
	Piraeus Bank	Long term credit lines to develop and operate renewable energy sources.	Energy	\checkmark	<u>Case</u> <u>study</u>
	Société Générale	The case study focuses on the application of the EU taxonomy on the Power Generation portfolio.	Energy	\checkmark	<u>Case</u> <u>study</u>
	KBFG	Loan to a solar power plant	Energy	Asia	<u>Case</u> study
	Intesa San Paolo	Inaugural syndicated two-tranche credit facility, ESG linked financing.	Energy	\checkmark	<u>Case</u> study
	ING	Revolving Credit Facility (RCF), linked to the external ESG rating of the client	Real Estate	\checkmark	<u>Case</u> <u>study</u>
	BPCE	Consumer loan to purchase home appliances	Manufacturing	\checkmark	<u>Case</u> <u>study</u>
	BPCE	Corporate Loan to public transportation company	Transportation	\checkmark	<u>Case</u> <u>study</u>
	BBVA	Green Bond	Telecoms	\checkmark	<u>Case</u> <u>study</u>
	BBVA	KPI Linked Facility (Sustainability Linked Loan) for utility provider	Energy	\checkmark	<u>Case</u> <u>study</u>
products	Crédit Agricole	Export finance: ECAs-guaranteed buyer credit to finance an EPC contract awarded to a European company for a large hydropower dam.	Energy	Emerging markets	<u>Case</u> study
Other corporate banking I	DB	Trade finance: guarantee facility to a mid-sized corporate client in the manufacturing & engineering industry	Manufacturing	\checkmark	<u>Case</u> study
	Natixis	Trade finance: Low-carbon aluminium supply chain financing instrument.	Manufacturing	North America	<u>Case</u> <u>study</u>
	Natixis	Project Finance for offshore wind farm in UK	Energy	UK/Europe	<u>Case</u> <u>study</u>
	SCB	Project finance for a solar power plant	Energy	Middle East	<u>Case</u> study

Case Study: BNP Paribas – Application of the EU Taxonomy for mortgage loans granted to individuals

Case Description

- 1) Mortgage loan of 200,000 euros to build a house near Paris.
- 2) Mortgage loan of 50,000 euros to renovate a flat in Paris, to improve its energy efficiency.
- 3) Mortgage loan of 200,000 euros to buy a flat (built before 2021) in Paris.

EU Taxonomy assessment

This case study deals with the Climate Change Mitigation Taxonomy, dealing with the following activities.

- 1) mortgage loan to build a house; F Construction 8.1 Construction of new buildings;
- mortgage loan to renovate a flat, to improve its energy efficiency; F Construction 8.2 building renovation;
- 3) mortgage loan to buy a flat (built before 2021); L Real Estate activities.

Criteria – Thresholds (P.375)	Loan to build a house: F - Construction - 8.1 Construction of new buildings Level of Net Primary Energy Demand (energy performance of the house) mandated by national regulations (Nearly Zero-Energy Buildings - NZEB). The threshold is based on NZEB requirements, which are defined in national regulations that implement the Energy Performance of Buildings Directive (EPBD) and are mandatory for all new buildings across EU Member States from 2021. To be eligible, the NZEB of the new construction must be at least 20% lower than the primary energy demand resulting from relevant NZEB requirements.
Criteria – Thresholds (P.379)	 Mortgage loan to renovate a flat, to improve its energy efficiency: F - Construction - 8.2 Building renovation Major renovation: the renovation is compliant with the requirements set out in the applicable building regulations for 'major renovation', transposing the EPBD. The energy performance of the building, or the renovated part, must meet cost-optimal minimum energy performance requirements, in accordance with the EPBD. Relative improvement: the renovation leads to a reduction of primary energy demand of at least 30% compared to the energy performance of the building before the renovation. Measuring the energy performance before and after renovation is based on a specialised building survey and validated by an Energy Performance Certificate (EPC), an energy audit conducted by an accredited independent expert or any other transparent and proportionate method.
Criteria – Thresholds (P.387)	 Mortgage loan to buy a flat (built before 2021): L - Real Estate activities - 8.4 Acquisition and ownership The metric used is Primary Energy Demand (PED): the annual primary energy demand associated with regulated energy use during the operational phase of the building's life cycle ('module B6' according to EN15978), calculated ex ante according to 437 and measured according to the International Property Measurement Standards (IPSM) IPSM 1 definition. See https://ipmsc.org/. National methodologies used for asset design assessment, or as defined in the ISO 52000 standards, expressed as kWh/m2 per year. Case A – Acquisition of buildings built before 31 December 2020

Criteria thresholds



Do no significant harm (DNSH) assessment

The main potential significant harm to other environmental objectives from this activity include:

- lack of resilience to extreme weather events (including flooding) and future temperature rises in respect of internal comfort conditions;
- excessive water consumption due to inefficient water appliances;
- landfill and/or incineration of construction and demolition waste that could otherwise be recycled/reused;
- presence of asbestos and/or other high-risk substances among building materials;
- presence of hazardous contaminants in the soil of the building site;
- inappropriate building location: Impacts on ecosystems if built on greenfield, particularly if in a conservation or high biodiversity value area;
- indirect damage to forest ecosystems due to use of timber products originating from forests that are not sustainably managed.

A detailed assessment according to the DNSH criteria can be found below:

(2) Adaptation	Refers to the screening criteria for DNSH to climate change adaptation.
(3) Water	All water appliances (shower solutions, mixer showers, shower outlets, taps, WC suites, WC bowls and flushing cisterns, urinal bowls and flushing cisterns, bathtubs) must be in the first two classes for water consumption according to the EU Water Label.
(4) Circular Economy	At least 80% (by weight) of non-hazardous construction and demolition waste (excluding naturally occurring material defined in category 17 05 04 of the EU waste list) generated on the construction site, must be prepared for re-use or sent for recycling or other material recovery, including backfilling operations that use waste to substitute other materials.
(5) Pollution	5.a - Building components and materials must not contain asbestos or high-risk substances, as identified on the basis of the "Authorization List" of the REACH regulation.

	 5.b - If the new construction is located on a potentially contaminated site (brownfield), the site must be investigated for potential contaminants, by applying, for example, standard BS 10175.425. 5.c - Non-road mobile machinery (NRMM) used on the construction site should comply with the requirements of the NRMM Directive.
(6) Ecosystems	6.a - The new construction must not be built on protected natural areas, such as Natura 2000, UNESCO World Heritage and Key Biodiversity Areas (KBAs), or their equivalent outside the EU as defined by UNESCO and/or the International Union for Conservation of Nature (IUCN), under the following categories: Category 1a - Strict Nature Reserve; Category 1b - Wilderness Area Category II: National Park.
	 facilities are exempt from this criterion. 6.b - The new construction must not be built on either arable or greenfield land of recognised high biodiversity value, or on land that serves as habitat of endangered species (flora and fauna) listed on the European Red List and/or the IUCN Red List. 6.c - At least 80% of all timber products used in the construction of structures, cladding and finishes must have been either recycled/reused, or sourced from sustainably managed forests certified by third-party certification audits performed by accredited certification bodies, such as FSC/PEFC standards or their equivalent.

We studied this case from a theoretical point of view as we were not able to collect the required information either manually or from a "system".

Eligibility criteria and thresholds

- For a loan to build a house: there is currently no national definition of NZEB across all EU countries.
- For a loan to renovate a flat: the 30% reduction in primary energy demand should be compared with the energy performance before renovation and proved by an Energy Performance Certificate. However, there is no centralised data source for the EPCs existing in the EU countries.
- For a loan to build a house before December 2020: local or national information on EPCs and the "top 15 %" is not available; "The TEG recognises that more work needs to be done to collect and analyse data in order to define absolute thresholds corresponding to the performance of the top 15% of each local stock, such as data showing the distribution of EPCs across the stock and the thresholds used to define EPC ratings."

The complexity of the criteria, and the lack of underlying methodologies and a centralised data base, mean banks' system processes are wholly manual. The difficulty in industrialising the process creates difficulties in respect of data quality, efficiency of low margin loans and customer commercial relationships.

Further, the demanding nature of the criteria will lead to a diminished number of eligible mortgage loans being 'labelled' EU Taxonomy compliant.

With respect to the DNSH, we believe that the criteria related to water consumption is not applicable, since it depends on the owner and not on the building itself.

Challenges

The alignment of national definitions is key.

Banks' systems need to be able to interrogate EPC databases. Therefore, regulation that obliges governments to share these databases with banks is essential to achieve a scalable framework.

Because the EU Taxonomy does not provide any correspondence, existing labels on the real estate market should be mapped by label providers.

Benefits of applying the EU Taxonomy

- Commercial visibility.
- Inclusion of 'green' mortgages in Green Covered Bonds or Green Securitisations, leading to more market liquidity to fund assets and hence foster the transition to the EU 2050 zero emissions target.

Recommendations

- Ensure all governments centralise and share the EPC database with banks (IT systems).
- Practical details should be provided in respect of the criteria, principles and thresholds to make assessing eligible mortgage loans simpler.
- Allow more flexibility for DNSH criteria.

Case Study: BNP Paribas – Application of the EU Taxonomy for loans granted to individuals to finance electric vehicles

Introduction

Our case looks at a loan granted to an individual to buy an electric vehicle.

EU Taxonomy assessment

We used the Mitigation Taxonomy (H-Transport and storage – 6.5 passenger cars and commercial vehicles)

- Passenger cars, light commercial vehicles and category L vehicles, encompassing all M1, N1 and L category vehicles to include, where applicable, NACE 49.32 (taxis), 53.10 (poste), 53.20 (livraison à domicile/home delivery) and 77.11 (location & leasing).
- Transport < 50g CO2/Km

Principles, criteria and thresholds

CO2 emissions per vehicle kilometer (gCO2/km)

- For passenger cars and light commercial vehicles:
 - □Zero tailpipe emissions vehicles, including hydrogen, fuel cell and electric, are automatically eligible.
 - □Vehicles with tailpipe emissions intensity below 50g CO2/km (WLTP) are eligible up to 2025. From 2026, only vehicles with 0g CO2/km (World Harmonised Light Vehicle Test Procedure - WLTP) emissions intensity are eligible.
- For category L vehicles:
 - Zero tailpipe emissions vehicles including hydrogen, fuel cell and electric.

Rationale

• "The Commission shall no later than 2023 evaluate the possibility of developing a common Union methodology for the assessment and the consistent data reporting of the full life-cycle CO2 emissions of light duty vehicles that are placed on the Union market. The Commission shall transmit that evaluation, including where appropriate proposals for follow-up measures, such as legislative proposals, to the European Parliament and the Council"

A detailed assessment according to the DNSH criteria can be found below:

Key environmental aspects to consider when investing in passenger cars and light commercial vehicles	 Direct emissions to air from the exhaust gases of internal combustion engines: Nitrogen oxides (NOx), total hydrocarbons (THC), non-methane hydrocarbons (NMHC), carbon monoxide (CO), particulate matter (PM) and particle numbers, as well as tyre abrasion, brake friction and noise emissions. Indirect emissions to air from the production of fuels and energy carriers (although this is not within the control of vehicles manufacturers and operators). Hazardous and non-hazardous waste generation during vehicle maintenance and at end-of-life. Recycling of materials to reduce consumption of critical raw materials and their impact on ecosystems and natural capital.
Adaptation	Refer to the screening criteria for DNSH to climate change adaptation
Circular Economy	Compliance with EU and national legislation on hazardous waste generation, management and treatment, with particular focus on critical raw materials recovery from batteries.

	Compliance with Directive 2000/53/EC ("end-of-life of vehicles" directive).
Pollution	 Vehicles must comply with the emissions thresholds for clean, light-duty vehicles in EU Directive 2019/1161 of the European Parliament and Council of 20 June 2019 (Table 2 of Annex). This amends Directive 2009/33/EC on the promotion of clean and energy-efficient road transport vehicles. Tyres must comply with the revised tyre labelling regulation, which includes noise labelling but not tyre abrasion requirements. The revised regulation envisages a new testing method, because suitable testing to measure tyre abrasion is not currently available. The Commission should mandate the development of a new method, taking into account all internationally developed or proposed standards and regulations. Tyres must comply with noise requirements established by EC Regulation N. 661/2009 on type-approval requirements for the general safety of motor vehicles. Vehicles must comply with EU Regulation N. 540/2014 on motor vehicle sound levels and replacement of silencing systems.

Our view is that the transaction meets the TSC criteria on zero tailpipe emissions vehicles, including hydrogen, fuel cell and electric. However, we do not understand why the Commission will not develop a common methodology before 2023 to assess and report data on full life-cycle CO2 emissions. What is the link with the TSC criteria? How can we take into account a methodology that is not yet finalized?

- DNSH criteria are difficult to assess and raise a number of questions: What data should we collect from the asset? How can we calculate the life cycle, including components such as batteries, tyres and plastics? How can we take into account repairing/circular economy for EVs? And waste management? We have a number of questions concerning the electricity produced by carbon energy (for example, in Poland and Germany)? Further, for DNSH pollution criteria, a suitable testing method to measure tyre abrasion is not currently available.
- For Social Safeguards: We believe that activities in Europe meet minimum safeguards.
- Proportion of turnover/capex/opex aligned with Taxonomy? Not available

Challenges

- More reliable vehicle data is required, including databases on every vehicle produced in the EU.
- Clarification on the eligibility of EVs (life cycle analysis) and the level of data granularity required to evaluate assets for the green taxonomy, for example in respect of noise and tyres.
- As the process has to be carried out manually, IT developments are unduly burdensome (collecting and storing data).

Benefits of applying the EU Taxonomy

We see the key benefit as being able to fund this type of asset via Green Bonds, Green Covered Bonds or Green Securitizations. A lower issuance rate than normal would allow banks to redistribute gains to the customer. Indeed, advantageous pricing would translate into more customers opting for a responsible and sustainable energy product.

Harmonized references are useful for client communications and partner negotiations, as well as in discussions with authorities.

Recommendations

- Develop reliable CO2 emissions databases at EU level.
- Provide guidelines for lifecycle and global analyses (tyres, batteries etc.).
- Provide details on repair and circular economy streams.
- Enhance development of "retrofit" transformation of thermic into electric vehicles and include it as Taxonomy eligible.
- In respect of industrial strategy, promote the development of dedicated EV infrastructures.

Case study: Caixabank - Application of the EU Taxonomy for retail mortgage loans

Introduction

This case study is aimed at assessing Taxonomy compliance of retail mortgage loans granted to private individuals to finance the acquisition of a residential real estate, with the financed good as a collateral. This is done through a sample of private retail clients in Spain. Specifically, the eligibility under the Mitigation Taxonomy for Acquisition and Ownership in the Real Estate Activities sector (chapter 8.4 of the Technical Annex to the Technical Expert Group (TEG) final report on the EU Taxonomy).

After analysing the available relevant documentation, we consider that the transaction meets the Taxonomy with regards to the mitigation criterion, but the fulfilment of the Do No Significant Harm (DNSH) criteria could not be positively evidenced without making certain assumptions.

EU Taxonomy assessment

We have evaluated mortgage loans for the acquisition of a flat in an apartment block (built before 31/12/2020) in Spain. For these transactions, loans are notarised and the financed flat acts as the collateral for the loan. The value of the collateral is based on an appraisal carried out by an independent real estate appraisal company (Third-Party Appraisal), which is compulsory for mortgage loans. The maximum loan amount is then capped to the lowest percentage between the appraisal value and the notarised purchase price (typically 80%).

Residential real estate properties which are sold need to have an Energy Performance Certificate (EPC). The EPC has been mandatory in Spain for newly built buildings since 2007 and for the sale and rental of existing real estate assets since 2013. The EPC needs to be provided by the seller to the buyer and evidence of this information needs to be registered by the notary. In Spain there is a public registry of EPC ratings for real estate assets. The Spanish government publishes statistics of EPC rating distribution at Autonomous Community level.

At CaixaBank the EPC is requested during the credit approval process, and the EPC label is captured in the credit approval system.

Mitigation criteria

We have assessed the alignment with the mitigation criteria by checking the EPC. According to the distribution of EPCs in Spain, EPC classes A and B are within the top 1% of residential real estate assets with an EPC, both in terms of CO2 emissions and of primary energy demand. Therefore, if the EPC label is A or B, the flat is considered to be complying with the threshold (i.e. top 15% of energy performing real estate properties).

Do No Significant Harm (DNSH) criteria assessment

Not all DNSH criteria could be positively evidenced as the level of information / documentation requested for a retail mortgage loan is, in general, not sufficient in this respect. However, if certain documented assumptions could be made, we believe mortgage loans labelled A or B could be eligible to be classified for Taxonomy purposes.

Following this idea, we have judged most of the DNSH criteria as being fulfilled through a qualitative assessment as follows below.

Activity	Assessment			
Resistance to Extreme Weather Events	This could not be evidenced directly. However, we can assume this complies, given that by law all real estate assets need to be insured when contracting a mortgage loan. The insurance covers fire, explosion and natural hazards, amongst others.			
Presence of asbestos	The production, commercialisation and use of asbestos has been banned in Spain since 15/12/2002. Therefore, we can assume that any building built after that date is free of asbestos. For older buildings, the presence of asbestos would be highlighted in the Third-Party Appraisal, since this is a latent risk. Therefore, we can reasonably assume that if the Appraisal does not mention this risk, the asset should be free of asbestos.			
Presence of harzardous contaminants	According to the Spanish Law hazardous contaminants are forbidden and/or need to be removed and so we can reasonably assume that there should be no presence of hazardous contaminants. In any case, if present, hazardous contaminants would be highlighted in the Third-Party Appraisal. Therefore, no mention of them in the assessment could be assumed as proof of compliance with this particular DNSH criterion.			
Inappropriate building location (ecosystems)	 This could not be positively evidenced. However, several facts were used in the assumption of compliance: i) most of the mortgage loans are not greenfield but correspond to second-hand transactions; ii) typical mortgage loans are on real estate assets located in urban areas and are therefore not affected by ecosystems; and iii) for greenfield projects, building locations are required to have a construction permit and, given that high value ecosystems are protected by Spanish Law, we can reasonably assume that this criterion is complied with unless we have evidence that it is not. 			
Excessive water consumption	This criterion cannot be positively evidenced because the term 'excessive' would first need to be quantified to define a threshold in the Technical Annex of the Taxonomy. In the interim, we need to assume that, unless the Third-Party Appraisal highlights the fact that the real estate asset is located in an area where there is a significant risk of water stress, there are no indications that the criterion is not complied with.			

Social Safeguards Assessment

Minimum Social Safeguards would not be applicable in the case of the acquisition of a residential property between two private individuals as those social safeguards apply to an "undertaking that is carrying out an economic activity".

Nevertheless, when a company is involved in the transaction we can reasonably assume that these are complied with unless there is a positive evidence that they are not, given that social safeguards are enforced in Spanish Law.

Recommendations

The case study has been useful in structuring the analysis of individual criteria. Despite the documentation limitations of retail transactions, we consider that there are assumptions that can be made to show reasonable compliance with the Taxonomy, specifically the DNSH criteria. Without these assumptions, retail mortgage loans could not be classified for Taxonomy purposes. We understand that the regulator should consider this possibility when applying the Taxonomy to a retail banking portfolio.

With regards to the mitigation criterion, the EPC rating is key. The set-up of publicly accessible EPC rating registries and public regional statistics of EPC distribution are therefore necessary to enable the evidence of the mitigation criterion; this is already the case in Spain.

For banks it pays to request the EPC during the credit approval process and to capture the EPC rating information in the relevant IT systems. This information is not only useful for the taxonomywise classification of assets; it is also useful for climate risk management purposes, carbon accounting, reporting, etc., in line with supervisory expectations of banks regarding climate and environmental risk management.

Case Study: Credit Suisse - Application of the EU Taxonomy for the real estate sector & EFTA countries

Introduction

This case study was selected to explore the potential application of the EU Taxonomy to the Swiss real estate sector. The process of applying the EU Taxonomy to Swiss mortgage lending gave Credit Suisse (CS) a better understanding of existing data availability in our Swiss real estate portfolio and future data needs. This understanding might ultimately support us in developing new business opportunities to expand the volume and range of green mortgage products and services. The analysis and the information obtained will also enable CS to enhance our data collection, refine our risk management, to make more informed decisions and eventually to respond more efficiently to any regulatory requirements that may arise in the future.

Case description

The case involved a retail mortgage loan that Credit Suisse provided for a private individual. The proceeds of the loan served to purchase a six-room single family house located in a suburb of Zurich, with a total property value of roughly CHF 2.5 million.

Based on the use of proceeds, this case study aligns with the EU Taxonomy activity "Real estate acquisition and ownership - acquisition of buildings built before 31 December 2020". This activity will make a substantial contribution to the Climate Change Mitigation Taxonomy, and therefore should comply with the following thresholds and do-no-significant-harm (DNSH) criteria.

EU Taxonomy requirements

The below provides a summary of the main requirements for these types of investments.

Activity		Real estate acquisition and ownership
Substantial contribution		 Primary Energy Demand: the calculated performance of the building must be within the top 15% of the local existing stock in terms of operational Primary Energy Demand, expressed as kWh/m2y.
Harm	Adaptation	Service is resilient to climate change.Services are not being delivered in a way that adversely affects the adaptation efforts of others.
cant h	Water	N/A.
lo Signifi	Circular economy	N/A
Do N	Pollution	 If the property is located on a potentially contaminated site (brownfield site), the site must be subject to an investigation for potential contaminants, for example using standard BS 10175.
	Ecosystems	 The building must not be built on protected natural areas, such as land designated as Natura 2000, UNESCO World Heritage and Key Biodiversity Areas (KBAs), or equivalent outside the EU, as defined by UNESCO and / or the International Union for Conservation of Nature (IUCN) under the following categories:
		a. category 1a; Strict Nature Reserve

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	b. category 1b; Wilderness Areac. category 1c; National Park
Minimum safeguards	 Implementation of the OECD Guidelines for Multinational Enterprises to the greatest extent possible, focusing compliance on (1) human rights, (2) labor rights, and (3) combating bribery. Alignment with the UN Guiding Principles on Business and Human Rights to prevent, address and remedy human rights abuses committed in business operations.

Assessment

To assess the alignment of this loan with the EU Taxonomy, Credit Suisse compared its internal credit processes and methodologies with the TEG requirements.

- Principles & Thresholds CS does not currently use an internal green taxonomy to classify systematically green assets in the Swiss retail mortgage portfolio. In identifying green mortgage assets, CS usually relies on credible and reputable third-party green building standards such as Minergie, LEED, BREEAM and others. The EU Taxonomy technical screening criteria (TSC) allow for transactions in non-EU Member States like Switzerland to use established green building certification schemes as alternative proof of compliance with the EU Taxonomy. Credit Suisse carried out an internal green tagging analysis to compare EU Taxonomy thresholds to third-party energy efficiency labels. The asset in question obtained a Minergie-P-Eco certification, which CS deemed equivalent to the EU Taxonomy Mitigation threshold in its internal analysis. As of June 2020, roughly 1-2% of total building stock in Switzerland has obtained this strict level of energy efficiency certification. This is below the 15% threshold prescribed by the EU Taxonomy Mitigation TSC¹.
- Do No Significant Harm (DNSH) criteria To determine alignment of this transaction with the DNSH criteria, CS carried out a gap analysis between the Minergie-P-Eco label (which the asset in question obtained) and the TSC thresholds. For the moment, the Minergie-P-ECO certification does not provide sufficient data for determining full compliance with the DNSH criteria. Where necessary, binding local regulations (for example a general prohibition of asbestos as well as laws against construction in protected areas) were therefore used to evaluate the transaction's compliance with the DNSH requirements.
- Minimum Social Safeguards CS adheres to the OECD Guidelines for Multinational Enterprises (signed by Switzerland) and the UN Guiding Principles of Business and Human Rights, which are the basis of the EU Taxonomy's minimum safeguards. This, combined with strict health and labour laws and safety standards in place in Switzerland, did not make it necessary for CS to carry out additional in-depth analyses in this case.
- Proportion of turnover / capex / opex CS used the general loan documentation of the client, including the use of proceeds, to calculate the contribution to the EU Taxonomy.

The transaction in question was determined to be in alignment with the EU Mitigation threshold. Based on the available data, a positive evaluation of the transaction against the DNSH criteria was not possible. However, based on an assessment of local legal requirements, there is no evidence that this transaction might violate any of the DNSH criteria.

Challenges

Some of the challenges encountered during the case study are listed below.

¹ Minergie, 2020: <u>https://www.minergie.ch/de/ueber-minergie/wissenswert/</u>

What were the challenges in applying the EU Tx?			nat would be needed to overcome these allenges?
•	Systematic data collection – even in transactions where information on a sustainability certification was obtained (as in the transaction described in this case), there are significant data gaps between such a certification and the EU Taxonomy TSC for acquisition / ownership. Therefore, a comprehensive gap assessment between various third-party certification schemes and the TSC is critical.	•	Access to data – in transactions where certification is not available, access to public databases (where such databases are available) on the energy performance certificate (EPC) of individual properties would be helpful.
•	Eligibility of third-party certifications - further information on which third-party certification schemes are officially recognised by the EU's Sustainable Finance Platform for eligibility is essential going forward.	•	<i>Further guidance</i> – we encourage certification providers to take the necessary steps to ensure alignment with the EU Taxonomy mitigation and DNSH thresholds. Better information on the ability of individual third-party certification schemes to meet the EU TSC, with particular focus on the DNSH and social safeguards' requirements, would enhance the reliability of such certifications.
•	Operational performance data – data gaps might arise with regards to operational data. We must assume that some of the Minergie-P-Eco certified properties in the Credit Suisse portfolio will not actually meet the planning requirements set out by the TSC during operation. Regular, systematic audits of such certifications to determine compliance with the planning requirements are not usually carried out. The recurring reporting obligations under the EU Taxonomy might necessitate such regular audits.		

Recommendations

We present the recommendations below for peers and regulators to facilitate the potential application of the EU Taxonomy to the real estate sector.

Peers

- **Data collection** set up a clause to track the use of third-party energy efficiency certifications of financed real estate. This would enable a systematic collection of green building data and enable an assessment against the Taxonomy mitigation criteria.
- Leverage third-party data leverage existing third-party certification schemes once alignment has been determined with the criteria in the EU Taxonomy by the Platform on Sustainable Finance.
- Set up or enhance internal governance processes internal governance processes around measuring alignment with the EU Taxonomy is necessary, involving a number of internal functions. Banks should clarify roles and responsibilities and set up processes accordingly, for example, for data collection.

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Regulators

- **Realistic implementation timelines** regulators should acknowledge the complexity and time necessary for measuring alignment with the EU Taxonomy. Such complexity should be reflected in implementation timelines.
- **Data sharing** enhanced international cooperation and transparency, for example, in making information on energy performance certificates for individual properties publicly available, would be a constructive step regulators and authorities could take to support financial institutions in their efforts to enhance data collection.
- **Guidance** further sector-specific guidance on steps banks can take in measuring alignment with the EU Taxonomy.
- **Recognition of third-party data** ensure a smooth and transparent process for testing the compatibility of third-party certification schemes with the criteria of the EU Taxonomy.

Case Study: BNP Paribas – Application of the EU Taxonomy for a loan granted to an SME in the transport sector

Introduction

Group V is a family SME created more than 100 years ago, specialised in the transport of liquid food (wine, milk and derivatives, juice, alcohol, glucose, oil, chocolate). For several years now the SME has been consciously making progress in the quality of food safety, environment sustainability and transport of organic products.

BNPP granted a loan to finance: 4 Bioethanol trucks + 1 diesel tractor + 5 semi-trailers

This company has implemented a strong environmental approach based on initiatives that aim to reduce the CO2 emissions through:

- monitoring its fuel consumption;
- the choice of economical tyres;
- the training of its drivers in eco-driving;
- the optimisation of travel by geolocation;
- the development of alternative transport to road (transport by tank container using modal road-rail transfer).

EU Taxonomy assessment

We used the Mitigation Taxonomy (H-Transport and storage – 64. freight transport services by road).

Principles and criteria

Demonstrate substantial GHG emission reduction by:

- increasing the number of low- and zero emission vehicles, and improving vehicle efficiency;
- increasing substitution of fossil fuels with sustainable alternative and net-zero carbon fuels.

CO2 emissions per vehicle kilometre (g CO2 /km) or g CO2 KWh:

- zero direct emission heavy-duty vehicles which emit less than 1g CO2/kWh (or 1g CO2 /km for certain N2 vehicles) are automatically eligible;
- low-emission heavy-duty vehicles, with specific direct CO2 emissions of less than 50% of the reference of CO2 emissions of all vehicles in the same subgroup, are eligible;
- dedicated vehicles solely using advanced biofuels or renewable liquid and gaseous transport fuels of non-biological origin as defined in Art. 2 (34) and Art. 2 (36) as well as low indirect landuse change-risk biofuels as defined in Art 2(37) in line with Directive (EU) 2018/2001), guaranteed either by technological design or ongoing monitoring and third-party verification; in addition, for an investment in new vehicles, only vehicles with efficiency corresponding to direct CO2 emissions (gCO2/ km) (biogenic CO2) below the reference of CO2 emissions of all vehicles in the same subgroup are eligible; eligibility should be reviewed by 2025 at the latest or when Directive (EU) 2018/2001) is reviewed;
- fleets of vehicles dedicated to the transport of fossil fuels or fossil fuels blended with alternative fuels are not eligible.

Brief rationale

Road freight transport with zero direct emissions vehicles (e.g. electric, hydrogen) is eligible because the generation of these energy carriers is assumed to become low or zero carbon soon. The definition is aligned with the heavy-duty CO2 regulation, which provides the most recent legislative point of orientation. Road freight transport with low emission heavy-duty vehicles defined in the same regulation and dedicated vehicles solely using a narrowly defined range of bio- or other renewable fuels are also eligible due to the relatively high challenges in electrifying this vehicle category. Substantial contribution to climate mitigation from fuel substitution is in line with the agreed taxonomy regulation.

Detailed Rationale

Key reference point for thresholds: Heavy-Duty CO2 Regulation

Regulation (EU) 2019/1242 of the European Parliament and of the Council of 20 June 2019 setting CO2 emission performance standards for new heavy-duty vehicles and amending Regulations (EC) No 595/2009 and (EU) 2018/956 of the European Parliament and of the Council and <u>Council Directive</u> <u>96/53/EC</u>

- zero emission heavy-duty vehicle means a heavy-duty vehicle without an internal combustion engine, or with an internal combustion engine that emits less than 1g CO2/kWh (or 1g CO2/km for certain N2 vehicles).
- low-emission heavy-duty vehicle means a heavy-duty vehicle, which is not a zero emission heavy-duty vehicle, with specific CO2 emissions of half of the reference of CO2 emissions of all vehicles in the sub-group to which the heavy-duty vehicle belongs. The reference of CO2 emissions shall be based on the monitoring data reported pursuant to Regulation (EU) 2018/956 for the period from 1 July 2019 to 30 June 2020.

The main potential significant harm to other environmental objectives	 Direct emissions to air from the exhaust gases of internal combustion engine: nitrogen oxides (NOx), total hydrocarbon (THC), non-methane hydrocarbons (NMHC), carbon monoxide (CO), particulate matter (PM) and particle number, and from tyre abrasion and brakes friction and noise emissions. Waste generation (hazardous and non-hazardous) during maintenance and end-of-life of the vehicle.
Adaptation	Refer to the screening criteria for DNSH to climate change adaptation.
Circular Economy	 Compliance with EU and national legislation on hazardous waste generation, management and treatment for both the use and the end-of-life phases of the vehicles. Particular focus on critical raw materials' recovery from batteries. Compliance with Directive 2000/53/EC ("End-of-life of vehicles Directive") for vehicle types M1 (passenger cars) and N1 (vans).

Do No Significant Harm assessment

Pollution	 Vehicles must comply with the current Euro VID and from 2022, the Euro VIE stage. Tyres must comply with the (revised) Tyre labelling regulation364. It includes noise labelling requirements but not requirements on tyre abrasion. However, the proposal of revision envisages a test method to be developed: a suitable testing method to measure tyre abrasion
	is not currently available. Therefore, the Commission should mandate the development of such a method, taking into full consideration all state-of-the-art internationally developed or proposed standards or regulations, with a view to establishing a suitable testing method as soon as possible.
	 Tyres must comply with the noise requirements set by Regulation (EC) No 661/2009 on type- approval requirements for the general safety of motor vehicles365.
	 Vehicles must comply with Regulation (EU) No 540/2014 on the sound level of motor vehicles and of replacement silencing systems366

Outcome

- Our interpretation is that the financing of bioethanol trucks meets the requirements of the criteria and thresholds of the EU Taxonomy.
- We consider we meet the Social Safeguards' Assessment as the SME is based in Europe.
- However, the Do No Significant Harm Assessment is very difficult to carry, hence we are not sure whether the loan meets all the requirements.
- It is not clear which portion of the loan can be considered as EU Taxonomy compliant: only the 4 bioethanol trucks (40% of the loan) or the 4 bioethanol trucks plus 4 semi-trailers (90% of the loan)?

Challenges

- How to assess the "Reference of CO2 emissions of all vehicles in the subgroup to which the heavy-duty vehicles belong"?
- How to assess the DNSH based on multiple EU regulations such as on tyre abrasion, tyre noise or motor noise?
- How to assess a global analysis of the client's energy transition? How to estimate the proportion of turnover / capex / aligned with the taxonomy? If the energy trajectory is committed and clear, can we consider the company as an actor of the energy transition and validate in principle that all its investments are green?
- The complexity of the criteria and the pending underlying methodologies make the process in banks' systems totally manual, with poor economies of scale.

Benefits of applying the EU Taxonomy

- Higher commercial visibility with a sort of common 'super green' label.
- Meeting the expectations from BNPP customers, shareholders, employees.
- Enrichment of our KYC processes.
- Ability to propose other products labelled 'green' such as green bonds.

Recommendations

- Further details should be given as to the criteria, principles, and thresholds for an easier assessment of eligible projects.
- Flexibility should be allowed for DNSH criteria

Case Study: Nordea - Application of the EU Taxonomy on forestry sector lending to small and medium-sized corporates in the Nordic region

Introduction

This case concerns the application of the EU Sustainability Taxonomy on small and medium-sized enterprises (SMEs) in the forestry sector in the Nordic region. It highlights open questions related to the acceptance of joint sustainable forest management certifications for multiple estates, challenges meeting both economic forest use and continued estate level carbon sequestration, and data and monitoring issues for financiers. It also suggests that SMEs may need tailored guidance on the application of the Taxonomy.

Case description

The case of an SME investing in a forest estate falls under the Taxonomy for climate mitigation (Existing Forest Management; NACE Level: A - Agriculture, forestry and fishing; Code: A2). Sustainable forest management (SFM) is: "use of forests and forest land in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality and their potential to fulfil, now and in the future, relevant ecological, economic and social functions, at local, national, and global levels, and that does not cause damage to other ecosystems". The Taxonomy requires, among others, compliance with the SFM requirements, regularly updated forest management plans, the establishment of a verified baseline GHG balance and demonstration of maintained or increased forest carbon sequestration. Operations that are FSC or PEFC certified are likely to meet the SFM and DNSH criteria of the Taxonomy.

Financing was provided as a general-purpose loan. The forest estate is located in the Nordic region and more specifically in a Swedish context. Purchase of a forest estate is a capital expenditure, whereas ongoing forest management expenses would be operational expenditures.

EU Taxonomy requirements

Fulfilling sustainable forest management criteria

The size of a forest estate varies broadly in Sweden, but the average forest estate is below 50 hectares. Single small forest estates face challenges in combining the use of forests for economic purposes and fulfilment of the Taxonomy criteria for continued, maintained or increased carbon sequestration. Swedish forests are generally covered by a forest management plan, which is updated every 10 years. The forest management plan details spatial and forest-specific information, planned forest management actions over the next 10 years (e.g. thinning, harvesting), and identifies areas for conservation. Such information can be used to assess the above ground carbon stock, but carbon sequestration measuring could also benefit from inventories on a regional level to reduce the burden on small forest owners and enable carbon sequestration measurements on aggregate level. Forest management plans may not detail that the land has not been converted from high carbon stock land since January 2008. To be certified by FSC/PEFC, a forest management plan established by a certified planner is mandatory, considering the FSC/PEFC requirements. Sustainable forest management should further be conducted in accordance with local regulation. Such regulation with additional controls increases the financier's certainty around the forest estate adhering to sustainable forest management practices. However, it may lead to a certain preference for lending to only larger forest estates above a certain size if there are regulatory-driven estate sizerelated control thresholds.

Fulfilling the Do No Significant Harm (DNSH) criteria and minimum safeguards

According to the Taxonomy, applying an FSC/PEFC certification of the area will likely be sufficient to cover SFM and Do No Significant Harm (DNSH) criteria. Minimum safeguards as stated in the Taxonomy would generally not be met by an SME (e.g. reference to OECD guidelines for multinational enterprises), instead would have to rely on national legislation and company-specific adherence to prudent practices of social safeguards. It remained unresolved if any part of minimum safeguards would be covered by FSC/PEFC certification. In providing a Taxonomy compliant forest loan to an SME, a bank would want to receive and store evidence of a FSC/PEFC certification at loan inception and also prove a continued certification compliance throughout the loan tenure at certain intervals. Privately owned forests in the countries observed are commonly certified; either via an FSC certificate or a PEFC certificate, or both. To reduce the administrative burden, smaller private forest owners are commonly covered by an umbrella FSC/PEFC group certificate. It is not clear whether the Taxonomy accepts such joint certifications.

Methodology and data used

The analysis relied on data in real loan cases, existing forest management plans and FSC and/or PEFC certification requirement related data. Interviews were undertaken with sector experts within the bank and external forest practitioners and forest industry specialists. The analysis was performed by persons involved in managing the bank's Green Bond Framework, providing banking services to the agriculture and forestry sectors, and working with sustainable finance.

Challenges

The analysis supports identification of possible solutions to increase availability of financing solutions for Taxonomy-compliant forest activities. The case spurred further discussion amongst the stakeholders, which contributed to an open dialogue around potential solutions. The likelihood for finding solutions has increased. However, certain challenges remain:

- receiving confirmation that the land has not been converted from high carbon stock land since January 2008;
- measuring and receiving information on carbon sequestration and identification of the body eligible to undertake the verification and the party to cover related costs;
- application of Taxonomy to single smaller forest estates facing challenges using the forest for economic purposes while satisfying carbon sequestration requirements;
- acceptability of FSC/PEFC umbrella certificates under the Taxonomy.

Recommendations

Regulators

- The acceptance of umbrella FSC/PEFC certificates within the Taxonomy would particularly benefit forest-related financing of SMEs. SMEs may also need tailored guidance on the Taxonomy.
- The question of accepted verification body should be solved, and stakeholders, generally, will benefit from single sources of data, such as certifications including carbon sequestration data.
- Creating incentives could be considered when applying the Taxonomy for the first time.

Peers

- It is recommended that an internal green/sustainability framework on use of proceeds should include the Taxonomy, and define data needs and how evidence is collected, stored and monitored throughout the loan tenure.
- Sector-specific competence is also beneficial.
- Granting of a Taxonomy-compliant forest loan may require specific stipulations in loan contracts.
- Tracking the use of proceeds may pose challenges and the same applies for generalpurpose loans, where the allocation of proceeds could benefit from the possibility to use average assumptions.

Case Study: Swedbank - Application of the EU Taxonomy for a vertically integrated small-scale company involved in cogeneration from bioenergy in the Baltics

Introduction

This case study was selected to explore the application of the EU Taxonomy for a company involved in the production of electricity and heat and crop growing in the Baltics using the Taxonomy's climate change mitigation criteria. The analysis has helped to understand more thoroughly the criteria behind the Taxonomy, the internal process development needs and data availability issues.

Case description

Swedbank explored the possibility of giving a corporate loan to a biogas company in the Baltics involved in cogeneration from biogas and crop growing activities. The company produces corn and grass silage that is used as feedstock for biogas production. Other feedstock for cogeneration comes from diversified external sources, including wastewater sludge and slurry. Around 50% of the feedstock is produced internally. The company also produces other agricultural products (wheat, rape etc.) that is sold to third parties. The loan would be used for CAPEX refinancing. All the CHP plants are highly efficient and were installed a decade ago by a leading EU supplier. Around 70% of the turnover comes from the sale of electricity and heat.

Based on the nature of the business activities and EU Taxonomy classification, the following activities were considered: (1) Manufacture of Biomass, Biogas or Biofuels; (2) Production of Electricity from Bioenergy; (3) Production of Heat from Bioenergy; and (4) Growing of non-perennial crops. These activities are considered to make a substantial contribution to Climate Change Mitigation.

As the company is LLC limited, information is available publicly, therefore, the analysis was performed based on information provided by the customer for the credit committee. No additional information was requested for the analysis as it is not foreseen in the bank's existing processes and procedures. As the company is located in the EU, it was assumed that the customer is meeting requirements set by the EU and local regulation, therefore, not all the Do Not Significant Harm categories were thoroughly analysed.

EU Taxonomy requirements

The table below summarises the assessment for the main requirements for the company's activities.

Activity	Manufacture of Biomass, Biogas or Biofuels (1)	Cogeneration from bioenergy (2, 3)	Growing of non-perennial crops (4)
Substantial contribution	 Reviewed the Directive 2018/2001. Part of the feedstock used by the company is compliant with directive. Around 52% of the feedstock is considered eligible. 	 Not enough information to evaluate whether facilities operate above 80% threshold as set out in RED II. Feedstocks partly meet the criteria of eligibility. 	 Not enough information to assess whether operations meet Taxonomy's Climate Change Mitigation criteria.
Adaptation	 The activity seems to be resilient to climate change as many forms of feedstock 	 The activity integrates physical and non-physical measures aimed at reducing 	 The activity seems to be resilient to climate change as the crop growing season in the region is expected to

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		could be used, including wastewater sludge. b The activity does not affect the effort of others. T t	Il material risks that have been identified through a limate risk assessment. The activity does not affect he effort of others.	increase significantly based on local weather forecast agency. The activity does not affect the effort of others.
	Water	 As the company operates in the EU, it is assumed that the company fulfils the EU water legislation. Not enough information to analyse whether the company has sufficient water management systems. 	As the company operates in the EU, it is assumed that the company fulfils the EU water egislation. Not enough information to unalyse whether the company has sufficient water nanagement systems.	As the company operates in the EU, it is assumed that the company fulfils the EU water legislation. Not enough information to analyse whether the company has sufficient water management systems.
	Circular economy	 Each of the stations has a digestate storage lagoon. The digestate is a by-product of the fermentation process, which is further used in agricultural business instead of mineral fertilizers. It is assumed that it complies with national rules on fertilizers. 	t is assumed that the company has implemented vaste management neasures aligned with the Commission's Implementing Decision (EU) 2017/1442. The company has CHP plans smaller than 50 MW, herefore, not applicable.	The company fertilizes crops using the by-product from the cogeneration process, which reduces the demand for primary resources and increases the efficiency. Not enough information to analyse the loss of nutrients leaching out from the production system into the environment.
_	Pollution	 There are gas-tight covers on the digestate storages. b A T ('e a 	Emissions to air, water and oil are prevented / minimised by employing the Best available Techniques. The company has small CHP 1-2 MW). The relevant emission levels could not be analysed due to lack of data.	The company uses organic fertilizers. However, whether the application is targeted is not known. Not known whether uses plant protection products with active substances that ensure high protection of human and animal health and the environment.
	Ecosystems	 The company confirms that it is working in compliance with existing legislation, thus, also assuming that the Environmental Impact Assessment (EIA) has been completed in accordance with the EU Directives on Environmental Impact Assessment (2014/52/EU) and Strategic Environmental Assessment (2001/42/EC). The company's operations are not located near to biodiversity-sensitive areas. 	The company confirms that it is working in compliance with existing legislation, thus, also assuming that the environmental Impact Assessment (EIA) has been completed in accordance with the EU Directives on Environmental Impact Assessment (2014/52/EU) and Strategic Environmental Assessment (2001/42/EC). The company's operations are not located near to biodiversity-sensitive areas.	 The company grows only native species. The company's activities do not result in the decrease of the diversity of species nor contravene the conservation objectives. Not enough information to analyse whether the company ensures the protection of soil.
Minimu safegu	ım ards	 The company operates entirely in the with the EU regulation. There are no meets the minimum safeguarding prin 	EU, where human rights' issues a controversies for the company. Inciples.	are less common. The company complies Thus, it is concluded that the company

Assessment

The assessment for parts of the EU Taxonomy was challenging and internal processes should be improved. Some of the Taxonomy's criteria are quite stringent and not part of the existing credit evaluation. For easier adaptation of the assessment, automated tools, at least partly, and data bases, should be available, for example, for minimal social safeguards and parts of DNSH. Testing the application of the EU Taxonomy to core banking products: High level recommendations – Swedbank Case Study

For this company only part of the activities (1, 2 and 3) were eligible due to the feedstock type. Furthermore, the exact part of eligibility could change from year to year. Even if we would assume that all the criteria, for which we lack information, are met, the operations would only be partly aligned with taxonomy, mainly, as not all the feedstock for biogas production would be eligible. If we look at last year's feedstock type, then around 52% of the activities could be eligible for activities: 1, 2 and 3 and 100% for crop growing (activity 4). As 80% of the revenue comes from the sale of electricity and heat and the rest from crop sale to external parties, then overall, the company's activities are 65% eligible for the Taxonomy's criteria.

Challenges

- Data availability in our existing process the level of detail of specific information is not requested from the clients. The internal processes should be improved by expanding client questionnaires with required information.
- Verifying company's compliance with existing legislation an analyst's understanding of the relevant legislation should be developed. For easier analysis a short cut for companies based in the EU should be developed.
- Climate Change Adaptation criteria are subjective and hard to analyse as not enough tools are available.

Recommendations

Peers

The Taxonomy's implementation in the current practice will require significant development in the expertise and data systems. The granularity of the data is significant and, thus, just understanding the data needs will require extensive work.

Regulators

It should be specified how and to what extent the fulfilment of the criteria needs to be verified, especially where assessments of companies' – de facto assumable – compliance with existing legal requirements are needed in order to establish the alignment of their activities with the Taxonomy.

Data availability remains an issue due to the high level of granularity especially in the short term (before larger companies become subject to disclosure requirements under the Regulation). Even where the data is indeed available, it is either not easily searchable or must be separately requested from the company itself. A central data registry, or at least a mechanism of some kind, if adequately designed, could solve this. Furthermore, for some data the registries could be at EU level, for example, a list of native and invasive crops in every region.

Moreover, the timeframe for activities' eligibility should be specified as in this case the feedstock eligibility depends on the exact year. It could be discussed whether a three-year average should be used or whether the calculation should be done every year. If the eligibility of activities was analysed every year, then it would increase the regulatory burden.

Case Study: SEB - Application of the EU Taxonomy for a client's existing forest management

Introduction and Case Description

The aim of the case study was to explore the applicability of the Taxonomy Regulation ("Taxonomy") to a Revolving Credit Facility (RCF). The product was aligned with the client's ongoing engagement with the SEB, anchoring the case study in real circumstances.

The client, based in Western Europe, worked in the large-cap forestry sector, with its own forest holdings and forest-based industries. Together, we decided to explore the Taxonomy criteria for Existing Forest Management.

EU Taxonomy requirements

In the Technical Annex of the Taxonomy Report, Existing Forest Management (climate mitigation) is described as management of land that is reported as forest in accordance with the Sustainable Forest Management principles. That means using forests and forest land in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality and potential to fulfil, now and in the future, relevant ecological, economic and social functions. These are at a local, national and global levels, and should be carried out without causing damage to other ecosystems.

The Taxonomy sets out three criteria for alignment with Existing Forest Management:

- 1. compliance with Sustainable Forest Management (SFM) requirements;
- 2. establishment of a verified GHG balance baseline, based on growth yield curves that demonstrate that the forest carbon sink continues to increase, while GHG emissions from forest sectors decrease;
- 3. demonstration of permanence and steady progress with respect to criteria 1 and 2.

Assessment

Based on the data in the case study, we determined that the client's forest management adhered to the criteria in the Taxonomy as set out above.

- As the client was certified by both the FSC (Forest Stewardship Council) and the PEFC (Programme for the Endorsement of Forest Certification), compliance with similar and often overlapping Taxonomy criteria was simple. For the same reason, we also determined that the Do No Significant Harm criteria were fulfilled. Although the OECD model on Due Diligence Guidance for Responsible Business Conduct (described in the Taxonomy Technical Report, p.33) was not used for the Minimum Safeguards criteria, the client's transparent description of the "social" processes and methods deployed to further investigate this aspect supported our assessment that these criteria were fulfilled.
- Despite fulfilling existing Forest Management criteria, which meant the client's management of its standing forest was taxonomy-aligned, challenges remained to apply the Taxonomy as a whole. First, it was difficult to calculate turnover/proceeds from the standing forest since the forests-to-end products' value chain remained with the client. Second, the RCF in the case study did not apply use-of-proceeds. Therefore, even if we were able to determine the turnover, it would still be difficult to apply the RCF product in this context. In part, this was due to not being able to limit the use-of-proceeds in the loan agreement, and also to the difficulty of tracking and monitoring how the funding would actually be allocated.

In order to fully explore the Taxonomy, both parties focused on the Taxonomy criteria, disregarding internal Green Frameworks or similar instruments. For the Minimum Safeguards' assessment, we took the OECD model on Due Diligence Guidance for Responsible Business Conduct as a starting point. We used the client's publicly available data and processes, set out in its annual report, including its Code of Conduct.

Challenges

The principal challenge was that the RCF did not apply use-of-proceeds and that the client's turnover could not be broken down into the economic activity in the Taxonomy. The issue with the RCF could possibly be resolved by adding specific terms and conditions, but turnover is unlikely to be clarified until activities further down the value chain are included in the Taxonomy. We did discuss whether setting an internal price for the 'sale' of the harvest would be an option to calculate an alternative turnover for Taxonomy alignment but did not explore it further.

A lack of guidance when interpreting the different criteria presented further challenges:

- a. Does adherence to FSC and PEFC standards automatically fulfil the DNSH criteria?
- b. Does adherence to the FSC standard automatically fulfil the Minimum Safeguards criteria, given that this standard, references ILO and gender equality?
- c. When a client does not use the whole range of the OECD Due Diligence model, should Minimum Safeguards always be assessed as not completely fulfilled?
- d. When clients assess their Taxonomy alignment, should financial institutions consider third-party verified portfolios as being of higher quality, despite third-party verification not being mandatory?

Recommendations

Though both SEB and the client found the case study to be a valuable learning experience, the recent implementation of the Taxonomy and its relative immaturity in terms of market application inevitably prompted some questions. To contribute to a simpler application of the Taxonomy, we make the following recommendations to peers and the regulator.

Peers

- Work together with clients learn and draw from joint experiences in the initial phase.
- Implement systems and processes in order to identify and monitor economic activities that enhance Taxonomy alignment reporting.
- Develop new lending products these should be simple to apply to the Taxonomy.
- Create forestry sector standards to interpret Taxonomy criteria and highlight the gaps between FSC and PEFC criteria.

Regulators

- Clarify Taxonomy alignment in respect of in-house value chains.
- Provide guidance and tools for applying the Taxonomy on lending (compared to investments/equity).
- Clarify and advise on the Minimum Safeguards' assessment, particularly in terms of the level of granularity required when applying the OECD Due Diligence model, and whether other processes are deemed sufficient?
- Confirm potential benefits of third-party verification.
- Include "greening" by the forest in the Taxonomy

Case study: Dutch Entrepreneurial Development Bank (FMO) -Application of the EU Taxonomy for the forestry sector & for non-EU countries

Introduction

This case study was selected to explore the application of the EU Taxonomy for the forestry sector and developing countries. It helped to obtain a better understanding of the thresholds, criteria, safeguards, and turnover/capex calculations defined by the EU Taxonomy and evaluate feasibility and data availability in this sector / geographical region, and was also the opportunity to review the readiness of the internal processes at the FMO.

Case description

FMO provided a senior debt secured corporate finance for a forestry and timber production business located in Africa. The loan aimed to help the client build a sustainable, vertically integrated, forestry and valueadded wood products' business by establishing a new forest, developing further timber manufacturing plants (sawmilling processes, secondary processing) and using wood surplus for bio-energy and cogeneration.

Based on the use of proceeds and the EU Taxonomy classification, the following three activities were considered: (1) Afforestation; (2) Existing Forest Management; (3) Cogeneration of heat/cool & power from bioenergy. These activities were assumed to make a substantial contribution to Climate Change Mitigation, and therefore should comply with the following thresholds and DNSH criteria.

EU Taxonomy requirements

The below provides a summary of the main requirements for these types of investments.

Activity	Afforestation / forest management Cogeneration from bioenergy (3) (1+2)		
Substantial contribution	 Continued compliance with the Sustainable Forest Management (SFM). Verified GHG balance baseline for above ground carbon pools. Demonstration of steady progress over 20 years reviewed by an independent 3rd party. Facilities operating above 80% of GHG emissions-reduction compared to the fossil fuel equivalent set out in RED II increasing to 100% by 2050. Feedstocks meet the criteria on the Manufacture of Biomass, Biogas and Biofuels. Technical feasibility to reach net zero emissions for activities which go beyond 2050. 		
Adaptation Hattin	 Integration of physical and non-physical measures aimed at reducing - to the extent possible and on a best effort basis - all material risks that have been identified through a climate risk assessment. No increase of the risks of an adverse climate impact on other people, nature and assets or hamper adaptation elsewhere by economic activities or adaptation measures. 		
Water ON OO	 Identification/management of risks on water quality and/or water consumption at the appropriate level. Implementation of water use/conservation management plans, developed with relevant stakeholders. 		

Circular economy	N/A	 Implementation of waste management measures required by the Commission Implementing Decision (EU) 2017/1442. Reliance on the JRC's BAT Reference Document for Large Combustion Plants.
Pollution	 Minimised use of pesticides/fertilisers, preferring alternative techniques, in line with the Directive 2009/128/EC. Documented and verifiable measures to avoid the use of active ingredients listed in the Stockholm Convention, the Rotterdam Convention, the Montreal Protocol on Substances that Deplete the Ozone Layer, or listed as classification la or lb in the WHO Classification of Pesticides by Hazard. Water/soil pollution prevention and clean up measures. 	 Emissions to air, water and soil are prevented / minimised by employing the Best Available Techniques. Emission Limit Values based at the lower end of BAT-AEL ranges & no significant cross- media effects.
Ecosystems	 Measures to ensure sustained or improved long-term conservation status at the landscape level. Actions in line with the conservation objectives in designated conservation areas. No conversion of habitats specifically sensitive to biodiversity loss or of high conservation value, and areas set aside for the restoration of such habitats. Forest management plan incl. provisions for maintaining biodiversity. Ecosystem service provision evaluation and conservation. Monitored and protection of forests to prevent illegal logging, in compliance with national laws. Close-to-nature forestry or similar concepts depending on the local context. Selection of native species providing the necessary resilience to climate change, and the condition of the area concerned. 	 Environmental Impact Assessment completed in accordance with national provisions/international standards for activities in non-EU countries. Required mitigation measures for protecting biodiversity/eco-systems implemented. For sites/operations located in or near to biodiversity-sensitive areas: appropriate assessment conducted based on national provisions or international standards; site-level biodiversity management plan implemented in line with the IFC PS6; all necessary mitigation measures in place to reduce the impact on species/habitats; a robust and long-term biodiversity monitoring & evaluation programme implemented.
Minimum safeguards	 Implementation of the OECD Guidelines for possible, focusing compliance on (1) human ri Alignment with the UN Guiding Principles of Bu remedy human rights abuses committed in bu 	Multinational Enterprises to the greatest extent ghts, (2) labour rights, and (3) combating bribery. usiness and Human Rights to prevent, address and siness operations.

Assessment

To assess the alignment of this investment with the EU Taxonomy, FMO compared its internal processes with the TEG requirements:

- Principles & Thresholds FMO's Green Methodology defines principles, criteria and eligibility for investments to be labelled as Green. According to this, the client's forests being FSC certified, the case study is green. Yet, the EU Taxonomy's thresholds seem more stringent for the activities in scope, notably by setting up requirements on annual carbon sequestration, monitoring and avoided emissions' thresholds. Therefore, for the purpose of this assessment, a separate study has been used, providing historical carbon sequestration levels and emissions avoided, specifically, for the client.
- Do No Significant Harm criteria FMO assesses its investments' risks at Due Diligence by using Environmental & Social Questionnaires which are based on the IFC Performance Standards. This is backed up and verified by physical site visits and independent third-party experts' opinions. The client's forests being FSC certified, the forestry activities were assumed to meet the DNSH requirements laid

out by the EU Taxonomy; except for cogeneration from bioenergy, the FMO's E&S questionnaires were assessed against the EU Taxonomy's DNSH criteria to evaluate alignment.

- Minimum Social Safeguards As mentioned in the <u>Sustainability Policy</u>, the FMO is a signatory of the OECD Guidelines for Multinational Enterprises and the UN Guiding Principles of Business and Human Rights which are the basis of the EU Taxonomy's minimum safeguards. All the FMO's internal approval processes rely on the four-eyes' principle. Hence, it was assumed that these guidelines had already been implemented, and as such, no further evaluation has been performed for this element.
- Proportion of turnover / capex / opex The company's structure, use of proceeds and other financial information needed to calculate the contribution to EU Taxonomy were retrieved from the financial proposal and client's reviews.

Considering the thresholds (carbon sequestration measurement, monitoring and avoided emissions requirements), the DNSH criteria on adaptation, as well as the circular economy and pollution requirements for cogeneration from bioenergy, the assessment resulted in near alignment with the EU Taxonomy.

Challenges

Some of the challenges encountered during the case study are listed below.

What were the challenges in applying the EU Tx?		What would be needed to overcome these challenges?		
•	Selecting substantial contribution to mitigation or adaptation – afforestation and existing forest management activities could relate to mitigation, through carbon sequestration, but also foster resilience with ecosystem preservation, diversification of forest-based income sources, or new species selection.	•	<i>Further guidance</i> – examples on how to implement some elements of the Taxonomy might be required.	
•	Measuring carbon sequestration and avoidance – a study was used to measure alignment with the carbon sequestration and GHG avoidance threshold. However, results could differ depending on the assumptions and scope considered and there is no widely accepted methodology or global tool available on the market to measure carbon sequestration and avoidance.	•	Development of widely accepted methodologies – Guidance and modelling approaches to measure performance against carbon threshold and assess adaptation can help to perform the analysis at portfolio- level when data is not easily available. This would ensure comparability of data. In the meantime, transparency on assumptions and calculations is essential.	
•	Assessing climate adaptation – a similar challenge arises for climate adaptation, as there is no defined approach, common tool or global database yet to perform climate risk and adaptation assessment at portfolio or project- level.			
•	Foreseeing the long-term – forestry activities are generally long-term focused, and therefore it might be a challenge to ensure it is EU Taxonomy aligned across the lifetime of the investment and define monitoring and control. Moreover, the EU Taxonomy requires cogeneration from bioenergy to be carbon neutral beyond 2050, which implies assessing the potential of future technologies on carbon reductions.	•	Databases / approaches – guidance on how to perform the assessment for / on the long term is needed to avoid lock-in of funding in activities non-aligned with the EU Taxonomy.	
•	Considering developing countries – when considering non-EU countries, the EU Taxonomy often refers to the IFC Performance Standards, which are the basis for FMO's E&S questionnaires, site visits and independent third-party expert opinions. Though, the IFC PS are rather high-level and qualitative, and might not capture the level	•	Alignment of the IFC PS with the EU Taxonomy – this would allow to clarify DNSH criteria in developing countries and limit possibilities for interpretation.	

of details needed for the assessment. In some cases (e.g. on pollution or carbon avoidance for cogeneration from bioenergy), only EU standards & regulations are mentioned (e.g. RED II), making the application outside EU open to interpretation.

 Retrieving granular information – in the countries where we operate, the availability and granularity of information can be challenging, notably, at the activity level required by the EU Taxonomy. The data required to assess eligibility for the EU Taxonomy is not always readily available from existing processes and documentation. Data & modelling solutions – finding a balance between the need for detailed information and the time/effort for data collection to avoid the burden for the investees is essential. For indirect investments, access to data might be even more complicated. Models, online databases, data collection systems, or other solutions (e.g. satellite information, A.I. machine learning) might help to ease the process. Modelling can also help to perform the analysis at portfolio-level when data is not easily available.

Recommendations

Based on the learning acquired from this case study, advice can be shared with peers and regulators in order to facilitate the application of the EU Taxonomy to the forestry sector.

Peers

- **Clarify use of proceeds** Set up a clause to track the use of proceeds and to identify funding allocation to EU Taxonomy aligned activities, easily.
- **Support methodology development** Support the harmonisation / development of a common methodology on carbon sequestration, avoided emissions and climate adaptation.
- **Rely on data solutions** Leverage data-based solutions to facilitate data collection and assessment at portfolio level.
- Set up governance processes The right structure is needed to ensure assessment and monitoring of large portfolio. This implies legal obligations, process infrastructure (e.g. data collection, monitoring), administration, roles & responsibilities across the organisation.
- Mobilise risk management processes Both companies and financial institutions need to strengthen their due diligence processes to ensure implementation of DNSH criteria for specific economic activities.

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Regulators

- **Provide further guidance for forestry** Capture the particularities of the forestry sector on turnover and include the activity: manufacturing of wood products.
- **Define common methodologies** Provide further guidance for carbon sequestration, avoided emissions and climate adaptation assessment.
- Align the IFC Performance Standards The alignment of the IFC Performance Standards with the EU Taxonomy would limit room for interpretation in developing countries and ensure harmonious assessment globally.
- **Rely on certification** To demonstrate Sustainable Forestry Management (SFM) practices, the EU Taxonomy should allow for the use of umbrella certificates, as the FSC and PEFC certifications may be too expensive for smaller forest areas and/or owners, and the administration too cumbersome.
- Set up verification Support and further guidance on the approach and level for verifying results of the assessment are required. This would ensure, for example, compliance with the minimum safeguards (which could be met through certification, local regulations, or by being a signatory of the OECD Guidelines for Multinational Enterprises and of the UN Guiding Principles for Business and Human Rights), and also support harmonious application of the EU Taxonomy.
- **Capture value-added for investments** The EU Taxonomy appears to focus mainly on risk elements, without highlighting the opportunity angle at project level. Capturing the value-added and investment returns generated for a large beneficiary group (i.e. project company, host communities, society) would set up a broader lens when considering the impact of an investment.

Even though challenging, the assessment of this case study highlighted clear benefits for the EU Taxonomy. The EU Taxonomy connects multiple initiatives and defines a common methodology - while *capturing the particularities of geographies and activities* - on what can be defined as 'green'. Based on the approach of "substantial contribution and do no harm to other environmental objectives", the EU Taxonomy succeeds to *better connect impact & risks* and combines them in one single classification for environmental topics. With the inclusion of minimum social safeguards, it also *brings together environmental & social considerations* for a comprehensive assessment of sustainable green projects. Its *structured step-by-step approach* easily guides the users through implementation and *encourages review and improvement* of E&S risk management or green labelling definitions and processes, while initiating the discussion on further clarification and guidance.

Case study: Natixis: Application of the EU Taxonomy for the automative sector

Case Description

The company is a major European player in the automotive sector (more than 60% of turnover in Europe), operating in more than 100 countries. More than 3.5 million vehicles have been sold in 2019 over the world, for a turnover of more than 50 billion euros.

It operates through two business lines: automotive (design, manufacturing and distribution) and services (financing, renting and maintenance).

The transaction is a bilateral revolving credit facility (RCF), mostly undrawn. It is a general-purpose loan, with no dedicated use of proceeds. The borrower's assets are located in different locations in and outside Europe.

EU Taxonomy Assessment

We are using the Mitigation Taxonomy (H - Transporting and storage / Passenger cars and commercial vehicles).

The client does not meet the Taxonomy requirements, the threshold requested in the Mitigation section is not met.

- Do No Significant Harm criteria as the client is a European company, we assume that it is compliant with the applicable European directives. However, we assume this is the case for the European market, but we have no information for the other markets. The client provides a list of applicable EU regulations but without confirming its compliance.
- Minimum Safeguard the client discloses that it is in line with Taxonomy requirements (alignment with the OECD Guidelines on Multinational Enterprises, UN Global Compact, International Labour Organization Principles, Duty of care (French law)).
- *Principles & Thresholds* The mitigation criteria are not above the threshold.

	Data	Methodology
Principles, criteria, thresholds	Data published in the CSR annual report (2019 data) and the CDP report (2018 data). The data were used, as published, they were not recalculated.	Data published in the CSR annual report (2019 data) and the CDP report (2018 data).
DNSH assessment	We assume, as a European company, that the client is compliant with the European directives. However, we assume this is the case for the European market; we have no information for the other markets.	We assume, as a European company, that the client is compliant with the European directives. However, we assume this is the case for the European market; we have no information for the other markets.
Social Safeguards	Information published in the client's CSR annual report (2019).	Membership of, and alignment with, the main Principles related to human rights (OECD Guidelines on Multinational Enterprises, UN Global Compact, International Labour Organization Principles, Duty of care (French law)).

Proportion of Turnover / Capex / Opex aligned with the taxonomy Information published in the annual report 2019 (share in volume of sales), only partial information: volume (1.6% of vehicles sold that are electrical). There is no information on Capex and Opex aligned with the taxonomy.

Information published in the annual report 2019 (share in volume of sales).

Challenges

- In the "Do no significantly harm" section, the taxonomy refers to European directives. It would be more efficient and less time consuming to have precise criteria to refer to (we assume for a European company that it complies with the European directives on the European market, but we need to check for the other markets and for non-European companies).
- Relevant data at corporate level is missing. Corporate disclosure of verified (limited assurance) data would make the analysis easier and more reliable for financial institutions to apply the taxonomy. For European corporates, relevant data should be made available free of charge to all financial sector users (banks, insurers, investors, asset managers) in a centralised database to be updated every year.

Gap between bank's existing framework/practice and the EU Taxonomy

	Your bank's current requirements	EU Taxonomy	How wide is the gap? 1,2,3,4
Principles	Induced and avoided emissions on scopes 1, 2 & 3 + forward-looking score + environmental impact (pollution).	Threshold of CO2 emissions per vehicle kilometre per type of vehicle.	2. Small gap
TSC thresholds	Global score resulting from total emissions (including scope 3).	Precise thresholds per category. Passenger cars & light commercial vehicles: - 0 tailpipe emissions - Max 50 g CO2/km until 2025 - From 2026, only zero emissions Category L vehicles: - 0 tailpipe emissions	2. Small gap Need a recalculation, depending on what the client discloses.
TSC DNSH	Score on air pollution (current average pollution levels, compliance with regulation, reduction target, investment programme).	Compliance with EU directives on:Circular economyPollution (air and noise)	4. The gap is significant EU taxonomy is more stringent.
Testing the application of the EU Taxonomy to core banking products: High-level recommendations – Natixis Case Study (automotive sector)

Recommendations

Peers

(1) Relevant data necessary to apply the taxonomy should be collected from corporate clients as credit analyses are carried out annually (client annual review), at the same time as collecting financial information, and saved in an internal database until a centralised database is provided at European level.

Regulators

- (1) To give precise criteria and thresholds when possible beyond climate mitigation (replace broad EU regulation DNSH compliance by precise criteria).
- (2) To provide a mapping of equivalent non-EU regulations with applicable EU regulations for DNSH.
- (3) To make audited data disclosure from corporates mandatory and available in a centralised free of charge database.

Case Study: Natixis - Application of the EU Taxonomy to the transport sector

Case Description

Our client is a state-owned industrial and commercial undertaking tasked primarily with designing and developing the overall scheme and infrastructure projects for a large city's public transport network and carrying the project through to completion, including the construction of the lines, fixed structures and facilities, construction and development of the stations, including interconnection arrangements and the purchase of rolling stock designed for these infrastructures. The project is located in France.

The analysis is based on the Green Bond Framework relative to the financing of the public transport network.

The use of proceeds is for the infrastructure and programme management investments for a new electrified and automatic metro:

- construction of new lines and line extensions; almost 200 km of new automatic metro lines supplementing the 400 km of existing lines;
- construction and development of new stations and technical centres: 68 stations and 7 technical centres planned.

Based on the use of proceeds and the EU Taxonomy classification, the following three questions are addressed through this case:

- 1. What are the EU taxonomy requirements for the infrastructure for low carbon transport?
- 2. Do we have access to enough data to demonstrate the compliance with the EU taxonomy?
- 3. How to demonstrate alignment with thresholds and DNSH criteria?

EU Taxonomy assessment

We are using the Mitigation taxonomy (M Macro-Sector F – Construction. NACE Level 4. Code F42.1.1, F42.1.2, F42.1.3)

Based on public information and considering that the asset is in France, we have been able to assess the alignment with the mitigation criteria, the DNSH criteria and with the minimum social safeguards.

Mitigation criteria

EU Taxonomy mitigation criteria	Project
Infrastructure for Low Carbon Transport (land transport) (code F42.1.2, F42.1.3):	The project falls under the client's Green Bond Programme which is aligned with the taxonomy thresholds as it will be solely dedicated to financing infrastructure for low carbon transport
 construction of railways and underground railways; construction of bridges and tunnels. 	 (code F42.1.2, F42.1.3): construction of new lines and line extensions; construction and development of new stations and technical centres.
The construction and operation of transport infrastructure is eligible if the fleet used for interurban passenger rail (code h49.1.0) is composed of:	Fleets will be 100% electric and will be aligned with the technical thresholds. Stations are not strictly mentioned in the Taxonomy but they are
 zero direct emissions trains (e.g. electric, hydrogen); 	implicitly referred to "Infrastructure that is predominantly used for low carbon transport".

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 other trains are eligible if direct emissions (TTW) are below 50 gCO2e/pkm until 2025 (non-eligible thereafter).

DNSH criteria

Most of the DNSH criteria reflect legal requirements under EU regulations. It would be reasonable to assume these criteria have been met by the project in the normal, lawful conduct of business, unless evidence to the contrary is demonstrated.

EU Taxonomy DNSH criteria	Project	
Identify and manage risks related to water quality and/or water consumption at the appropriate level. Ensure that water use/conservation management plans, developed in consultation with relevant stakeholders, have been developed and implemented. In the EU, fulfil the requirements of EU water legislation.	The risks related to water are managed and action plans are publicly disclosed.	
Re-use parts and use recycled material during the renewal, upgrade and construction of infrastructure. At least 80% (by weight) of the non-hazardous construction and demolition waste (excluding naturally occurring material defined in category 17 05 04 in the EU waste list) generated on the construction site must be prepared for re-use, recycling and other material recovery, including backfilling operations using waste to substitute other materials. This can be achieved by executing the construction works in line with the good practice guidance laid down in the EU Construction and Demolition Waste Management Protocol.	Public description of the operational procedures related to waste management especially for spoil management: transportation, tracking, recovery/recycling.	
Minimise noise and vibrations from use of infrastructure by introducing open trenches/wall barriers/other measures and comply with the Environmental Noise Directive 2002/49/EC. Minimise noise, dust, emissions pollution during construction and maintenance works.	Description of the client's commitment to reduce:	
Environmental Impact Assessment (EIA) has been completed in accordance with EU Directives on Environmental Impact Assessment (2014/52/EU) and Strategic Environmental Assessment (2001/42/EC) or other equivalent national provisions. Such impact assessments should, at the very least, identify, evaluate, and mitigate any potential negative impact of the designated activities, projects, or assets on ecosystems and its biodiversity and should be assessed and conducted in compliance with the provisions of the EU Habitats and Birds Directives.	The client conducted environmental impact studies for each section aimed at presenting the positive and negative impact of the projects on all aspects of the environment, in both worksite and operating phase. Prior environmental authorisations are required. This is particularly relevant with regards to the law on water, land clearance and provisions relating to safeguarding species. No clear mention of Environmental Impact Assessment in accordance with EU Directives.	

Minimum Safeguard

The client's Employment and Social Policy meets the "Minimum Social Safeguards" criterion of the Draft Regulation (Compliance with ILO Core Conventions). No mention of the alignment with the OECD Guidelines for Multinational Enterprises.

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Methodology

- Data
 - *Principles, criteria, thresholds* fleets will be 100% electric.
 - Do No Significant Harm Assessment specific publications available on the issuer's website relative to environment management and construction waste management & valorisation.
 - Social Safeguards Assessment Employment and Social Policy.
 - Proportion Turnover / Capex / Opex aligned with the taxonomy.
- Methodology
 - As we consider the criteria as clear cut, we did not use a specific methodology to assess the alignment with the EU Taxonomy.

Challenges

It would be useful to have more data on the project's environmental impact to assess the compliance with the DNSH criteria in a more granular way.

Benefits of applying the Taxonomy

The EU Taxonomy for Infrastructure of Low Carbon Transports are clear cut and easy to use. The category is conceived as wide as possible while distinguishing between different types of infrastructure assets. The Taxonomy explicitly mentions that this category is to be used together with eligible Taxonomy categories for different types of fleets that use the infrastructure as this facilitates use since quantitative thresholds for fleets are provided in other parts of the Taxonomy and can therefore be readily used to demonstrate eligibility (or the lack of it).

The DNSH criteria reflect legal requirements under EU regulations or best practices.

Gap between bank's existing framework/practice and the EU Taxonomy

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	Your bank's current requirements	EU Taxonomy	How wide is the gap? 1,2,3,4
Principles	Specific guidelines apply to rail infrastructure only (not applicable to rolling stock).	A general approach towards all types of infrastructure for land transport (rail, underground, roads & motorways).	(1) No gap
	Natixis GWF initial rating for rail infrastructure is medium green, it is considered that such infrastructure is an enabler for developing low carbon transport activities.	Such infrastructure is considered as "a key enabling factor for improving the uptake of the transport activities that are considered eligible under the rest of the land transport section of the Taxonomy".	
TSC threshold s	Consideration of whether the infrastructure is designed for electric or diesel rolling stock, where the project is located (in terms of country group & pollution levels in the area of construction), whether it is brownfield or greenfield (in case of greenfield there is consideration of whether the project is located in Key Biodiversity Area and, if so, what are the proposed mitigation efforts) and whether the project has climate equipment (such as low carbon buildings or powered by renewables or by heat pumps).	Infrastructure is eligible if it is required for zero direct emissions transport, OR, if the fleet that uses the infrastructure meets the thresholds for direct emissions as defined by the Taxonomy for the relevant activity.	(3) There is a clear gap Natixis GWF does not consider specific thresholds to assess emissions from the rolling stock. However, GWF considers the energy mix of the country where the infrastructure is located and the pollution levels.
TSC DNSH	The equivalent of DNSH in our decision- making approach would be the penalty for construction of brownfield projects in Key Biodiversity Areas.	 Noise and vibration pollution (noise can be generated by both rolling stock and poor conditions of rail tracks). Water contamination during construction and unsustainable use of water during construction and operations and possible degradation of hydro- morphological conditions of water bodies (resulting in impact on aquatic ecosystems). Waste generation (generation of a high amount of waste, no recycling/reuse of construction waste). Impact on biodiversity (habitat and wildlife) can be especially dangerous if construction takes place in protected areas or areas of high biodiversity values outside protected areas. Land use consumption with ecosystem impact: infrastructure can cause fragmentation and degradation of the natural and urban landscape due to the "barrier" effects of the infrastructure and can involve risks of wildlife accidents caused 	(4) The gap is significant More criteria to assess in the EU Taxonomy.

Recommendations

The DNSH section for this category is very detailed, which makes it challenging to "benchmark" the stringency of these criteria relative to current market practice. It would be useful to have some sort of comparison to clarify which DNSH requirements are common practice, already in place, and which go far beyond current requirements to construct infrastructure.

DNSH eligibility is based on EU regulations. It would have been more difficult to assess if the asset had been located outside Europe. We recommend that the regulator provide a precise mapping of non-EU regulations equivalent to applicable EU regulations for DNSH in each sector.

Case study: OP Financial Group - Application of the EU Taxonomy for the energy sector in Finland

Introduction

This case study explores the application of EU taxonomy in the energy sector for cogeneration of heat and power in Finland. Although decreased profitability due to low electricity prices has caused investments in combined heat and power (CHP) plants to decline, investments into refurbishments of such plants are still being made. This case study is hypothetical, yet illustrative, as these bioenergy plants are often considered "sustainable" even though they use fossil fuels. The climate change mitigation taxonomy proved beneficial for OP, as it helped navigate the eligibility thresholds and technical criteria for the EU taxonomy. Some open questions remain, namely relating to the exclusionary criteria of fossil fuels.

Case Description

The hypothetical client is a utility company that owns and operates a CHP plant in Finland. The proceeds from a green loan are used for modernising an existing CHP plant to enable more biomass to be used in the fuel mix. The plant is flexible in terms of fuels, but it currently uses forest-based residues, as well as small proportions of fossil fuels and municipal waste. Following the refurbishment, the plant is theoretically able to operate with 100% biomass.

The key questions to be addressed are:

- 1. Which fuel mix results in reduction in carbon emissions that meets the EU taxonomy technical criteria?
- 2. How are the feedstock sustainability criteria of RED II applied in this case?
- 3. Do existing environmental impact assessments (EIA) and environmental permits include enough data to establish alignment with the taxonomy?

EU Taxonomy assessment

Alignment with the EU taxonomy is assessed against the climate change mitigation taxonomy for cogeneration of heat/cool and power from bioenergy (biomass, biogas, biofuels). Albeit the case is hypothetical, data and methodology are applied as they would be in a real case.

Overall, the asset is aligned with the climate change mitigation principles of the EU taxonomy for cogeneration of heat/cool and power from bioenergy (biomass, biogas, biofuels). That is, it supports a transition to a net-zero emissions' economy and avoids lock-in to technologies, which do not support the transition to a net-zero emissions' economy.

The actual technical mitigation criteria and thresholds, however, are more complex. The most relevant thresholds/criteria of the assessment can be found in Table 1. We applied a calculation methodology as per RED II documentation and developed an Excel-based tool for calculating carbon emission reductions with various fuel mixes. We retrieved carbon emission factors from the RED II documentation for renewable fuels. As for the fossil fuels in cogeneration, we used carbon emission factors from the Finnish national databases.

The asset is compliant with Finnish legislation and has a thorough environmental impact assessment (EIA) documentation in place. Most relevant Do No Significant Harm (DNSH) criteria are assessed in Table 2. The borrower is expected to assure that the biomass is sourced sustainably, annually, and that the possible negative environmental impact is minimised. If the asset complies with relevant laws and permits, any social risks arising from such a case is expected to be limited. This is because the supply chains are in Finland, and the Finnish law places sufficient emphasis on protecting human and workers' rights in general. Furthermore, social safeguards, as laid out in the EU taxonomy, would be carefully communicated to the client.

The turnover of the company is assumed to comprise solely the revenues from the asset, which renders all the company turnover, taxonomy-aligned, assuming the thresholds are met. Ergo, all CAPEX/OPEX by the company would be considered aligned with EU taxonomy.

Relevant thresholds/criteria ²	Assessment ³
Facilities operating above 80% of GHG emission reduction in relation to the relative fossil fuel comparator set out in RED II increasing to 100% by 2050, are eligible.	The asset can operate the threshold below as it can produce heat and power with 100% biomass, thus the emissions' reduction reaches 80% of the relative fossil fuel comparator set out in the RED II. However, the plant may also use a fuel mix that would not meet the threshold. The changing fuel mix requires frequent reporting to assure compliance with the emissions' reduction threshold.
Facilities must use feedstock which meet the criteria on the Manufacture of Biomass, Biogas and Biofuels.	The asset is able to use feedstock, which meet the criteria set for the manufacture of biomass, biogas and biofuels, which refer to RED II Annex IX part A list of fuels: biomass fraction of wastes and residues from forestry and forest-based industries, namely, bark, branches, pre-commercial thinning, leaves, needles, tree tops, saw dust, cutter shavings, black liquor, brown liquor, fibre sludge, lignin and tall oil).
	However, as the asset is techno-economically optimised, some fossil fuels may be used whilst still complying with the emissions' reduction threshold (depending on the mix, fossil fuels could constitute some 10%-15% whilst maintaining alignment with the taxonomy). The question remains whether using fossil fuels is to some extent allowed, and whether this threshold applies only to feedstock from biological sources, or to all feedstock used in the plant. If the latter is the case, this renders burning biomass virtually ineligible for the Taxonomy, as some natural gas is typically required to initiate the burning process, and some fossil fuels are often used to increase the efficiency of the burning.
	In principle, it would seem that the EU taxonomy allows fossil fuels in cogeneration as part of the cogeneration of heat/cool and power from gas, referenced as "Cogeneration from other fossil fuel-based gases would be eligible under the EU taxonomy, subject to meeting the declining emissions' threshold." This is not mentioned for biomass-based cogeneration, however.
Refer to the screening criteria for DNSH to climate change adaptation.	At a general level, the activity does not have significant climate-related risks. However, during discussions with the client, a climate-related risk assessment is typically produced, for which we give guidance. The activity is also not directly adversely affecting others' adaptation efforts.
Identify and manage risks related to water quality and/or water consumption at the appropriate level. Ensure that water use/conservation management plans, developed in consultation with relevant stakeholders, have been developed and implemented.	At a general level, the activity does not have significant water-related risks. The forest-based feedstock is waste and residues from industries and thus have no direct impact on water quality through logging. Impact on water (e.g. increased temperatures of nearby waterways) are covered by the EIA and the required environmental permit is expected to ensure sufficient water protection measures and monitoring.

² Please refer to Updated methodology & Updated Technical Screening Criteria document of 3/2020 for the exhaustive and

complete thresholds and criteria.

³ Assessment considers it is a hypothetical, yet illustrative asset.

In the EU, fulfil the requirements of EU water legislation.	Among other legislation the client is expected to comply with EU regulation on water as appropriate.
Implement measures concerning waste management required by the Commission Implementing Decision (EU) 2017/1442 ()	Among other legislation the client is expected to comply with the Industrial Emissions Directive as appropriate. In addition, on 9 October 2017, the Finnish government gave guidance to large combustion plants for the application of the JRC's BAT Reference Document for Large Combustion Plants, and the bank expects the client to operate according to the directive and related guidance.
Ensure emissions to air, water and soil are prevented /minimised by employing the techniques included in the reference documents for the Best Available Techniques (BAT) ()	The client is expected to comply with all relevant legislation. In addition, the Finnish government, on 9 October 2017, gave guidance for large combustion plants for the application of the JRC's BAT Reference Document for Large Combustion Plants, and the bank expects the client to operate according to the directive and related guidance. The client is expected to operate within the thresholds set for its operation by government officials in the environmental permit.
Ensure an Environmental Impact Assessment (EIA) has been completed in accordance with the EU Directives on Environmental Impact Assessment (2014/52/EU) and Strategic Environmental Assessment (2001/42/EC) ()	The plant operates in Finland and is bound by EU and Finnish regulations and legislation. An EIA has been carried out and the plant has an environmental permit. The DNSH confidence level is sufficient, provided that the plant operates within the permit thresholds and minimises risks identified as part of the EIA.

Outcome

It is not clear whether a CHP plant using small quantities of fossil fuels in the mix would be eligible for the climate change mitigation taxonomy. In theory, the asset could function with 100% sustainable biomass, but in practice some fossil fuels are always expected to be used in the process. Even if some fossil fuels were used, the plant might be able to reach the emissions' reduction targets of the EU taxonomy. However, if one interprets that feedstock must be aligned with RED II Annex IX Part A, using fossil fuels would exclude the asset automatically. Thus, the main open question is whether the requirement for RED II alignment for feedstocks only applies to biomasses or to all fuels used. Elsewhere (e.g. cogeneration from gas), the EU taxonomy allows for some fossil fuels in cogeneration.

If the borrower seeks to align the asset with the green taxonomy, they are required to report against its criteria. This effectively creates a sustainability-linked loan that applies the EU taxonomy criteria as a sustainability performance target (SPT), which are outlined in the LMA Sustainability-Linked Loan Principles.

Official documentation gives good background information to assess compliance with the EU taxonomy. For the most part compliance with the Finnish and EU regulations and legislation is deemed sufficient to ensure that no significant harm is caused. In terms of climate change adaptation DNSH, the client is made aware of the climate-related risk assessments and given guidance for carrying out such an assessment. Generally, these risks are low for the type of asset in question. No significant social risks were identified, as the asset and its supply chain are entirely in Finland. Human and workers' rights are expected to be sufficiently protected by the Finnish legislation, with which the asset must comply.

Challenges

Challenges during the assessment consist mainly of the interpretation of the technical screening thresholds, namely:

interpreting whether supporting fossil fuels are allowed as part of the cogeneration fuel mix; if no
fossil fuels are allowed, very few biomass cogeneration plants will be eligible; in principle, fossil
fuels as part of cogeneration are allowed in other EU taxonomy categories but for biomass-based
co-generation (as well as for separate heat generation) they are not explicitly allowed;

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- if supporting fossil fuels are allowed in the EU taxonomy for biomass-based cogeneration, guidance for ex ante calculations is needed as it is not included in the RED II documentation and national guidelines are still being drawn up;
- to carry out an ex ante assessment, the client's technical department must be consulted to obtain data on the shares and types of fuels used, and what their respective carbon emissions are; in addition, the emissions' allocation to CHP plants used by RED II (i.e. exergy allocation) is apparently not typical for the Finnish energy sector.

Recommendations

- Provide clearer guidance for calculation principles, and not merely reference other documentation that might not be fully developed for the purpose.
- Explicit guidance on whether fossil fuels can be used as supporting fuels.
- Clear calculation examples with actual default values would enable banks to give ex ante indications about eligible fuel mixes.

Case Study: Piraeus Bank - Application of the EU Taxonomy for commercial lending to the Renewable Energy Sources sector

Introduction

In this case study we explore how the EU Taxonomy applies to the Renewable Energy Sources (RES) sector through funding of RES activities.

Case Description

Due to the Piraeus Bank's large exposure to RES funding activities, we consider this case study as representative of the Bank's RES Funding Policy. The specific company (named: **PB_RES1**), is one of the biggest investors in RES projects, with over 600 MW installed capacity for electricity production in Greece. Furthermore, as the specific Company is active in a variety of RES activities beside the Wind Energy (for example, solar energy, hydroelectric projects etc.), we selected the production of electricity through Wind Farms (as it is the company's main RES activity).

It should be noted that the construction of wind farms is usually financed on a project basis. As the company's main RES activity is wind energy, we decided to focus on the funding of onshore wind farms.

Purpose of the loan is to finance new onshore wind farms in Greece. Proceeds-based financing for RES activities is used often on a project base, as mentioned above.

The company's overall energy production through RES activities amounts to 1390 MW on an annual basis. The company maintains 42% on shore wind farms (with a production capacity of 1390 MW) installed in four countries, whereby 44% of the company's RES activities are located in Greece. Additionally, to the wind farms, the company has three solar plants (8MW) and 2 Hydro (18 MW).

Further breakdown of the company's turnover reveals that:

- 74,0% of its activities derive from energy production through RES activities;
- 14,4% from concessions e-ticket ;
- 6,8% electric energy trading ;
- 4,8% from construction projects related to RES projects.

The internal evaluation process we followed had a three-step approach:

- evaluation of the client's financial data;
- ESMS assessment (Environmental and Social risk criteria);
- direct communication with the company's representative for additional information and/or clarification purposes.

EU Taxonomy Requirements

We used the Mitigation Taxonomy (Production of Electricity from Wind Power (D35.1.1))

Mitigation Procedure

Piraeus Bank proceeded with validation of the Financed Business Activities through the ESMS (Environmental & Social Management System) in order to identify and mitigate exposure to E&S risks. According to the EU, electricity generation technology can be included in the taxonomy if it can be demonstrated, using an ISO 14044-compliant Life Cycle of Emissions' (LCE) assessment, that the life-cycle

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impact for producing 1 kWh of electricity is below the declining threshold. However, Wind Power is exempt from performing an LCE.

Assessment

The Bank's approach for assessing the specific economic activity is as follows:

- a special Unit is formed in order to evaluate RES projects for ESG criteria;
- the ESG assessment provided by the Development & Sustainable Banking and Bank Relations takes
 place after the company's financial data (related to specific RES projects) have been assessed during
 the lending and credit process; the above-mentioned Unit is responsible for the evaluation, approval
 and monitoring of RES projects with ESG criteria;
- the assessment requires the company's official licences for each new RES project (the reason is that the issuance of licences is mainly based on E&S conditions); the company is obliged to provide all necessary licensing documents for each specific financed RES project;
- the next step is to proceed with the ESMS' evaluation process, based on the IFC performance standards; this process is applicable for each new funding request and provides (environmental and social due diligence before final loan approval); part of the procedure is also to communicate the scoring results with the client and discuss possible measures to be taken, if necessary, for mitigation purposes; furthermore, all business borrowers are reviewed annually for evaluating their performance and occasionally site visits are conducted to reassure the good maintenance of the plant;
- ESG assessment, provided by the Development & Sustainable Banking and Bank Relations, incorporates technology-specific considerations.

The electricity generation technology that is used in Greece in RES projects comes from international companies with a high level of production standards, top tier international contractors, well known in this segment (i.e. Gamesa, Siemens and Vestas).

The ESG assessment process takes for granted that the equipment coming from the afore-mentioned companies has a high level of production standards regarding wind parks equipment, i.e.:

- 85 percent recyclable
- carbon neutrality by 2030
- zero-waste wind turbines by 2040

In our case study we need to need to be aware that the bank is evaluating the equipment standards and not the financed company's certification policy. We have noticed a gap regarding the company's certification, as the company plans to apply for the ISO 14001 & 50001 certification and not for the ISO 14067 and/or GHG PCF Assessment.

Following the ESMS assessment, an E&S Action Plan and a Corrective Action Plan are included in the legal loan contracts by incorporating the most important requirements of the licence.

Requirements referred to the IFC performance standards are added to large scale projects.

Do No Significant Harm Assessment

To assess the E&S criteria, we proceed with the ESMS evaluation based on the IFC performance standards.

• A noteworthy gap, is that it is not always mandatory to conduct a Special Ecological Assessment study that includes long-term ornithological monitoring, or to assess thoroughly the potential habitat loss or degradation owing to the operation of the new wind farm. According to national legislation, such studies are required only in the case of economic activities within or near Natura Areas.

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- End of lifetime composite waste generated from wind turbine blades are included in the ESMS requirements. Even so, there is a lack of specific information that could meet the Circular Economy metric criterion (EU taxonomy (pg 241): "% recyclable materials of wind turbines at the end of their life".
- Ecosystems metrics criteria are met.

Social Safeguards Assessment

The Bank's ESMS assessment tool has adopted the UN principles on business and human rights, therefore the ESMS tool can apply for the assessment of social safeguards.

According to the client's published information, about 74% of its business activities are related to energy production through RES; and 53% of the company's revenues (2019) derive from its business activities in Greece, with the largest profit share deriving from its onshore wind park operations (this economic activity is Taxonomy aligned). Given the scope of the investment, 100% of the CAPEX is aligned with the EU taxonomy.

Challenges

It could be useful to conduct a gap analysis for assessing the level of compliance between the ESMS components and the taxonomy requirements, with the aim of determining which ESMS components could be easily adjusted and which taxonomy requirements should be evaluated separately.

The integration of additional taxonomy relevant data in the existing corporate reporting requirements could support the analysis of the corporate's taxonomy-aligned economic activities by third parties.

Additionally, the Non-Financial Reporting Requirements could support the alignment analysis through the integration of relevant taxonomy aligned information. The disadvantage is that these requirements apply only for large companies with over 500 employees. Therefore, it would be useful if these requirements could also apply to SMEs in a simplified version.

Benefits from applying the EU Taxonomy

The Taxonomy's importance relies on the implementation of common criteria for assessing economic activities whereby greenwashing can be considerably reduced. In the near future, we assume that the assessment process will be gradually simplified.

Recommendations

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Peers

The sustainable finance TEG Tool could be a useful tool for supporting the mapping (including the DNSH criteria) of economic activities included in the taxonomy. For this case study we have used the Taxonomy Tool:

https://ec.europa.eu/knowledge4policy/publication/sustainable-finance-teg-final-report-eu-taxonomy_en

Regulators

- A revision of the IFRS9 requirements, in near future, could be considered.
- Given SMEs are the backbone for our economy rather than large companies and that this applies to other countries in Europe, a "revised" NRFD Directive including the SMEs could be useful.

Case study: Société Générale - Application of the EU Mitigation Taxonomy on a Power Generation Portfolio

Introduction

This case study was selected to explore the application of the EU Taxonomy on the Société Générale's power generation portfolio. This application covers the whole portfolio to allow learning about the criteria of multiple economic activities and to find out how many resources are needed to apply the taxonomy at scale.

Case Description

The power generation portfolio is composed of 618 individual borrowers belonging to 191 groups based predominantly in Europe and the United States. The financial indicator with which we measure alignment with the taxonomy is the 'gross commitment', which gives information on the amount of credit drawn by the client, the confirmed undrawn amount and excludes any guarantees taken (i.e. drawn + undrawn guarantees). The exposure is split between dedicated transactions (32%), that is to say where the precise use of proceeds is known (e.g. SPV) and undedicated transactions (67%) where the use of proceeds is unknown (e.g. general-purpose corporate loans).

To find out how much exposure is within the scope of the 'power generation' portfolio, we treat undedicated and dedicated lines differently. For dedicated transactions, by definition, the whole value of loans is within scope. For undedicated transactions, the loan amounts in scope takes into account the company's activity distribution. Indeed, some companies may be active in non-power generation segments (e.g. network, supply and other activities). Therefore, we multiply the exposure of those clients by the share of their revenue in power generation segment:

 $Total \ loan \ amount_p = \sum Dedicated \ loan_c + \sum (Undedicated \ loan_c * Power \ revenue \ share_c)$

Where: p = portfolio and c = counterparty

Lessons learnt and recommendations

We decided to choose the 'gross commitment' as the unit of analysis as it reflects the maximum amount of a credit file or the promise to lend up to a specified amount to a borrower on demand. It thus captures the broadest possible exposure a bank may have at a given point in time with a counterparty. Recommendations to the regulator: clarify what indicator banks should be using to disclose against the taxonomy.

Segmenting undedicated transaction by the share of revenue from power generation was found to improve the coherence and precision of the results. Given that some power companies have diverse activities, sometimes even outside of the power sector (e.g. in coal mining or oil & gas), it is a way to ensure that we focus on those with the most 'power generation exposure'. Recommendations to the regulator: clarify whether this is an acceptable approach.

Approach to assessing the Technical Screening Criteria

To apply the power Technical Screening Criteria (TSC) we first identify the power technologies that are financed in the portfolio. For dedicated transactions, this information is already recorded in the Société Générale's loan book.

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For undedicated transactions, we estimate how much of the loan granted goes to a given technology. To do so, we purchased data on how much installed capacity (MW) each counterparty has for various power generation technologies. To fill in gaps, this dataset was complemented with data collected manually from counterparties' annual reports. We then multiply the loan amount with the technology shared to find out the exposure to the given technology. This implicitly assumes that the loan granted to the counterparty is used equally across all technologies, in other words, that the capital intensity across power generation assets is constant, which is false in practice.

Undedicated loan for solar $PV_c =$ Undedicated loan_c * $\frac{Solar PV installed capacity_c}{Total installed capacity_c}$

The table that follows gives an overview of the power generation technologies found in the portfolio together with the EU taxonomy's TSC. It shows that only Solar PV, Solar CSP, Wind, Ocean energy are eligible given that they are derogated.

Technologies	TSC	Assessment
Solar PV, Solar CSP, Wind, Ocean	Derogated	Eligible
Hydro	Derogated if power density > 5 W/m2 otherwise 100gCo2e/kWh	Data not granular enough to
Geothermal	100gCo2e/kWh	
Gas	100gCo2e/kWh	 Not eligible, no gas plant in our portfolio is fitted with CCS.
Bioenergy	80% GHG reduction relative to fossil fuel	No data, but potentially eligible.
Coal, oil, nuclear	Out of the taxonomy	Not eligible.

Challenges, lessons learnt and recommendations

For hydro, geothermal and bioenergy, data was not available to evaluate eligibility. We do not think it is helpful to model life-cycle emission intensity for those technologies, given that such estimates would rely on average input values. Instead, additional data would be needed on clients' assets, in particular, emission intensity data (life cycle gCo2e/kwh) and power density data (W/m3) in the case of hydro generation. It is important that companies disclose this information and that data providers collect it, satisfactorily, for the benefit of financial institutions.

For gas power, given the emission intensity threshold of 100 gCo2e/kWh, it meant that eligible power plants had to be fitted with CCS technologies. We did not identify any dedicated transactions or clients with CCS. As for other technologies (coal, oil, nuclear) they are simply not in the scope of the taxonomy. Recommendation for regulator: we hope that the treatment of nuclear in the Taxonomy will evolve as this technology features prominently in many Paris-aligned transition scenarios (IPCC 1.5°C and IEA SDS).

It took one month for the FTE to perform this analysis (power data sourcing + matching + revenue share data collection by hand). Overall, we recommend peers to obtain a power asset dataset and, if possible, revenue data to estimate the share of exposure going towards different technologies, and make use of data matching algorithms (for example like the one developed by 'The 2°C Investing Initiative'). It significantly reduces the time needed to collect data.

Approach to assessing the DNSH criteria

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To apply the DNSH, we focused on Solar PV and Wind assets since these two activities account for the lion's share of the exposure eligible for the technical screening criteria (TSC). The assessment distinguishes between dedicated and undedicated transactions and relies on four types of evaluations (expert judgement, gathering deal level information, relying on internal E&S analysis and collecting external E&S policies from companies).

DNSH Approach		Assessment	
Adaptation	The adaptation criteria are very much discretionary and can be evaluated using expert judgement.	•	Solar PV and Wind are not activities likely to reduce physical climate risks. They do not adversely affect the adaptation efforts of other people, nature and assets.
Ecosystems	For dedicated transactions, information from internal E&S procedure is used.		All of SG's dedicated power transactions are evaluated in accordance with EU rules, or with IFC PS1 and PS2.
pollution and water	For undedicated lines, no data exist in our IT system and therefore we use proxies. We assess whether clients have robust biodiversity, pollution and water policies (from annual reports). Robustness is evaluated using expert judgement.	•	It was found that only a handful (less than 10) had robust biodiversity and water conservation policies in place.
Circular economy	The DNSH is loosely defined and there is no data on it. For dedicated and undedicated transactions, as a proxy, we evaluate whether clients have in place a circular economy policy or process in place.	•	Out of 11 companies, or 80% of the gross commitment in solar & wind assessed, we find that only four groups had put in place circular economy policies.

Challenges, lessons learnt and recommendations

To assess the DNSH criteria for circular economy, the country of origin of the panels or turbines could be used as a proxy; for example, if manufactured in the EU. More broadly, we learn that it will be necessary to dig out deal level information to evaluate the DNSH more precisely. Recommendations to peers: make use of proxies and existing processes as illustrated in the table above. Recommendations to regulator: let the market know what proxies are suitable to assess the DNSH. Or provide more precise guidance on how to evaluate them. Some concepts are loosely defined; for example, for the circular economy DNSH. These criteria are subject to interpretation and do not indicate the type of information that can be used for assessment.

Approach to assessing social safeguards

For criteria that reflect legal requirements under EU regulations, it would be reasonable for Taxonomy users to assume these criteria have been met in the normal, lawful conduct of business, unless evidence to the contrary is demonstrated.

For dedicated transaction, safeguards assessment is systematically performed. For undedicated transaction, we rely on Reprisk, which runs an online database of the risk exposure of companies related to ESG issues. If a company shows up in Reprisk, we check whether the company is in breach of any EU regulations. Doing so, we found that all companies in the portfolio met the social safeguards.

Challenges, lessons learnt and recommendation Recommendation for regulators: clarify whether this is an acceptable approach.

Overall results

Using a series of proxies and gross approximations, we found that 12% of the portfolio 'meets' the taxonomy. A stricter reading of the taxonomy would bring this number to 0%; 52% of the portfolio does not meet the Technical Screening Criteria (TSC) and 75% of those that meet the TSC (36% of total) do not meet the DNSH. In particular, the circular economy DNSH is too strict and there is too little data available to apply it.

Overall, this exercise gave us a better overview of our client's work (or absence of work) on environmental policies (water, biodiversity, circular economy) and a novel insight into the bank's portfolio relative to the EU sustainability objectives.

However, our conviction is that the strictness of the criteria significantly reduces the amount of exposure we can qualify as 'taxonomy aligned', and grossly misrepresents the efforts the banks have made in financing the renewable sector. We recommend the regulator to define the DNSH more precisely or clarify what proxy is suitable for evaluation.

Case Study: KBFG - Application of the EU Taxonomy for the electricity sector & for a non-EU country

Introduction

This case study was selected to explore the application of the EU Taxonomy for the electricity sector. It helped to get a better understanding of the thresholds, criteria, and safeguards defined by the EU Taxonomy and evaluate feasibility and data availability in this sector and was also the opportunity to review internal practice for KBFG.

Case description

KB provided KB Green Growth Loan to solar power business operator located in Jeollanam-do, Korea and the client is classified as SOHO.

KB Green Growth Loan is a green financial product that supports environment conservation and finance necessary for the growth of the green industry in accordance with the government's "low carbon green growth" policy. This product provides loans needed for green growth companies and provides preferential support and supplementary financial services in order to establish a foundation for the green economy.

EU Taxonomy requirements

Activity		Production of Electricity from Solar PV
Sub cont	estantial tribution	 Facilities operating at life-cycle emissions lower than 100gCO2e/kWh, declining to net- 0gCO2e/kWh by 2050. Above threshold will be reduced every five years in line with a net-zero CO2e target by 2050. Activities which operate beyond 2050 must be technically feasible to reach net-zero emissions in scope 1 emissions. Despite these thresholds, Solar PV is currently considered to be taxonomy eligible.
Harm	Adaptation	 All possible measures to reduce material climate risks in the economic activity itself to the extent possible and on a best effort basis. Promoting a technology, product, practice, governance process or innovative uses of existing technologies, products or practices.
icant	Water	• N/A
Do No Signif	Circular Economy	 Design and manufacture of PV panels and associated components for high durability, easy dismantling, refurbishment, and recycling in alignment with 'Manufacture of Renewable Energy Equipment'. Reparability of the solar photovoltaic (PV) installation or plant due to accessibility and exchangeability of the components.
	Pollution	• N/A

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Ecosystems	 Environmental Impact Assessment completed in accordance with national provisions or international standards for activities in non-EU countries. Required mitigation measures for protecting the biodiversity/ecosystems implemented. For sites/operations located in or near to biodiversity-sensitive areas as well as other protected areas: appropriate assessment conducted in compliance with national provisions or international standards such as IFC Performance Standard 6 in non-EU countries. Site-level biodiversity management plan implemented in alignment with the IFC Performance Standard 6. All necessary mitigation measures are in place to reduce the impact on species and habitats. A robust, appropriately designed and long-term biodiversity monitoring and evaluation programme implemented.
Minimum safeguards	 Alignment with the OECD Guidelines for Multinational Enterprises and the UN Guiding Principles of Business and Human Rights.

Assessment

To assess the alignment with the EU Taxonomy, KB compared its internal processes including data needed from clients with the TEG requirements as follows.

Criteria	Assessment
Principles and Thresholds	 According to the KB Green Growth Loan product manual, KB assesses that the case study is green as this transaction supports the transition to a net-zero emissions' economy. However, the EU Taxonomy's declining thresholds seem very strict compared to our current process.
Do No Significant Harm Assessment	 In a bid to check whether PV panels and associated components comply with the 'Manufacture of Renewable Energy Equipment' or other equivalent standards, a renewable energy product certificate verifying the conformity of a solar cell module, which is one of the parts, to Korean Standards (KS) was used to assess the alignment with the EU Taxonomy's DNSH criteria. The solar power generation business licence and the development permit issued by government agencies were reviewed to identify whether a company completed the environmental impact assessment and to check whether a prospective site for the plant did not violate any environmental protection standards.
Minimum Social Safeguard	 The KB Financial Group supports the UN Guiding Principles of Business and Human Rights as disclosed in KBFG's Human Rights Policy. The minimum safeguards are already embedded in the KBFG. Therefore, no further assessment has been conducted for this case study.

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Challenges

Some of the challenges encountered during the case study are follows.

What were the challenges in applying the EU Tx?	What would be needed to overcome these challenges?
 Dealing with limited data: there is a declining threshold in mitigation criteria. We needed carbon emissions' data to evaluate whether our case study meets the declining threshold. However, due to lack of such data, we were unable to verify the alignment with the carbon threshold criteria. However, Solar PV is currently deemed to be Taxonomy eligible according to mitigation criteria in the EU requirements. Clear gaps between the EU Taxonomy and current requirements: we found that thresholds for Substantial Contribution and Do No Significant Harm criteria are very granular and that there are clear gaps between the EU Taxonomy and KBFG's current requirements. 	 Development of policies and systems by government agencies Under the current lending process and local regulations, there are no standards requiring carbon emissions' data from businesses. Therefore, the government agencies, with the authority to grant the solar PV business permit, should come up with a system that requires corporations to measure their carbon emissions or criteria for the issuance of the certificate, for starters. It would be greatly appreciated if any incentive encouraging businesses to provide the carbon emissions' information to banks or government agencies' institutions were available (e.g. favourable interest rates for banks, tax breaks for public institutions, etc.). Development of processes by financial institutions Banks should devise their own inspection system which enables them to authenticate and assess the certificate issued by the government agencies. Furthermore, it also needs to develop a process that evaluates and applies the EU Taxonomy on its own. At the same time, providing expert seminars or mandatory online training programmes to employees to help them understand the Taxonomy will play a pivotal role in closing the gap between the current work process and application of the EU Taxonomy.

Expected benefits to applying the EU Taxonomy

- In the case study of the solar power business operator, we found that thresholds for Substantial Contribution and Do No Significant Harm criteria are very granular and that there are clear gaps between the EU Taxonomy and the KBFG's current requirements. KBFG's efforts to align our current practices with the EU Taxonomy will provide us with a good opportunity to improve our classification of green products, refine our ESRM policy and expand green investments and loans.
- For the enterprises, they are expected to make all-out efforts to comply with higher environmental standards to fulfil the Taxonomy rule.
- This could, in turn, motivate enterprises to create products or a process complying with the international environmental standards, resulting in the enhancement of their export competitiveness. Moreover, it could reduce uncertainty in their business as it could help reduce the environmental and social risks, bringing positive impact on the attraction of overseas investment.
- For financial institutions, applying the EU Taxonomy could encourage them to develop eco-friendly lending or investment processes, which will lead to creating positive social value as

well as corporate image as a responsible financial institution. It would also facilitate partnership with global financial institutions, thus creating more business opportunities.

Recommendations

Based on this case study, advice can be shared with peers and regulators in order to facilitate the application of the EU Taxonomy to the electricity sector.

Peers

- **Come up with incentives or methodology:** work out incentives and a way for SMEs to obtain data on business activities easily. This will prevent financial institutions from making assumptions when they assess the applicability of the EU Taxonomy, particularly, when it comes to SME clients.
- **Clarify sectors and specific products:** if financial institutions start applying the EU Taxonomy to activities where the gap is significant between the current practice and the EU Taxonomy, they would probably not benefit from applying the EU Taxonomy. Therefore, we suggest taking a stepby-step approach from easily applicable sectors and products in your organisation.

Regulators

- Set up processes: as mentioned above, to apply the EU Taxonomy standard to the financial institutions' lending or investment process, regulations or processes drawn up by the government agencies are prerequisite.
- **Provide further guidance for non-EU countries:** as we are a non-EU country, we lack detailed information on EU regulations. We suggest the EU Taxonomy consider introducing widely accepted and applicable guidance for financial institutions in non-EU countries.

Case Study: Intesa Sanpaolo – Application of the EU Taxonomy for a general-purpose corporate loan in the energy sector

Introduction and case description

The aim of this case study was:

- 1) to verify the applicability of the EU Taxonomy to a loan for general corporate purposes for a listed company operating in the energy sector across multiple segments;
- 2) to determine the feasibility of applying the Taxonomy without consulting the client and therefore limited to an analysis of public data and information (mainly based on a sustainability report).

The company an Italian multi-utility group and it operates in the production, sale and distribution of gas, electricity, district heating, environmental services and integrated water cycles.

Assessment

The transaction is an ESG KPI-linked revolving credit facility agreement. The borrower benefits from a price adjustment, applied over margin and linked to the progression of ESG KPIs and ESG Scores (externally assessed by an independent rating agency).

The KPIs can be identified as:

- Waste Treatment Capacity to be increased by [x]% (Target Score), with reference to its value as per the base year and with a "floor" (Initial Score);
- Green Energy Sold to The Mass Market Segment to be increased by []% (Target Score) with reference to its value as per the base year and with a "floor" (Initial Score).

If the company achieves both target scores, the margin will decrease by [x] bps per annum. If the company fails to achieve both target scores and neither of the two KPIs is lower than the initial score, the margin will not change. Finally, if at least one of the KPIs is lower than the initial score, the margin will increase by [x] bps per annum.

EU Taxonomy requirements

With respect to green energy sold to the mass market segment, we set out to assess eligibility under Mitigation activity, while we assessed waste treatment capacity under Adaptation.

We screened the client's activities to link them with the relevant Taxonomy activity. The table below shows that a comprehensive assessment of alignment was not feasible because it was not possible to link some segments to a Taxonomy activity.

Activity	Associated Taxonomy Activity	Assessment
Generation	Thermoelectric production (GWh)	Production of electricity from gas (not exclusive to natural gas)
& Trading	Hydroelectric production (GWh)	Production of electricity from hydropower
	Electricity sold to wholesale customers (GWh)	Not available (NA)
	Electricity sold on the power exchange (GWh)	NA
	Electricity sold to retail customers (GWh)	NA
Market	POD electricity (#/1000)	NA

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	Gas sold to retail customers (Mcm)	NA
	PDR gas (#/1000)	NA
	3.1 Waste collected (Kton)	Separate collection and transport of non-
Waste		hazardous waste in source segregated
		fractions
	Residents served (#/1000)	NA
	Waste disposal (Kton)	NA
	Electricity sold by waste-to-energy (GWh)	NA
	Electricity distributed (GWh)	Transmission and distribution of electricity
Networks	Gas distributed (Mcm)	NA*
and District	Water distributed (Mcm)	Water collection, treatment and supply
Heating	RAB electricity (M€)	NA
	RAB gas (M€)	NA
	Heat sales (GWht)	District heating/cooling distribution
	Cogeneration production (GWh) **	Cogeneration of heat/cool and power
		from gas (not exclusive to natural gas)

* Natural gas network distribution is not Taxonomy eligible

**Cogeneration mainly using gas.

Source: Client biannual financial report, 30 June 2019

We then performed an assessment of relevant activities to evaluate climate change Mitigation alignment and DNSH. By leveraging publicly available information, we determined that only two of seven business segments/activities were Taxonomy eligible and therefore the company is not fully aligned with the EU Taxonomy.

Challenges

• This case study shows that the Taxonomy requirements are not simple to apply to a generalpurpose corporate loan, particularly when the client is a multi-utility operating across multiple segments. At this stage, there is insufficient information to allow to understand clearly whether the transaction meets Taxonomy requirements. Indeed, while Taxonomy metrics and requirements are usually reported at site/activity level, publicly available information from the client is reported at consolidated level. Therefore, completing the assessment is not feasible without consulting the client to obtain the additional granular data required.

We faced the following challenges in respect of DNSH:

- should corporate level controversial issues, such as environmental criticalities, influence the level of DNSH and social safeguards alignment with the EU Taxonomy?
- should we evaluate DNSH and social standards at facility or corporate level?

Finally, the case study has also demonstrated that the bank's current framework on ESG loans is not relevant to the application of the Taxonomy.

Recommendations

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Regulators

The regulator should link Taxonomy requests to information that must be disclosed within the nonfinancial reporting framework, because data and information capture will be a critical issue for financial institutions using the Taxonomy. Testing the application of the EU Taxonomy to core banking products: High level recommendations – ING Case Study

Case study: ING - Application of the EU Taxonomy to the real estate sector

Introduction

This case study was selected to explore the application of the EU Taxonomy for the real estate finance sector. The following selected case study shows where banks are already aligned based on existing standards for Sustainable Finance and where there are gaps and challenges in implementing the new EU Taxonomy.

<u>Disclaimer</u>: please note that this is a post-closing deal analysis to investigate how to apply the EU Taxonomy to those kinds of transactions.

Description

In 2018 ING provided a revolving credit facility (RCF) to a listed French real estate company. The company is active in the Paris region in leasing of office, residential and student residences and development of new buildings in these asset classes. The loan aimed to work for general corporate purposes and was structured as a Sustainability Improvement Loan (SIL). The key element - for qualifying the deal as a sustainable transaction (before EU taxonomy) - is the link between the client's CSR activities (proven by an external sustainability rating, provided by GRESB and S&P) and the pricing of the loan.

The client has a dedicated CSR policy in place with the following pillars:

- (1) well-being people are changing their mindsets and ways; aim is to meet their expectations by enhancing their wellbeing at work and at home;
- (2) circular economy a market that enables the smart reuse of materials, and energy savings, to construct and manage buildings;
- (3) low Carbon reducing greenhouse gas emissions and aiming for carbon neutrality by 2050;
- (4) biodiversity buildings are places for living but local animal and plant habitats also need to be considered.

The client strategy and activities are reviewed (annually) by the external organisation GRESB and result in a rating score. That score is the main element in the evaluation of the client's performance during the lifetime of the loan.

In case of a positive performance the rating score will move up and the pricing for the loan will be reduced. By that mechanism the client is encouraged actively by lower financing costs to execute the CSR strategy. Missing targets will result in a negative rating outcome and increased pricing subsequently.

Based on the use of proceeds and the EU Taxonomy classification, the above-mentioned criteria are also assumed to make a substantial contribution to Climate Change Mitigation, and therefore should comply with the following thresholds and DNSH criteria.

Assessment

To assess the alignment of this investment with the EU Taxonomy, ING compared its internal processes with the TEG requirements with regard to adaptation criteria on activities of management of an existing real estate portfolio in the greater region of Paris and construction of new buildings.

 Principles & Thresholds - the client's <u>CSR policy</u> defines clearly the action points and key measures. As a lender, ING has recourse to information to review the strategy: i) the clients' CSR reporting;
 ii) the external rating report from GRESB, and iii) the building certification (HQE). Testing the application of the EU Taxonomy to core banking products: High level recommendations – ING Case Study

Do No Significant Harm criteria - ING's Environmental and Social Risk (ESR) policy framework has overarching policies covering climate change, human rights, and so forth. Most of these sectors are part of the EU Taxonomy. ING conduct the ESR clients'/company's assessment during the KYC onboarding by excluding restricted activities/companies. Furthermore, ESR transaction assessment for Wholesale Banking is in place during the credit process, separate in-depth advice is provided by the ING global ESR team for ESR high-risk Wholesale Banking transactions.

As part of the framework, ING restricts a number of activities from financing. For example, ING will not finance projects or clients that knowingly and continuously break environmental laws, furthermore ING will not finance any operations located in or significantly impacting UNESCO World Heritage, such as sites, wetlands registered by the Ramsar Convention, critical natural habitats registered by the International Union for the Conservation of Nature (IUCN) Category I and II.

Minimum Social Safeguards - ING has been part of the OECD Advisory Group to the OECD in the development of guidance documentation including OECD Guidelines and Due Diligence Guidance for Responsible Business Conduct as well as specific OECD guidance documentation for the Financial Industry referred to in the EU Taxonomy.

ING actively manages potential human rights' risks and respect and uphold the international human rights described in the Universal Declaration on Human Rights. The integration of human rights into ING's business engagements with clients is further guided by the international standards, such as the Eight Fundamental Conventions of the International Labour Organisation (ILO), and OECD Guidelines for Multinational Enterprises. By applying ING's ESR policy framework to all its businesses and products and integrating them into the business processes, ING is aligned with minimum safeguards requirements.

Proportion of turnover / capex / opex - with the set-out strategy of the client, there is a strong alignment with the EU taxonomy. Reported numbers on CO₂ emissions clearly show the development of the overall portfolio managed by the client and show the adaptation for new buildings in line with a carbon neutral portfolio by 2050.

Considering the implementation of circular economy elements, recycling initiatives in the refurbishment/construction phase, awareness on biodiversity for new construction, well-being initiatives for users (tenants, office users) and the clear goal to carbon neutrality by 2050, the assessment resulted in near-alignment with the EU Taxonomy.

Challenges

Some of the challenges encountered during the case study are listed below.

What were the challenges in applying the EU Tx?		What would be needed to overcome these challenges?		
•	Various Market standards – real estate finance industry in general can adapt the targets of the EU taxonomy by reducing the impact of new construction in climate change via improved recycling processes and increased energy performance. Although, from a lender's perspective it is difficult to assess for no standardisation, given different markets / building permission criteria and local law/regulation. This leads to an increased complexity of criteria.	•	Further guidance – approved catalogue of measurement criteria developed by the real estate industry would be required (e.g. max CO_2 kg/sqm/p.a.); definition of the TOP15% in the different regions and asset classes.	
•	Certifications and energy labels as guidelines towards green financing – over the last 15 years sustainability labels like BREEAM; LEED; DGNB and the like become an accepted indicator of the sustainability level of a building.	•	Implementing a matrix for different labels and whether they are eligible under the new EU taxonomy. Lack of information about certification / property data on lenders' side. A proxy based on the building year (before 2021), which qualifies under EU Taxonomy, would also	
			2021), which qualifies under EU Taxonomy, would also bring more clarity for banks.	

Testing the application of the EU Taxonomy to core banking products: High level recommendations – ING Case Study

- Financing structures corporate vs. project financing usually real estate transactions for corporate / institutional investors are in ring-fenced structures (i.e. a Special Purpose Vehicle (SPV) is holding / acquiring the asset). In these cases, most of the due diligence criteria under EU Taxonomy (i.e. DNSH) are barely applicable (because no other business activities). In the case of a corporate structure (financing of general corporate purposes) a full set of ESR framework should be in charge.
- Differentiation in the product a split between the two types of financing might overcome the issue. In the case of the SPV structure, the labelling of the asset itself should be sufficient. For the corporate structure, a more detailed due diligence would be required.
- Alternatively, financing of general corporate purposes could be based on the disclosure of companies about their revenues out of / expenditure into sustainable projects (even without knowing the specific asset).

Case study: BPCE - Application of the EU Taxonomy on the real estate sector

Introduction

The Rental of Accommodation Company (RAC) analysed operates in France, employs 350 people and generates \in 8.5 million turnover (in 2018).

The RAC's NACE code is L68.2.0 - Renting and operating of own or leased real estate, its sub-sector is Rental of accommodation.

The bank sells some products to RAC: assisted homeownership loans, business bank loans, factoring, intermediate and social rental loans, other customer order guarantees, guarantees for the repayment of loans distributed by other institutions and other MLT cash loans.

EU Taxonomy assessment

RAC has been analysed only through the Mitigation Taxonomy because the Adaptation Taxonomy is inexistent for this activity (Real Estate).

Thanks to the 2019 company NFRD report, we concluded that at least 50% of their production (acquisition of new housing) and 50% of their stock are Taxonomy compliant. We did some approximations in order to draw conclusions since RAC only publishes aggregated data as averages. Regarding the Do Not Significant Harm (DNSH) criteria, there are no available data about resistance to extreme weather events, reduction of water consumption, asbestos, nor hazardous contaminants in the soil in the NFRD. There are some commitments regarding the integration of ecosystems and biodiversity. Thus, the DNSH criteria compliance cannot be conclusive for RAC due to lack of data.

Methodology

The bank carried out some Web research on the RAC website and searched for the company Environment, Social and Governance (ESG) report or Annual report: we found the NFRD report (2019 and 2017). An IT research based on keywords from the EU Taxonomy was used on the RAC website. The bank also searched on the database provided by an international ESG rating agency, but the RAC is too small to be listed and analysed.

In order to determine the top 15% asked by the EU Taxonomy, we used a 2018 publication of the French Journal de l'Agence, indicating that 17% of the French building stock is classified A, B or C (French Energy Performance Diagnostic - EPD). Therefore, we simplified the EU Taxonomy threshold of the "top 15%" into a new one: Housing is Taxonomy compliant if their French EPD is label A, B or C, relevant to France only.

Concerning data, RAC 2019 NFRD only indicates the EPD averages of their production and stock. As both are below the new threshold, we estimated that at least 50% of their production and stock are below the threshold too and thus Taxonomy compliant.

Benefits

This Taxonomy analysis enabled us to know our client better and it could be part of our Know Your Client (KYC) policy:

 RAC has a Sustainable development strategy that includes Energy renovations for their stock and energetic criteria for the acquisition; • RAC takes into account social aspects such as enhancing the autonomy and the integration of fragile residents.

Moreover, we develop a better understanding of the Taxonomy, thanks to the case study and the stepby-step Taxonomy criteria.

Challenges

There are two main challenges with the EU Taxonomy applicability:

- 1) data availability and their effective disclosure by companies in a standardised report to facilitate their data collection; to overcome it, we used manual researches and approximations;
- 2) the time and human resources needed to analyse the data; one analyst took one hour to assess this case study without making any calculus or analysing the DNSH criteria.

Companies need to disclose the information for the compliance determination, or directly their percentage of compliance, or be labelled by a third party (i.e. an ISO delivery, an audit firm or an extra financial agency). This disclosure is necessary for the conclusion, so it could be mandatory. Ideally, a European database will exist compiling every European company and their compliance degree: bank, investor and financial will then be able to use this database easily and quickly.

A public European tool for assessing the durability of the company's activities could be developed. It could be used by companies themselves to determine their eligibility (useful for SMEs for example), by European citizens or by third parties (banks and others included here).

Recommendations

We learned that Taxonomy analysis is time-consuming, but the methodology is clear, easy-to-use and practical.

We recommend making corporates, analysts, bank directors and clients aware, as soon as possible, of this new Taxonomy and its indicators. A performant asset compliance monitoring and strategic commitments will be needed from every bank. Last, but not least: the IT system will need to develop to collect and analyse extra financial data.

Case study: BPCE - Application of the EU Taxonomy on the transportation sector

Case description

We analysed a Public Transportation Company (PTC) that operates in a medium-sized French town with more than 100,000 inhabitants. The PTC is a public company (EPIC – *établissement public à caractère industriel et commercial*).

The PTC's NACE code is: H49.3.1 - Urban and suburban passenger land transport.

The bank sells the following products to the PTC: Business bank loans, factoring, financial simple rentals and other equipment credits.

EU Taxonomy assessment

We decided to analyse the PTC exclusively through the Mitigation Taxonomy as it is more binding than the Adaptation Taxonomy for this activity.

We carried out a search of the PTC website for the company's Environment, Social and Governance (ESG) report or Annual report, but without success. On the same website, we conducted an IT search based on keywords from the EU Taxonomy. We also carried out a search on the database provided by an international ESG rating agency, but the PTC is not large enough to be listed and analyzed.

Though the PTC website states that "62% of individual trips are made in electric mode", numerical data to determine the carbon intensity per passenger-kilometer was not available. No method of calculation or proxy were provided to estimate the compliance of the remaining 38% of trips.

Assessment

The EU Taxonomy indicates that for this activity "*Zero direct emissions land transport activities (e.g. light rail transit, metro, tram, trolleybus, bus and rail) are eligible*", and the PTC electric mode matches these criteria. We determined that the PTC is at least 62% compliant with the principle, metric and threshold of the Mitigation Taxonomy.

There was no available data regarding the Do Not Significant Harm (DNSH) criteria. Neither commitments around the *reduction of nitrogen oxides* (*NOx*), *total hydrocarbon* (*THC*), *non-methane hydrocarbons* (*NMHC*), *carbon monoxide* (*CO*), *particulate matter* (*PM*) and *particle number*, *tyre abrasion*, *brakes friction and noise emissions*, nor effective cases of dismantling trains or buses and *metals recycling* were reported. Therefore, the PTC's compliance to DNSH criteria was inconclusive due to lack of data.

Nevertheless, the analysis provided us with a better understanding of both our client and the taxonomy itself. Indeed, it could be incorporated into our Know Your Client (KYC) policy. This policy has divulged the PTC's sustainable development strategy, including a 100% electric mobility objective within 20 years, and its commitment to social aspects, such as accessibility for passengers with disabilities.

Challenges

Two main challenges were evident when analysing the applicability of the EU Taxonomy.

1. Data availability and effective company disclosure in a standardised format to facilitate data collection. We overcame this challenge by conducting manual research.

2. The time and human resources required to analyse the data. One analyst took one hour to assess this case study without making calculations or analysing DNSH criteria.

Companies need to disclose information so compliance can be determined, disclose their compliance percentage directly or be labelled by a third party, such as the ISO, an audit firm or a financial agency. As reaching a conclusion is dependent on disclosure, it could be made mandatory. Ideally, a European database will be built that includes all European companies and their degree of compliance, offering banks, investors and financial professionals a simple and quick way to determine compliance.

A publicly accessible, European-wide tool for assessing the durability of company activities could be developed and used by companies to determine their own eligibility (SMEs for example). Potentially, it could also be used by European citizens and third parties, such as banks.

Recommendations

We noted that while Taxonomy analysis is time consuming, the methodology is clear, easy-to-use and practical.

We believe it is important to get corporates, analysts, bank directors and clients on board as soon as possible. All banks will need to make a strategic commitment to performing asset compliance monitoring, and IT systems will need to evolve to collect and analyse additional financial data.

Case study: BBVA - Application of the EU Taxonomy for Telefónica's inaugural green bond

Introduction

This case study was selected to explore the application of the EU Taxonomy for Telefónica's inaugural Green Bond. Telefónica Emisiones SAU (Baa3/BBB/BBB) is part of the Telefónica Group and the leading Telecommunications company in Spain with a presence in several other countries.

Case description

In January 2019, Telefónica issued their inaugural Green Bond, a five-year EUR 1bn senior unsecured transaction paying a 1.069% annual coupon. This set a milestone, since Telefónica became the first Telecom company to issue a Green EUR-denominated bond. BBVA was Joint Greeructuring Adviser and Joint Bookrunner in the transaction.

Proceeds were used to finance or refinance projects aimed at increasing the company's energy efficiency thanks to the transformation of the copper network to optical fibre in Spain, in line with Telefónica's SDG Framework, published in November 2018, and available <u>here.</u>

This process comprises three phases: deployment of the fibre, construction of the transformation network and customer migration to the new technology. This transformation project seeks to achieve maximum business and environmental efficiency in the deployment and maintenance of Telefónica's network. The company has set the following challenges:

- 100% of retail customers on fibre by 2025;
- reduce energy consumption through;
 - shutdown of the copper network and the systems that support it; 990 technical buildings to be shut down by 2020;
- efficiency in the management and transmission of large volumes of data.

As stated in Telefónica's <u>2019 Green Bond Report</u>, the key role of fibre deployment in sustainable connectivity involves:

- A. greater simplification and environmental efficiency;
- B. a new relationship model between customers and services based on self-installation/self-provision, flexibility and immediacy;
- C. the social and economic effect on people, companies and territories; facilitating digital education, entrepreneurship, new business and relationship models, greater ability to reconcile family and work, better access to health services and the establishment of population in rural areas;
- D. a benefit for the environment because of the CO2 emissions saved thanks to digital services which require the capacity and data transmission speed offered by optical fibre.

EU Taxonomy assessment

The present case study intends assessing eligibility under the Mitigation Taxonomy.

We believe the Use of Proceeds category stated as "Transformation of the Landline Network in Spain: from copper to optic fibre, Energy efficiency of Telefónica's network infrastructure" corresponds to sector J – Information and Communication within the EU Taxonomy.

Outcome

- We have found difficulties in understanding which activity definition fits best. We had issues assessing the data-driven climate change monitoring solutions and the data processing, hosting and related activities.
- Finally, we understood that the TEG recommends the Commission to undertake work on the specific activity that is under review in this bond (Telecommunication networks).
- Thus, this specific use of the proceeds bond is not aligned with the taxonomy yet.
- We believe that by doing the analysis from the potential mitigation angle, associated with highemitting ICT sectors ("transition activities"): data centres, telecommunication networks, and software, this bond could be considered impactful and would meet the criteria (once established by the Commission).
- This conclusion is based on the perception that being an important company in the sector may help to understand that the bond's use of proceeds may follow best practices, standards, and availability of data.

Methodology

An ESG expert firm provided Telefonica with a Second Party Opinion of its SDG Financing Framework. During this process, the third party had the chance to review plenty of information from the company in relation to its ESG policies and how these policies are integrated within the company's operations and decision-making.

In addition to this, the company explained the projects, included in the use of proceeds, to the Green Structuring advisers.

BBVA's Green and Sustainable Bond team was involved in the process and was able to participate in the discussion between the ESG expert firm and the company.

Challenges and solutions

In the case of this issuance, the Use of Proceeds' categories are not included in the Taxonomy, yet we think that underwriters may find difficulties in understanding the use of proceeds in this sector.

There are several potential benefits around the sector, though understanding the impact associated with the projects, will not be easy. Data access is going to be truly relevant for the calculation of positive impact enabled by issuers in this sector.

More information about the proportion of business aligned with the Taxonomy may help underwriters to assess, more fully, the use of proceeds (CAPEX/OPEX mainly) in each Green bond.

Clarification of some green project definition in this sector as well as access to data that could justify the eligibility of the activity.

Flexibility in some cases may be needed depending on the technology the issuer is willing to finance through a Green Bond.

Testing the application of the EU Taxonomy to core banking products: High level recommendations – BBVA Case Study (general corporate purpose)

Benefits of applying the Taxonomy

Market participants may have a better understanding of what activities are going to be eligible for green financing and the inputs and outputs needed.

It will serve as a guide.

Recommendations

There are complex activities and technologies that will request flexibility while other activities will need to be included (to reflect the CAPEX investments made in some sectors).

The market will need definitions for most of the activities in order for the Green Bond Market to grow.

Case Study: BBVA - Application of the EU Taxonomy for general corporate purpose

Case description

In 2019, the BBVA, together with 20 international banks, provided a revolving credit facility amounting to EUR 1.5 Bn for a major Spanish utility with strong diversification in terms of generation mix and geographical footprint. The facility was structured as a KPI-linked facility (i.e. a Sustainability-Linked Loan) for general corporate purposes where BBVA acted as Global Coordinator, Bookrunner, MLA and Sustainable & Facility Agent.

KPI-linked facilities consist generally in financing for general corporate purposes (GCP), thus no specific use of proceeds is contractually defined (not directly related to specific assets or investments), but instead they incorporate relevant and meaningful indicators on environmental and social long-term objectives at the group level whose development may impact on the interest rate of the loan.

In this example, two key performance indicators were selected to be linked to the applicable margin of the facility. Both indicators are reported by the borrower in its annual audited sustainability report and they were validated with the signing of the facility by an independent third party, Vigeo-Eiros, in order to assess the borrower's business and sustainability policy strategy and on the targets themselves:

installed capacity from renewable sources in MWh (environmental indicator) whose objective is to increase substantially the share of renewable energy in the global energy mix complying with the United Nations 2030 Agenda for Sustainable Development Goals.

Breakdown of total installed capacity by source: as of December 2019, the borrower had a total installed capacity of 52,082 MW of which 32,041 was renewable installed capacity.



Installed capacity and production by country and technology
Installed	Sp	ain	Uni King	ited dom	United	States	Bra	azil		Me	xico			EI	То	tal
capacity (MW) ¹²	0040	0040	0040	2010		0040	2010	2010	0	wn	For Thin	d-parties	2010	2010	2040	2049
(,	2019	2018	2019	2018	2019	2018	2019	19 2018	2019	2018	2019	2018	2019	2018	2019	2018
Renewables	16,526	15,789	2,520	2,100	7,521	6,739	3,546	2,935	860	674	103	103	965	961	32,041	29,301
Onshore wind	6,005	5,770	1,906	1,906	7,259	6,466	516	516	492	306	103	103	609	605	16,890	15,672
Offshore wind			614	194									350	350	964	544
Hydroelectric	9,715	9,715	0	0	118	118	3,031	2,419							12,864	12,252
Mini-hydroelectric	306	303													306	303
Solar and others	500	0			143	155			368	368			6	6	1,018	529
Nuclear	3,177	3,177													3,177	3,177
Combined cycle	5,695	5,695	0	0	204	212	533	533	1,946	1,035	6,277	4,533			14,654	12,007
Cogeneration	353	353			636	636			346	346					1,335	1,335
Coal	874	874													874	874
Total	26,624	25,887	2,520	2,100	8,361	7,586	4,079	3,467	3,152	2,055	6,380	4,636	965	961	52,082	46,694

Installed capacity and production by country and technology

Electricity for all (social indicator) which seeks to ensure universal access to affordable energy services in emerging and developing countries.

The pricing of the facility is directly impacted by the indicators' performance – reviewed annually over the life of the facility – by applying a discount/penalty to the facility's applicable margin of +/- [] bps if targets are met or not, respectively.

If both target indicators are met, a margin discount will apply of - [] bps.

If both target indicators are not met, a margin premium will apply of + [] bps.

If only one target indicator is met, a margin discount will apply of - [] bps (lower discount than if two KPIs are met).

If only one target indicator is not met, a margin premium will apply of + [] bps (lower premium than if two KPIs are not met).

If the indicators are between the target and the threshold, then the margin will remain unchanged.

It is worth mentioning that it was the very first facility in Europe to incorporate both environmental and social indicators that would have an impact on the facility's financial costs, becoming the first credit facility aligned with the "just transition" concept.

The borrower has incorporated specific targets into its business strategy and sustainability policy which reflect its clear commitment to fight against climate change by mitigating its effects.

Additionally, with regards to the second indicator "Electricity for all", the company has implemented a programme to provide electricity to people who currently do not have access, following these lines of action: (i) financing projects through investments in capital; (ii) activities carried out by the business in countries where the borrower has a presence; (iii) development of projects with a high social component; and, (iv) giving access to vulnerable people in developed countries.

Assessment

In this case study, we have intended to assess the applicability of the EU Taxonomy in relation to general corporate purpose facilities in sustainability-linked format.

In light of the targets selected by the company as key performance indicators, our assessment is based on the Mitigation taxonomy rather than on Adaptation. This said, further detailed information from the borrower would be required to evaluate the degree of alignment of this transaction.

EU Taxonomy requirements

The EU Taxonomy requirements are not easily applicable to general corporate purpose facilities. In the case of Sustainability-Linked Lending, as reflected in this Case Study, the absence of specific use of proceeds and the revolving credit facility format make the applicability of the Taxonomy even more challenging at this stage. Most of these facilities are largely meant to remain undrawn from a back-up perspective. And even if drawn, it is general corporate purpose financing.

Accordingly, the potential applicability of the Taxonomy may only be considered through the implementation of relevant and challenging KPIs for climate change mitigation based on sector targets rather than on the use of proceeds, or alternatively, on the percentage of sustainable activities of the borrower.

_	What were the challenges in applying the EU Tx?	What would be needed to overcome these challenges?		
	Without involving the company, it is not possible to assess the compliance with the EU Taxonomy, satisfactorily, given the lack of information.	The quality of the information provided by the borrower on these indicators, and the methodology used to review them on an annual basis during the life of the financing, are paramount. The involvement of a third party is also to be		
	To make these relationship-driven transactions compliant, a specific information package should be requested from the	highly recommended by the banks.		
	borrower and evaluated by the Facility Agent on behalf of the pool of banks.	Collecting Revenue, OPEX and CAPEX information is not always straightforward, due to the difficulty in matching EU Taxonomy activities and the availability of granular		
	Similarly, the DNSH criteria should be evaluated at the corporate level given the nature of the financing.	information from the company. Whilst the Taxonomy does not intend to harmonise the market practice and the applicable standards, it would be important to have access		
	That being said, and despite the difficulties for a clear alignment with the Taxonomy, KPI-linked Loans and Sustainability-linked Loans, in general, can be beneficial and must play a key role on a long-term basis. For instance, KPIs could be set and based on the EU Taxonomy thresholds for respective activities. In this regard, the involvement of a third party. as in this transaction, is especially relevant.	to the appropriate financial information on a consistent basis to make it applicable to loans. Data available from the borrowers to the lenders and to the regulators should be more transparent and consistent across the different sectors to allow comparable and meaningful calculations of Taxonomy compliant lending activities.		
	Therefore, it is unclear whether the company meets the Taxonomy despite being one of the most advanced groups in its corporate strategy in relation to climate change and reduction of CO2 emissions.	The Taxonomy requirements are not easily applicable to these loans, since most companies have more than one business segment and reporting is often only available at group level. That assessment is not feasible unless the client is involved in obtaining the additional granular data required for the due diligence.		

Recommendations

Testing the application of the EU Taxonomy to core banking products: High level recommendations – BBVA Case Study (general corporate purpose)

Peers

• Certification from third parties may be helpful to assess the alignment with the EU Taxonomy and shall be recommended.

Regulators

- Clear guidance on thresholds for Sustainability-Linked Loans, and not just reference to other regulations, is needed.
- A taxonomy-compliant format for revolving credit facilities, not based on the use of proceeds, but rather on climate change mitigation indicators at corporate-level.

Case study: Credit Agricole CIB - Application of the EU Taxonomy for export credit finance in emerging markets

Introduction

The client is the Ministry of Finance of a non-designated country (as defined by the Equator Principles Association), acting on behalf of the Government of that country ("the Host Country"). The country is not a member of the Organisation for Economic Co-operation and Development (OECD) and appears on the World Bank lower-middle income economy country list.

Description

The transaction is an ECAs-guaranteed credit buyer whose purpose is to finance an EPC contract awarded to a European company and signed with a public entity of the host country.

This product is intended to finance an export contract, with the bank intervening before the EPC contract is executed. The E&S studies available at the time of the decision often remain to be completed by specific onsite studies.

The credit proceeds will be used for the design, construction, operation, and maintenance of a large hydropower dam located in the Host Country. The dam will produce electricity to be distributed in the region. The transaction is subject to the Equator Principles on a voluntary basis. Several environmental and social ("E&S") studies have been carried out accordingly, including an E&S Impact Assessment and an E&S Due Diligence Assessment ("ESIA" and "ESDD" respectively).

The interest of this case is to strengthen by the existence of technical screening criteria for both climate change mitigation and climate change adaptation.

The project, construction and operation of electricity generation facilities that produce electricity from hydropower, falls under the following sector classification and activity of the Taxonomy:

- Macro-Sector: D Electricity, Gas, Steam and Air Conditioning Supply.
- NACE Level: 4
- Code: D.35.1.1

EU Taxonomy Requirements

Activity		Construction and operation of electricity generation facilities that produce electricity from Hydropower
	Principle Component	 Overall, the project appears to meet the rationale for how the activity will result in a substantial contribution to climate change mitigation.
ribution	Metric component	 Conducting an ISO 14067 or a Greenhouse Gas Protocol Product Carbon Footprint Standard-compliant assessment is required to demonstrate that the lifecycle impact for producing 1 kWh of electricity are below the declining threshold.
ntial cont		 It is likely that such a lifecycle assessment has been completed for the Project. However, it is not part of the documentation which is typically provided to the bank.
Substar	Threshold component	• The bank does not have access to a lifecycle assessment (if existing). Therefore, it is not possible to determine if the project meets the qualitative conditions to enable the performance of the activity in a way that is considered environmentally sustainable (i.e. operating at life cycle emissions lower than 100gCO2e/kWh, declining to 0gCO2e/kWh by 2050).

	Adaptation	 An analysis of climate change and adaptation risks and impact is ongoing. It will be integrated to reduce all material physical and non-physical climate risks to the extent possible and on a best effort basis. It is not possible to conclude on the compliance with the Taxonomy at this stage. However, these supplementary studies should allow to assess compliance further with these criteria. Per climate change adaptation, it is worth mentioning that the forthcoming version of the Equator Principles (namely EP IV) reinforce the assessment of the climate change risk. For projects subject to such assessment, it should ease the assessment of Adaptation criteria by providing information on current and anticipated climate risks (transition and/or physical) as well as on plans, processes, policies and systems in place to manage these risks.
	Water	 Further to the ESDD assessment, it has been recommended to implement an adaptive Environmental Flow Release ("e-flow strategy") overseen by a project specific basin committee
Harm		 To date, there is no formal River Basin Management Plan (as outlined in the EU Water Framework Directive; "WFD") as required by the Taxonomy; however this e-flow strategy is expected to address the main objectives of a River Basin Management Plan. In spite of these baseline and mitigation measures, it is not possible to conclude positively that the Project has not a significant adverse impact on upstream and downstream quantitative and qualitative water resources and uses, mainly because studies are still ongoing. Of note, these complementary studies should allow the possibility of drawing conclusions on the matter.
Do No Significant	Ecosystems	 The transaction appears to align materially with the "Ecosystems" criteria. The E&S documentation project has not been developed with the intent to comply with IFC Performance Standards. However, the ESDD report identifies gaps in the IFC Performance Standards and the associated ESAP lists actions to bridge these gaps. Additional studies – including for sites near biodiversity sensitive areas – as well as an invasive species' management plan and a Biodiversity Management Plan, are being developed by independent consultants in compliance with the requirements of IFC Performance Standard 6 Biodiversity Conservation and Sustainable Management of Living Natural Resources (2018) and internationally recognised methodology/best practices. The Biodiversity Action Plan is expected to include all necessary mitigation measures to reduce the impact on species and habitats. Proper implementation of mitigation measures for protecting biodiversity/eco-systems will be monitored by an independent consultant acting with the duty of caring for the Lenders over the life of the facility. Meeting these requirements is conditional, particularly, on the effective implementation of the measures identified by the independent consultants. The conclusions are similar for the other criteria, namely adaptation (see below), and pollution, meaning that studies in progress, condition the entire fulfilment of the Taxonomy requirements. Regarding the pollution criteria it should be noted that ongoing studies do not necessarily refer to the EU Directives 2006/44/EC. A gap analysis will be needed to ensure that the parameters and acceptable limits/ranges and necessary sampling and measuring frequency of the Directive are met.
Minimum	safeguards	 The violation of labour rights is considered a material social risk and is normally systematically included in export credit E&S due diligences. E&S studies cover internationally recognised standards such as the IFC Performance Standards and the World Bank Group Environmental, Health and Safety relevant guidelines. These standards largely overlap with the Social Safeguards' Assessment requirements of the Taxonomy. It is therefore possible to conclude that the Project complies – or plans to comply for some parts – with the minimum social safeguards defined as 'International Labour Organisation core labour conventions'.

Assessment Outcomes

It is difficult to conclude on the alignment of the transaction with the requirements of the Taxonomy, for several reasons.

• Some criteria are subject to ongoing studies. It will only be possible to conclude on those elements once the studies have been carried out. If the transaction were to align with the Taxonomy, there would be a time misalignment between the information collection process and the decision-making process.

- Some criteria can be found in the standards typically reviewed in export finance transactions (OECD Common approaches for officially supported export credits and E&S due diligence, Equator Principles, IFC PS, WBG EHS guidelines etc.), but do not use the same reference texts. In this case study, one example of this discrepancy relates to pollution prevention and control. Although E&S studies have been/ will be conducted for the given project, they do not make use of the EU Directive 2006/44/EC which sets out the parameters and acceptable limits/ranges and necessary sampling and measuring frequency. Consequently, a gap analysis between the different standards will be needed to ensure compliance with the Taxonomy requirements.
- It is interesting to note that the approaches converge on social aspects, both referring to the same internationally recognised standards (in particular, ILO conventions).
- Some criteria can only be fully assessed once the measures in particular, mitigation measures
 identified in E&S action plans are implemented. For such criteria, compliance with the Taxonomy is
 dependent on the effective implementation of the action plans, hence, after having granted the
 financing. This might be a barrier to integrating the Taxonomy during risk-weighting calculation.

This case study refers to an export finance transaction. However, it is expected that its findings will also apply, to some extent, to project-related corporate loans (PRCLs) and project finance in non-OECD countries where the regulatory framework does not allow for a number of Taxonomy requirements to be met upfront.

Mitigation technical screening criteria

It is not possible to conclude whether the transaction meets the Mitigation technical screening criteria requirements because of:

- the metric and thresholds; the results of a compliant Life Cycle of Emissions' assessment would be necessary to assess these criteria;
- the DNSH principle.

Given the E&S studies provided for this transaction, we were able to foresee reviewing the performance of the underlying project according to the Taxonomy DNSH requirements, especially considering: (i) the identification of actual and potential adverse impacts; and (ii) the prevention and mitigation of adverse impacts.

Despite the high quality of the E&S studies, we were not able to perform a full DNSH analysis to ensure that the Project undermine not the environmental objectives and social safeguards. Even on the main environmental impact, it is impossible to conclude on the compliance with the Taxonomy criteria **owing to the lack of information at this stage of the process**. Further studies should provide satisfactory information on this matter. Still, the effective implementation of the measures identified by the independent consultants will be critical to meet the criteria under review. As such, it will be conceivable to conclude on the compliance with the Taxonomy only once most of the ESAP items are completed; that is, when the financing has been already granted.

The standards that are commonly applied on social matters for export finance transactions largely overlap with the minimum social safeguards of the Taxonomy, therefore facilitating the assessment.

Adaptation technical screening criteria

It is not possible to conclude whether the transaction meets the Adaptation technical screening criteria requirements owing to:

- principles, criteria, thresholds; an analysis of climate change and adaptation risks and impact is ongoing and it is not possible to conclude on the compliance with the Taxonomy at this stage;
- the DNSH principle; please refer to the assessment under the Mitigation technical screening criteria.

Challenges

E&S studies do not fully integrate the principle of 'do no significant harm', even on the main environmental impacts. This can be explained by:

the stage of the process; several E&S studies are still ongoing; their results will enable the assessment
of some of the Taxonomy requirements;

- the stage of the Project; the effective implementation of the measures identified by the independent consultants will be necessary to meet the Taxonomy requirement;
- discrepancies between standards.

Interestingly, there is a large overlap between the standards that are commonly applied on social matters for export finance transactions and the minimum social safeguards of the Taxonomy, easing the application of the Taxonomy to the product.

Considering environmental issues, some DNSH criteria reviewed for this case study refer to the IFC Performance Standards. This is a very useful reference given that such standards are widely used in export finance E&S due diligences.

Nevertheless, approaches to environmental matters may differ, especially when assessing sustainability principles, criteria, thresholds. The main standards being used in ESIA/ESDD assessments are meant to ensure that responsible practices are followed by the client. Even though an overlap obviously exists, especially with regards to the identification and mitigation of impacts, the gap in information observed while developing this case study notably reflects the difference between responsibility and sustainability.

Recommendations

- Assessing Taxonomy-eligible export credits may require new types of disclosed data. Therefore, further inclusion of Taxonomy-related considerations in: (i) standards such as the Equator Principles and/or (ii) E&S consultants' scope of work, would be beneficial to the application of the Taxonomy.
- A mapping of discrepancies in the requirements of the Taxonomy and the most-used export finance standards (OECD Common approaches, EP, IFC PS, WBG EHS guidelines) would allow the defining of the background information which needs to be collected during the structuring phase to assess compliance with the Taxonomy.

The application of the Taxonomy can assist in reinforcing the identification and precise definition of the potential adverse impact of a Project, and in guiding how and when this impact should be managed. In other words, it helps in defining materiality and therefore acts as a guide for finance parties – and potentially consultants – in conducting E&S due diligence.

Going forward, it could be a way to ensure that appropriate E&S-related covenants are integrated into the documentation to ensure that relevant actions are taken to avoid, reduce and mitigate the E&S impact.

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Case study: Deutsche Bank - Application of the EU Taxonomy to Guarantee Facilities for Exporting Clients

Introduction

This case study has been developed to explore the application of the EU Taxonomy to Trade Finance products for exporting clients. However, the challenges and recommendations outlined in this case study are also relevant for SME clients in the manufacturing sector more generally. Overall, the case study aims to advance the understanding of the assessment methodology defined in the EU Taxonomy and to evaluate its feasibility for this type of transaction.

All parties and related transactions presented in this case study are fictitious and not based on any specific business activities conducted by Deutsche Bank.

Case description

Client

The client is a German equipment manufacturer with subsidiaries in China and the US. The company has an export share of 80%. Its business activities focus on the manufacturing of specialised conveyor belt technology without any inherent climate change adaptation / mitigation-related characteristics. Among other use cases, the conveyor belts are used for baggage handling at airports and bulk materials handling in factories.

Product

Deutsche Bank is part of a banking club consisting of four German banks, providing a guarantee facility with a tenor of five years. The guarantee facility can be drawn and re-drawn for any guarantees (e.g. bid bonds, advance payment guarantees) up to a tenor of five years. Over the past year, guarantees for eight individual transactions have been issued under the facility. Based on the use of the conveyor belts, the following transactions are potentially eligible under the EU Taxonomy:

Transaction	Guarantee Type	End Use	Industry	Project
Guarantee 1	Bid Bond	Materials' handling system for raw materials	Utilities	Harbour project.
Guarantee 2	Bid Bond	Conveyor belt for a recycling plant	Recycling	New mechanical recycling facility to sort and re-use paper waste.
Guarantee 3	Bid Bond	Baggage handling system	Transportation	Regional airport.
Guarantee 4	Advance payment	Materials' handling system for clinker	Cement	Construction of a cement plant.
Guarantee 5	Advance payment	Conveyor belt for a recycling plant	Recycling	Mechanical recycling facility to sort and re-use plastic waste.
Guarantee 6	Performance	Materials' handling system for ore	Iron & Steel	Modernisation of a steel plant (hot iron).
Guarantee 7	Performance	Materials' handling system for waste	Utilities	Construction of a 50 MW waste-to- energy plant.
Guarantee 8	Performance	Materials' handling system for a copper mine	Mining	Modernisation of a copper mine.

Assessment

Technical Screening Criteria

All guarantees are assessed individually against the technical screening criteria outlined in the EU Taxonomy.

Transaction	Eligible activity as per EU Taxonomy	Assessment criteria	Data points provided by client	Outcome
Guarantee 1	No	n/a	n/a	n/a
Guarantee 2*	E38.3.2 Material	>50% of weight	Client cannot provide	No assessment
	recovery from non-	converted to secondary	required data point	possible
	hazardous waste	raw materials		
Guarantee 3	No	n/a	n/a	n/a
Guarantee 4*	C23.5.1 Manufacturing	Emissions < 0.766	Client cannot provide	No assessment
	of cement	tCO2e/t	required data point	possible
Guarantee 5*	C20.1.6 Manufacturing	The plastics in primary	Plant produces plastics	EU Taxonomy aligned
	of plastics in primary	form is manufactured	by mechanical	
	form	by mechanical	recycling	
		recycling		
Guarantee 6*	C24.5.1 Manufacture of	Emissions ≤ 1.328	Client cannot provide	No assessment
	Iron and Steel	tCO2e/t	required data point	possible
Guarantee 7	No	n/a	n/a	n/a
Guarantee 8	No	n/a	n/a	n/a

* Questionable whether the activity can be classified as own performance as opposed to enabling activity which is not foreseen for the respective eligible activity. There is no direct link between emission reduction and the activity (handling of materials).

Thus, only guarantee 5 is potentially aligned with the EU Taxonomy, pending the outcome of further risk assessments.

Do No Significant Harm assessment (DNSH) & Social Safeguards assessment

For Guarantee facilities, it is usually not possible to conduct the DNSH assessment and social safeguards' assessment on a project basis, as Deutsche Bank does not have a direct business relationship with the project owner and thus cannot access the information required to conduct the assessment. To fulfil the DNSH / Social safeguard assessment requirements outlined in the EU Taxonomy, Deutsche Bank has conducted a due diligence regarding the environmental and social performance of its client. Furthermore, a screening of the publicly available data pertaining to the environmental / social performance of importers has been conducted. Both assessments showed no relevant findings.

Challenges

There have been four key challenges in applying the EU Taxonomy for the classification of individual transactions under the Guarantee facility.

- *No leverage to collect data*: the provider of the Guarantee facility has no leverage to collect the data required for the assessment from the importer, as there is no direct business relationship. The direct business relationship is between the bank and the exporter.
- Data availability: data required for assessment is not captured by importers / not publicly available due to lack of disclosure requirements for European SMEs and non-European counterparties.
- High costs for additional risk assessments: in absence of data disclosures provided by the client and the importer, resource-intensive due diligence processes would be required to conduct the DNSH / Social Safeguards' assessments, leading to disproportionately high administrative costs compared to revenues generated.

• *Narrow scope of enabling activities in the manufacturing sector* which hinder the classification of the delivery of components for an overall sustainable project.

Recommendations

To enable a feasible application of the EU Taxonomy and overcome the challenges outlined above, we propose the following:

- **enhance disclosure requirements** with internationally harmonised criteria to enable a level playing field for all market participants;
- implement a (semi-)public database with project-level information to provide transparency on the characteristics of individual projects; as some financial products require a more detailed due diligence (e.g. project financing), the data generated as part of this process could be shared across the industry to enable the classification of related transactions;
- develop a tiered approach to the DNSH / Social Safeguards' assessment based on the transaction characteristics (e.g. product, volume) to make the application feasible for products with a high relative cost of due diligence and/or straight-through-processing, small ticket business and SME clients;
- widen scope of enabling activities in the manufacturing sector to allow classification of the delivery of components for an overall sustainable project.

As of now, for this type of business (low proximity to the project owner, partly automated, small sizes) it seems to be not pragmatic to apply the EU Taxonomy.

Case study: Natixis - Application of the EU Taxonomy for aluminium manufacture

Case description

Our client is a buyer of aluminium from a specific smelter located in Canada. The product is a lowcarbon supply chain financing instrument. The use of proceeds goes towards the aluminium manufactured by a smelter meeting "low carbon" requirements. In order to define "low carbon" requirements, we proposed that our client use the EU Taxonomy as a reference.

Based on the use of proceeds and the EU Taxonomy classification, the following three questions are addressed through this case:

- 1) What are the EU taxonomy requirements for the manufacture of aluminium?
- 2) Do we have access to enough public data to demonstrate the compliance with the EU taxonomy?
- 3) How to demonstrate alignment with thresholds and DNSH criteria?

EU Taxonomy assessment

We used the Mitigation Taxonomy (Macro-Sector: Manufacturing, NACE Level: 4, Code: C24.4.2, Manufacture of aluminium.)

Based on public information and taking into account that the smelter is not located within the EU, we have not been able to conclude whether the smelter is aligned or not with the EU Taxonomy. The alignment of the Canadian Smelter with the EU Taxonomy mitigation criteria, the minimum social safeguards and the Do No Significant Harm criteria is likely but needs to be proved.

The criterion is likely to be met, to be externally verified.

More information from the Smelter should be disclosed in order to assess the alignment with the criterion and then to verify it externally.

Mitigation

EU Taxonomy mitigation criteria	Transaction
 Manufacture of primary aluminium is eligible if criteria 1 (see below) is met in combination with either criteria 2 or 3 (see below): criteria 1, direct emission intensity (i.e Scope 1): < 1.514 tCO2e/t of aluminium; criteria 2, electricity consumption for electrolysis (i.e. a Scope 2 item); < 15.29 MWh/t of aluminium; criteria 3, electricity carbon intensity for electrolysis (i.e. a Scope 2 item): < 100 g cO2e/kWh. 	 Those three criteria are not detailed publicly. We know that the smelter reports on a GHG emission intensity of 1.91 t CO2/t aluminium without detailing the GHG emissions' scopes. Therefore: If the stated performance of 1.91 t CO2/t aluminium covers the scope 1 & 2 (direct & indirect emissions), thus the EU Taxonomy Aluminium screening criteria 1 is highly likely to be met; however, if this performance level covers only the scope 1, the screening criteria 1 is not met and thus the Smelter is not aligned with the EU Taxonomy; the Electricity carbon intensity for electrolysis is likely to be below the threshold of 100 g CO2e/kWh thanks to a hydroelectric power source; thus, the criteria 3 is likely to be met.

Minimum Safeguard	Transaction
Alignment with the OECD Guidelines for Multinational Enterprises; UN Guiding Principles on Business and Human Rights, including the International Labour Organisation's ('ILO') declaration on Fundamental Rights and Principles at Work, the eight ILO core conventions and the International Bill of Human Rights.	The mother company of the smelter follows the UN guiding principles on business and human rights, but no explicit mention is made regarding the use of OECD Guidelines and Due Diligence Guidance for Responsible Business Conduct (RBC).

Do No Significant Harm criteria

Sustainability impacts	Do No Significant Harm	Smelter's Environmental Report
Water	Identify and manage risks related to water quality and or water consumption at the appropriate level. Ensure that water use/conservation management plans, developed in consultation with relevant stakeholders, have been developed and implemented.	The risks related to water are identified, action plans are publicly disclosed. No information available about the consultation of stakeholders in the development of water use/conservation management plans.
Pollution & Emissions to Air	A minimum requirement is the implementation and adherence to a recognised environmental management system (ISO 14001, EMAS, or equivalent). Emissions to air are within the BAT-AEL ranges set out in the BREF for the Non- Ferrous Metals Industries. A stringent level of BAT-AEL is required if an activity materially contributes to local air pollution levels, exceeding air quality standards.	Public adherence and implantation to a recognised environmental management system: ISO 14001. More facility-level data are necessary to conclude whether or not the reported air pollutions are compliant with the BAT-AEL ranges set in the BREF for the Non-Ferrous Metals Industries.
Circular Economy & Waste	Measures are in place to minimise and manage waste (including hazardous waste) and material use in accordance with the BREF for the Non-Ferrous Metals Industries. In order to avoid risks to circular economy, aluminium manufacturing plants need to be able to process aluminium scrap. The aluminium scrap collection and sorting activities should be optimised for separation on an alloy specific basis. If scrap alloys are mixed, the functionality of the recycled material is restricted, and valuable alloying elements may be lost.	Public description of the facilities' operational procedures related to waste management, especially with regards to spent pot linings (cathodes) from the electrolytic cells that will be decontaminated and repurposed. The alignment of these procedures with the BREF is likely but should be verified externally. Scrap and salvage recycling facility are available, but no details are disclosed about the possible optimisation procedure of aluminium scrap for separation on an alloy specific basis.
Ecosystems	Environmental Impact Assessment (EIA) must be completed in accordance with the EU Directives on Environmental Impact Assessment (2014/52/EU) and Strategic Environmental Assessment (2001/42/EC), or other equivalent national provisions or international standards. For sites/operations located in or near to biodiversity-sensitive areas, ensure that an appropriate assessment has been conducted in compliance with the	Public description of monitoring of groundwater contamination and pollution of local watercourses and impact prevention systems & measures. More facility-level data are necessary to conclude whether the EIA have been completed in accordance with the European Directives.

provisions of the EU Biodiversity Strategy (COM (2011) 244), the Birds (2009/147/EC) and Habitats (92/43/EEC) Directives (or other equivalent national provisions or international standards based on the conservation objectives of the protected area).

Methodology

- Data:
 - *Thresholds* we looked into the Smelter's Environmental Report (publicly available) to see whether the Criteria 1 is met in combination with either criteria 2 or 3.
 - Do No Significant Harm Assessment we looked into the Smelter's Environmental Report and its public policies regarding the management of water, circular economy, pollution and ecosystems.
 - Social Safeguards' Assessment we looked into the Smelter's mother company reporting on Employment and Social Policies.
 - Proportion of Turnover / Capex / Opex aligned with the taxonomy: N/R. Based on public information we are not able to assess the proportion of Turnover/Capex/opex aligned with the taxonomy.
- Methodology:
 - As we consider the criteria 1 as clear cut, we did not use a specific methodology to assess the alignment of the Smelter with the EU Taxonomy. In order to understand the stringency of criteria 2 we used the <u>IAI data</u>.

Challenges

Missing information to achieve a satisfactory level of answers. Based on public information we are not able to assess, firmly, the alignment of the smelter with the EU Taxonomy's criteria, though we believe that with direct access to non-public information on the smelter we should be able to answer all questions in a robust fashion and most likely conclude on this smelter's EU taxonomy compliant low carbon profile. But we note how demanding the combination of screening criteria, DNSH and social safeguards are when compared to other industry standards / guidelines.

To overcome these challenges, we will discuss with the smelter's technical experts in order to ensure that all criteria are available, compliant with the EU Taxonomy requirements and can be audited.

Benefits of applying the EU Taxonomy

The thresholds are clear cut, easy to use and thus giving our client the opportunity to benchmark its supplier with other aluminium manufacturers.

Gap between bank's existing framework/practice and the EU Taxonomy

Your bank's current	EU Taxonomy	How wide is the gap? 1,2,3,4
requirements		

Principles	 Natixis GWF makes a clear distinction between the following activities: mining & processing (when integrated) mining only processing only 	The EU Taxonomy focuses only on the activity of aluminium production (C24.4.2), consistent with our concept of Processing. The manufacture of aluminium is considered as an enabling activity when the thresholds are met.	(1) No gap Natixis GWF initial rating for aluminium processing is medium green. Aligned with the EU Taxonomy approach, Natixis also considers that aluminium is an enabling activity to develop low-carbon applications.
TSC threshold s	 Natixis GWF rating for aluminum processing relies on: the final use; the expected role of materials in low-carbon applications (i.e. average 2017-2040 of low carbon use in a 2°C scenario). the processing impacts on GHG emissions, air quality, waste, biodiversity. The GHG direct and indirect emissions are assessed with criteria based on: technologies used in the smelting and refining processes; - the source of power supply for the electrolysis process. 	 Manufacture of primary aluminium is eligible if criteria 1 (see below) is met in combination with either criteria 2 or 3 (see below): criteria 1, direct emission intensity (i.e. Scope 1); < 1.514 tCO2e/t of aluminium; criteria 2, electricity consumption for electrolysis (i.e. a Scope 2 item); < 15.29 MWh/t of aluminium; criteria 3, electricity carbon intensity for electrolysis (i.e. a Scope 2 item); < 100 g CO2e/kWh. 	(2) The gap is small Natixis GWF methodology is aligned with the EU Taxonomy's approach to valorise both the aluminium's potential contribution to transition (scope 3 / avoided emissions underlying considerations) and to combining technology and source of power assessment (i.e. scope 1, 2). As of today, the thresholds used in both methodologies are not the same and a correlation table is being processed. We would expect high correlation, though Natixis' shaded approach will be more granular.
TSC DNSH	 Natixis GWF rating is factored according to the environmental impact on GHG emissions, air quality, waste, biodiversity. Water There is no specific requirement regarding the water criteria. Circular economy 	All the EU Taxonomy requirements for Do No Significant Harm Assessment related to water, circular economy, pollution and ecosystems are detailed in the table of the previous question. Water: water use/conservation management plans shall be; • set at the appropriate level; • developed in consultation with relevant stakeholders. Circular economy: waste management plans shall be; • in accordance with the BREF for the Non-Ferrous Metals Industries; • the manufacturing plants need to be able to process aluminium scrap. Pollution: air pollution management systems shall; • adhere to a recognised environmental management system (ISO 14001, EMAS, or equivalent); • emissions to air are within the BAT-AEL ranges set out in the BREF for the Non-Ferrous Metals Industries.	(3) There is a clear gap Further developments could be considered to align the GWF with the EU Taxonomy.

There is no specific Ecosystems	
 requirement related to Key Biodiversity Area for Aluminium processing (as opposed to mining). Environmental Impact Assessment (EIA) must be completed in accordance with the EU Directives on Environmental Assessment (2014/52/EU) and Strategic Environmental Assessment (2001/42/EC). For sites/operations located in or near to biodiversity-sensitive areas, an assessment shall be conducted in compliance with the provisions of the EU Biodiversity Strategy (COM (2011) 244), the Birds (2009/147/EC) and Habitats. (92/43/EEC). Directives (or other equivalent national provisions or international standards based on the conservation objectives of the protected area). 	ct ust be ance as on ct 2/EU) ssment ent shall r (COM ls c) tional the ves of

Recommendations

Even if the technical screening criteria 1 (direct emission for primary aluminium production is at or below the value of the related EU-ETS benchmark) are quite stringent as the <u>EU ETS</u> are set against a benchmark of the 10% most efficient installations, the opportunity given in the final report of the EU Taxonomy to choose between the criteria 2 and 3 (versus a cumulative requirement of the criteria 1,2,3 in the June 2019 report) opens the door to much more eligible operations. For example, based on our calculations, recent technology equipped gas powered smelters, with a scope of 1 &2 carbon intensity above 6tCO2/t aluminium could meet the criteria 1 & 2 (versus a floor at 3.043 tCO2/t aluminium in the June 2019 report based on our calculations).

Thus, for the sake of clarity, a demonstration of the alignment of the various technical screening criteria combinations (i.e. criteria 1&2 or criteria 1&3) with a 2°C scenario would be useful.

Our interpretation is that the arbitrage possibly occurred to be stringent on the efficiency of the technology and equipment rather than with a holistic view, which includes the carbon intensity of the heat and power consumed. This is understandable since a smelter has more influence on its equipment than on the energy mix of the country in which it is located. But it is very arguable, we would say, when it comes to the actual carbon performance per ton of aluminium produced in the end.

DNSH eligibility is based on EU regulations. In this case we were not able to confirm eligibility of the aluminium supply because the smelter is located in Canada. We strongly recommend that the regulator provide a precise mapping of non-EU regulations equivalent to applicable EU regulations for DNSH, in particular, for OECD countries where environmental and social regulation is likely to be comparable to the EU.

Case study: Natixis - Application of the EU Taxonomy to finance an offshore wind farm

Case description

The borrower is an SPV owned by an infrastructure company who develops, builds and operates industrial infrastructures in 70 countries.

The transaction is a corporate facility to bridge the construction of an offshore wind farm.

The use of proceeds is a floating offshore wind farm located in the North Sea (UK).

Based on the use of proceeds and the EU Taxonomy classification, the following three questions are addressed through this case:

- 1. What are the EU Taxonomy requirements for the production of electricity from wind power?
- 2. Do we have access to enough data to demonstrate the compliance with the EU taxonomy?
- 3. How do we demonstrate alignment with thresholds and DNSH criteria?

EU Taxonomy assessment

We used the Mitigation Taxonomy (Macro-Sector D - Electricity, Gas, Steam and Air Conditioning Supply, NACE Level 4 Code D.35.1.1. Description Construction and operation of electricity generation facilities that produce electricity from Wind Power).

Based on public and private information, and taking into account that the asset is located in the UK but operated by a European company, we have been able to conclude the asset is aligned with the technical criteria, the DNSH criteria (except for Water requirements) and partially aligned with the minimum safeguards.

Mitigation criteria

Any electricity generation technology can be included in the taxonomy if it can be demonstrated, using an ISO 14067 or a GHG Protocol Product Lifecycle Standard-compliant Product Carbon Footprint (PCF) assessment, that the life-cycle impact for producing 1 kWh of electricity is below the declining threshold. Declining threshold: facilities operating with life-cycle emissions lower than 100gCO2e/kWh, declining to 0gCO2e/kWh by 2050, are eligible.

However, Wind Power is currently derogated from performing a PCF or GHG life-cycle assessment, subject to regular review in accordance with the declining threshold. Wind Power is currently deemed to be taxonomy eligible, which is subject to regular review.

Off-Shore Wind Energy is de facto eligible as it is exempt from performing a PCF assessment.

EU Taxonomy DNSH criteria	Offshore wind farm project
Fulfil the requirements of EU water legislation.	No mention in the documentation.
State ambition to maximise recycling at end of life based on waste management plans, dismantling/decommissioning processes at time of	A dedicated Environmental Management Plan (EMP) is in place at project level covering climate change-related risks (covers waste management); and a Dismantling Plan is disclosed
decommissioning.	The Borrower has carried out an analysis of the impact of the project on biodiversity and natural resources (from project design to dismantling), detailed in the Environmental Statement (ES).

Do No Significant Harm criteria

Testing the application of the EU Taxonomy to core banking products: High level recommendations – Natixis Case Study (Offshore Wind)

Ensure an Environmental Impact Assessment (EIA) has been completed in accordance with the EU Directives on Environmental Impact Assessment (2014/52/EU) and Strategic Environmental Assessment (2001/42/EC).	A dedicated Environmental Impact Assessment (EIA) has been performed to assess key risks to the assets from a changing climate and its impact on marine conditions.
For sites/operations located in or near to biodiversity- sensitive areas (including the Natura 2000 network of protected areas, UNESCO World Heritage sites and Key Biodiversity Areas (KBAs), as well as other protected areas), ensure that an appropriate assessment has been conducted in compliance with the provisions of the EU Biodiversity Strategy (COM (2011) 244), the Birds (2009/147/EC) and Habitats (92/43/EEC) Directives.	The windfarm is not in a Marine Protected Area .

Minimum Safeguard

EU Taxonomy Minimum Safeguard criteria	Offshore wind farm project
The activity should be carried out "in alignment with the OECD Guidelines for Multinational Enterprises and UN Guiding Principles on Business and Human Rights, including the International Labour Organisation's ('ILO') declaration on Fundamental Rights and Principles at Work, the eight ILO core conventions and the International Bill of Human Rights"	The company published Corporate Due Diligence Protocol Regarding Human Rights in accordance with the recommendations of the United Nations Guiding Principles on Business and Human Rights. The company also published a Human Rights Policy based on the International Bill of Human Rights, comprising the Universal Declaration of Human Rights, the International Covenant on Civil and Political Rights and its two protocols, and the International Covenant on Economic, Social and Cultural Rights, and on the eight core Conventions of the International Labour Organisation, the ILO Declaration on Fundamental Principles and Rights at Work and the Tripartite Declaration of Principles concerning Multinational Enterprises and Social Policy.

Methodology

- Data:
 - Principles, criteria, thresholds public information.
 - Do No Significant Harm Assessment Construction Programme, Design Statement, Cable Plan, Decommissioning Plan, Environmental Management Plan (EMP), Environmental Statement.
 - Social Safeguards Assessment Human Rights Policy and Corporate Due Diligence Protocol Regarding Human Rights.
 - Proportion of Turnover / Capex / Opex aligned with the taxonomy 100% (the client's purpose is to develop the offshore wind farm).

Challenges

Although the borrower provides granular data on the project (public and private information), we have not been able to find data on the compliance with EU water legislation and on the alignment with the OECD Guidelines for Multinational Enterprises.

Benefits of applying the EU Taxonomy

Testing the application of the EU Taxonomy to core banking products: High level recommendations – Natixis Case Study (Offshore Wind)

- The thresholds are clear cut and easy to use.
- Production of electricity from wind power is de facto eligible as it is exempt from the need to perform a life-cycle assessment (LCA).
- Most requirements for the DNSH assessment are drawn from existing EU regulations.

Gap between bank's existing framework/practice and the EU Taxonomy

	Your bank's current requirements	EU Taxonomy	How wide is the gap? 1,2,3,4
Principles	Natixis GWF makes a distinction between onshore and offshore wind power. The initial GWF colour rating for an off-shore wind project is medium green.	Production of electricity from wind power is de facto eligible as it is exempt from the need to perform a LCA assessment.	1 No gap
TSC threshold s	Natixis GWF takes into account the electricity mix of the country where the asset is located to assess the climate impact. The positive impact is maximal for carbon intensive countries with low renewable share.	Wind Power is currently derogated from performing a PCF or GHG. Life-cycle assessment, subject to regular review in accordance with the declining threshold. Wind Power is currently deemed to be	1 No gap
		taxonomy eligible, which is subject to regular review.	
TSC DNSH	Natixis GWF applies a penalty if the project is located in a Key Biodiversity Area , but a bonus if curtailment and/or grid losses/marginal loss factor has/have an effect < 5% on expected production and if the project is developed together with a	EU Taxonomy requirements for Do No Significant Harm Assessment are mainly related to ecosystems and biodiversity and end-of-life management.	2 The gap is small
	storage solution. Natixis GWF applies a penalty if the project is located in an important fishing zone and if it has generated significant controversies with fishermen in the area.	Taxonomy will need to assess their compliance with minimum safeguards, meaning the standards embedded in the OECD Guidelines on Multinational Enterprises (MNEs) and the UN	
	There is no specific requirement regarding the end-of-life management.	Guiding Principles on Business and Human Rights, with specific reference to the ILO Core Labour Conventions.	

Recommendations

Though it is easy to use, we think that the taxonomy lacks stringency. Renewable assets are de facto eligible and there is no life-cycle analysis. We recommend making the taxonomy more stringent and granular for renewable power generation assets.

DNSH eligibility is based on EU regulations. It would have been more difficult to assess if the asset had been located outside Europe/UK. We recommend that the regulator provide a precise mapping of non-EU regulations equivalent to applicable EU regulations for DNSH.

Case study: Standard Chartered - Application of the EU Taxonomy to a non-EU solar energy project financing

Introduction

Standard Chartered is a UK headquartered bank serving clients across Asia, Africa and the Middle East. We recognise the relevance of the EU Sustainable Finance Taxonomy for EU and global financial institutions investing in third countries, which represent the greatest portion of global emissions and have a pressing need for capital to support their transition pathways to international climate objectives.

In that context, we chose to apply the Taxonomy to a solar project financing in Oman. Project Finance has clearly defined use of proceeds and high levels of due diligence, making it a financing structure to which Taxonomy might be most readily applied. Through this, we also benefitted from the opportunity to assess our internal processes and readiness for the application of Taxonomy in due course.

Case description

The Ibri II Solar PV Independent Power Plant Project (the Project) is a greenfield 500 mega-watt greenfield solar photovoltaics power plant in Ibri, Oman. The objectives of the Project are to increase the availability of the renewable power generation capacity and to contribute to filling the anticipated gap in the peak demand; and reduce the dependence on gas and other fossil fuels for electricity generation, and move to a more balanced and environmentally sustainable energy mix.

The total project costs for the Ibri II Solar Plant are approximately US\$400 million. Standard Chartered participated in a project financing transaction led by the Asian Infrastructure Investment Bank (AIIB). As a solar energy project, the transaction is considered under Climate Change Mitigation: construction and operation of electricity generation facilities that produce electricity from Solar Photovoltaic.

Based on the use of proceeds and the EU Taxonomy classification, the following three activities were considered: (1) Afforestation; (2) Existing Forest Management; (3) Cogeneration of heat/cool & power from bioenergy. These activities were assumed to make a substantial contribution to Climate Change Mitigation, and therefore should comply with the following thresholds and DNSH criteria.

EU Taxonomy requirements

The below provides a summary of the main requirements for these types of investments.

Activit	vity Solar Photovoltaic Energy	
	Adaptation	 Integration of physical and non-physical measures aimed at reducing - to the extent possible and on a best effort basis - all material risks that have been identified through a climate risk assessment. No increase of the risks of an adverse climate impact on other people, nature, assets or risk of hampering adaptation elsewhere by economic activities or adaptation measures.
arm	Water	• N/A
jnificant H	Circular economy	 Ensure PV panels and associated components have been designed and manufactured for high durability, easy dismantling, refurbishment, and recycling in alignment with 'Manufacture of Renewable Energy Equipment' for DNSH criteria.
lo Siç		 Ensure reparability of the solar photovoltaic (PV) installation or plant thanks to accessibility and exchangeability of the components.
Do N	Pollution	• N/A
	Ecosystems	 Ensure an Environmental Impact Assessment (EIA) has been completed [] in the case of activities located in non-EU countries other equivalent national provisions or international standards for activities in non-EU countries (e.g. IFC Performance Standard 1: Assessment and Management of Environmental and Social Risks – including ancillary services, e.g. transport infrastructure and operations).

	 Ensure any required mitigation measures for protecting biodiversity/eco-systems have been implemented.
Minimum safeguards	 Implementation of the OECD Guidelines for Multinational Enterprises to the greatest extent possible, focusing compliance on (1) human rights, (2) labour rights, and (3) combating bribery. Alignment with the UN Guiding Principles of Business and Human Rights to prevent, address and remedy human rights' abuses committed in business operations.

Assessment

The project was chosen as being one that should have a high degree of inherent alignment to Taxonomy, and being project finance, should have high volumes of project-related information thus supporting assessment against the Taxonomy framework even though the initial due diligence was not scoped with this in mind.

It was also decided to select a project finance transaction which had a multilateral development bank (in this case AIIB) involved, and thus customary issues around client confidentiality and information disclosure, which may be encountered in other lending structures, would not be an obstacle.

Assessing at a transaction level for project finance also brings the benefit that the borrower is usually a special purpose vehicle constituted to deliver the project, so there are no issues encountered relating to other economic activities where Taxonomy assessment may be required.

The project documentation was reviewed against the Technical Annex to the TEG Final Report on the EU Taxonomy. Each aspect of alignment was considered in turn.

Technical Screening Criteria

The project is a solar PV plant, so will not result in any direct emissions. As such, it meets the TSC requirement *"Facilities operating at life cycle emissions lower than 100gCO2e/kWh, declining to net-OgCO2e/kWh by 2050, are eligible".* Additionally, *"Solar PV is currently derogated from performing a PCF or GHG lifecycle assessment subject to regular review in accordance with the declining threshold", and "Solar PV is currently deemed to be taxonomy eligible, which is subject to regular review".*

Do No Significant Harm Criteria

The project Environmental and Social Impact Assessment (ESIA) and associated documentation:

- does not speculate on climate adaptation;
- confirms there are no material ecosystem or biodiversity impact (thus the additional DNSH criteria under Ecosystems are not required);
- confirms that the panels have an expected lifespan aligned to the project (>15 years), though
 insufficient detail is provided as to how the specific panels used are "designed and
 manufactured for...easy dismantling, refurbishment and recycling". Citing ESIA Volume 4, "The
 provisions for end-of-life or decommissioning of the Project are unknown at this stage and it is
 possible that the Project may remain in place long after this date";
- confirms the ESIA has been undertaken in alignment with IFC Performance Standard 1.

Social Safeguards

The project ESIA and associated documentation confirms IFC Performance Standard 5 will be applied, and e.g.:

- a Resettlement Action Plan has been developed;
- a Stakeholder Engagement Plan has been developed.

It is also to be noted that Standard Chartered has adopted a Position Statement on Human Rights, reflected in internal systems and processes, which aligns with the OECD Guidelines and UN Guiding Principles.

Testing the application of the EU Taxonomy to core banking products: High level recommendations – Standard Chartered Case Study

Outcome

The outcome of the assessment showed this specific transaction aligned to Taxonomy.

Challenges

Some of the challenges encountered during the case study are listed below.

What were the challenges in applying the EU Tx?		What would be needed to overcome these challenges?	
1	Gathering additional information for an assessment on climate adaptation	•	Changes to internal due diligence processes – these are already underway as part of our climate risk management approach.
		•	Development of shared tools and databases – for example those pursued as part of the Coalition on Climate Resilient Investment (CCRI) and Climate Resilience Risks and Opportunities Coalition (CRROC).
•	Enhancing information disclosure to improve assessment on circular economy criteria	•	Changes to internal due diligence processes – ensuring this information was gathered during the initial transaction of due diligence, to aid Taxonomy assessment.
		•	Considering updating market approaches – particularly for project finance, the IFC Performance Standards are commonly used, and often applied through the Equator Principles standardising.
•	Information provided at transaction origination may not be updated	•	Update reporting requirements – projects are expected to provide periodic reporting, enforced through loan documentation. Where information is needed to assess ongoing Taxonomy alignment, this will need to be included in documentation prior to the transaction closure.

Recommendations

Based on the learnings from this case study, the following reflections are offered:

Peers

- **Plan ahead:** aligning internal systems and processes to support application of Taxonomy is likely to be a time-consuming process drawing upon different functions and specialist skill sets. Preparing early will have significant benefits.
- Consider systems implications: central to applying Taxonomy systematically are the systems themselves, whether these are core credit systems, or transactional systems for particular product types such as project finance or transaction banking. Thinking about the cycles upon which these systems are updated or replaced, alongside Taxonomy timelines, will be important in minimising the manual burden of Taxonomy application.

Regulators

- **Consider Taxonomy 'process flows':** Taxonomy assessment is structured as a stepwise process, but then documented in a tabular manner in the Technical Annex. It would be exceptionally helpful to have a process flow tool, perhaps via a website, that presented this information in the order considered in a due diligence process.
- **Give further guidance where Taxonomy is subjective:** in considering Taxonomy alignment, judgemental decisions had to be made e.g. the absence of detailed information on solar panel reuse (viz circular economy). As these subjective decisions aggregate in a portfolio, it will be helpful to have additional guidance on how they are made, documented and disclosed.
- Recognise the implementation of Taxonomy in financial institutions' systems and processes: to be scalable, Taxonomy cannot be applied case-by-case; it will need to be embedded in core systems (e.g. for banks, in credit systems). Implementation will take time given the diversity of these systems across financial institutions, and reflecting changes to technical screening criteria will also need appropriate notice periods.
- **Give more guidance on Social Safeguards:** these are the cornerstone of Taxonomy, but subject to less documentation within the Taxonomy at this point. Either expanding this guidance, or, linking it to underlying materials (e.g. OECD Due Diligence Guidance for Corporate Lending and Securities Underwriting) would be helpful. It is also to be noted that these social safeguards are often applied across the entire activities of a financial institution, meaning they are considered outside the stepwise process for Technical Screening Criteria.