

Sustainability regulations for banks and their impact on IT

Dr. Christian Horstmann
Livia Toledo Martins
Christian Meyer
Beatriz Bloch

2021
white paper
Copyright © changeforce GmbH



1 Introduction

Sustainability is a concept based on providing for the current needs of our society while not exhausting resources for the next generations. It aims to balance economic development and environmental preservation. The leaders of the EU view sustainability as a strategic goal, that will form a competitive advantage for the European economy. One of the main focuses of the EU in this context is the reduction of greenhouse gases by moving the European economy to activities that are not based on fossil fuels¹ to reach the goals of the Paris Agreement.² Banks, with their economic role of capital allocation, represent a key lever in achieving sustainability goals. A recent study estimated the volume to be allocated for the transition to a sustainable economy for Germany alone to 6 trillion Euro until 2045.³

Banks in EU are expected to provide funding for the transformation towards a sustainable economy

“Given its key role in financial intermediation, the European banking sector is well-placed to support the re-allocation of capital needed to reach the Paris Agreement goals. By doing so, banks will enhance their corporate and social responsibility, contributing to the achievement of a common global goal.”⁴

The quote above shows that the transition to a more sustainable economy can also be a chance for the banks to change the public opinion and improve their standing within the society. Furthermore, investors are increasingly taking sustainability aspects into account with their investment decisions, for example by considering the data provided by ESG rating agencies such as Sustainalytics and Oekom.

In this process of adapting the new regulation the specialists of the EU have also stated that some extra effort on the early phases of the transition can pay off, as the institutions have now the chance to create their space, experience, and reputation on this emerging field.

1 Lagarde, C. (2021). Speech by Christine Lagarde. In High-Level Conference on the review of the Non-financial Reporting Directive the way Forward. Frankfurt am Main. <https://www.bis.org/review/r210506c.htm>.

2 <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement> EBA (2021).

3 <https://www.mckinsey.com/~/media/mckinsey/business%20functions/sustainability/our%20insights/how%20the%20european%20union%20could%20achieve%20net%20zero%20emissions%20at%20net%20zero%20cost/net-zero-europe-vf.pdf>

4 EBA response to EU Commission's consultation on Renewed Sustainable Finance Strategy.

“The earlier institutions start considering how sustainability may impact their business, the higher their chances to build know-how, engage with clients and increase or at least maintain their customer base.”⁴

Starting the inescapable process of relocation of assets now is safer than, on a longer term, keeping their investments that might not be compatible with a future society - with more scarce natural resources and more concerns for the environment.

“By generating a stable long-term value in many cases, sustainable investments provide opportunities for the banking sector to prosper and tackle the crucial issue of stranded assets – i.e., the need for banks to shift their investments away from certain assets in the long run.”⁴

Being an important player for sustainability strategy translates into upholding a set of concrete regulations for banking industry. In this article we give an overview of the most important regulations/standards to be considered for sustainability, and show their impact on the IT systems of a bank. Since early adaption to these sustainability requirement will be an advantage, choosing the right strategic approach for the IT System adaption is a crucial factor that we also discuss.

The core regulation for sustainability in the EU is the Taxonomy, which is the first point explored in this this article. In chapter three we will investigate concrete Key Performance Indicators and reporting procedures for the banking industry defined by the EBA with base on the EU Taxonomy. Because of the high importance of the greenhouse gas topic within sustainability we describe in chapter 4 the PCAF method - a standard within the financial industry for disclosing the relevant portion of greenhouse gas. All topics in chapters 2, 3 and 4 eventually lead to new requirements regarding capturing, storing and processing of information, which the following section will summarize. Their different strategic options for the adaption of the IT are described and evaluated.

For the EBA, the transformations occurring in the European Union are necessary and inexorable. In consequence, banks are faced with a challenging adaptation process. It is important to highlight big advantages for the institutions that actively engage on it, seeking to serve an example and occupy a position of leadership.

⁴ EBA response to EU Commission's consultation on Renewed Sustainable Finance Strategy.

2 EU Taxonomy

To veer capital flows towards sustainable projects, a common language and a clear definition of what is 'sustainable' is needed. In this context, an "EU Taxonomy" or the action plan on financing sustainable growth called for the creation of a common classification system to define sustainable economic activities. Taxonomy provides an indication of how we can understand future environmental goals and their performance on them today to help us make financial and sustainability judgments about our corporate and financial activity.

Within the taxonomy, six environmental objectives are defined. For an economic activity to be considered as sustainable (and, therefore, Taxonomy aligned), it must obey three criteria in regards to these environmental objectives (see figure 1).⁵

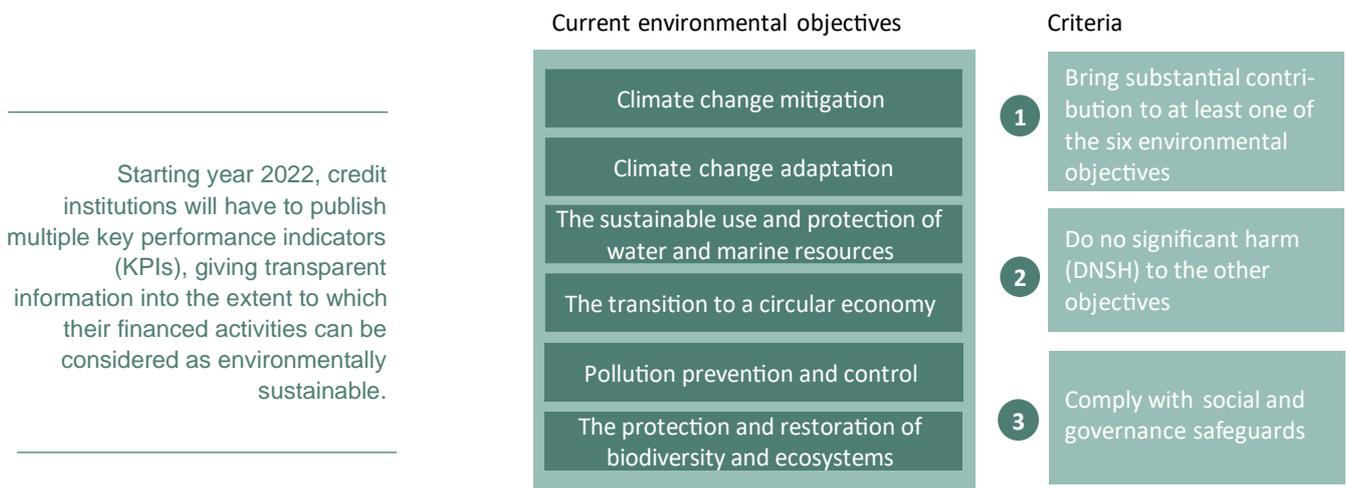


Figure 1: Criteria for taxonomy alignment of an economic activity

As of now the EU defined concrete technical screening criteria for goals "climate change mitigation" and "climate change adaptation" to decide about alignment. For example the construction of new buildings is substantially contributing to environmental objective climate change mitigation if the Primary Energy Demand (PED)(281) of that building is at least 10 % lower than the threshold set for the nearly zero-energy building (NZEB). If this activity does not significantly harm the other objectives (criteria 2) and also respects social standards (criteria 3) it is sustainable according to EU taxonomy.⁶ For the remaining four environmental objectives the concrete technical screening criteria will be defined within 2021 and probably be applicable starting 2023.

⁵ EU taxonomy for sustainable activities | European Commission (europa.eu)

⁶ https://ec.europa.eu/sustainable-finance-taxonomy/activities/activity_en.htm?reference=7.1

3 Green Asset Ratio Reporting

For the Banks, the EU constituted the **Green Asset Ratio (GAR)**, a KPI based on the Taxonomy standards that measures the proportion of a credit institution’s balance sheet exposures that is considered Taxonomy aligned, in comparison with the total eligible exposures. The more Taxonomy aligned investments an institution has, bigger is their GAR. Up to this date, this KPI can be applied to environmental objectives 1 (climate change mitigation) and 2 (climate change adaptation) and is also the favourable way to recognize if banks are financing activities consistent with the goals from the Paris agreement.

For the 2021 Fiscal Year, all relevant banks must report the GAR as part of the CSR (Corporate Social Responsibility Report).

Million EUR	Total gross carrying amount	Climate Change Mitigation (CCM)			
		Of which towards taxonomy relevant sectors			
		Of which environmentally sustainable			Of which enabling
Of which specialised lending	Of which transitional	Of which enabling			
1	GAR – Eligible assets				
2	Loans and advances, debt securities and equity instruments not HT eligible for GAR calculation				
3	Financial corporations				
4	Credit institutions				
5	Loans and advances				
6	Debt securities				
7	Equity instruments				
8	Other financial corporations				
9	of which investment firms				
10	Loans and advances				
11	Debt securities				
12	Equity instruments				
13	of which management companies				
14	Loans and advances				
15	Debt securities				
16	Equity instruments				
17	of which insurance undertakings				
18	Loans and advances				
19	Debt securities				
20	Equity instruments				

Figure 2: GAR from EBA template for CSR Report

Figure 2 depicts an excerpt of the concrete template for these KPIs from EBA.⁷ It displays the first environmental objective (Climate Change Mitigation). On the first line to the left, the GAR, followed by different categories of clients. The GAR in the CSR (Capital Requirements Regulation) Report aims to give the investors and other stakeholders an overview of the social behaviour of the bank - here specifically regarding the environmental objectives of the taxonomy.

Please note: this template must be applied only for taxonomy relevant financings and securities.

⁷ <https://www.eba.europa.eu/eba-advises-commission-kpis-transparency-institutions%E2%80%99-environmentally-sustainable-activities>

Besides that, the goal of the regulator is to acquire transparency over the banks' exposure to risks that are associated with climate change. In alignment to this goal, the EBA demands the banks to deliver additional reports within the CRR starting from the fiscal year 2022. In the proposed reports for ESG related risks in the drafts from 01.03.2021 three questionnaires for qualitative information and 10 reporting templates are defined. These EBA templates show that the regulator will take a broader view on sustainability, incorporating other factors such as social and governance risks. For carbon dioxide emissions and the environmental objectives, climate change mitigation and climate change adaptation, the Green Asset Ratio will remain the central KPI - but it will be extended by the need to account concrete amounts of emission to the banks book.⁸ In the excerpt of EBA template in figure 3 one can see that concrete figures for the amount of GHG are required

p	q	r	s	t	u	v	w	x	y	z
Of which non-performing exposures									GHG emissions	
Of which exposures towards companies excluded from EU Paris-aligned Benchmarks in accordance with points (b) to (g) of Article 12.1 and in accordance with Article 12.2 of Climate Benchmark Standards Regulation			of which exposures towards other carbon-related sectors*			Of which environmentally sustainable (CCM)			Total GHG financed emissions of the portfolio (in TCo2)	% of the portfolio (EUR) covered by data disclosed by individual firms
Gross carrying amount (Mn EUR)	Of which stage 2 exposures (Gross carrying amount (Mn EUR))	Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions	Gross carrying amount (Mn EUR)	Of which stage 2 exposures (Gross carrying amount (Mn EUR))	Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions	Gross carrying amount (Mn EUR)	Of which stage 2 exposures (Gross carrying amount (Mn EUR))	Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions		

Figure 3: EBA draft template for CRR Report, including GHG emissions

That is why, besides the GAR, it was necessary to employ an efficient and universal method for measuring financed GHG emissions – this is the role of the PCAF Method for GHG accounting.

⁸ <https://www.eba.europa.eu/eba-launches-public-consultation-draft-technical-standards-pillar-3-disclosures-esg-risks>

4. The PCAF Method for GHG accounting

The Partnership for Carbon Accounting Financials (PCAF) is a global, industry-led partnership of financial institutions that work together to develop and implement a harmonized approach to assess and disclose the greenhouse gas (GHG) emissions associated with their loans and investments. It was created by fourteen Dutch financial institutions in 2015 and launched via a Dutch Carbon Pledge calling on the negotiators at the Paris Climate Summit to take ambitious steps towards a shift to a low emission economy. After growing in the Netherlands, the project has since expanded to America in 2018 and gone global in 2019.

To date, over 115 financial institutions globally representing \$38+ trillion USD have committed to measuring and disclosing their financed emissions using PCAF's Global GHG Accounting and Reporting Standard for the Financial Industry. Though PCAF is not officially set as a standard by the regulator, it is closely linked to the EU Taxonomy and the Green Asset Ratio that require concrete carbon dioxide values to be calculated and assigned to each asset in the book of the bank.

In response to a big demand for a standardized global approach for GHG measuring and disclosing, PCAF's Global Core Team developed the **Global GHG Accounting and Reporting Standard for the Financial Industry**. The Standard includes detailed methodological instructions to account and report GHG emissions associated with six asset classes⁹:

- Listed equity and corporate bonds
- Business loans and unlisted equity
- Project finance
- Commercial real estate
- Mortgages
- Motor vehicle loans

More asset classes will also be added as the Standard evolves. The calculation of the financed emissions depends primarily on the calculation of an **attribution factor**, which is specific to each asset class. This factor corresponds to the portion of the borrower or investee's GHG emissions that is allocated to the loan or investment given. It is determined by the portion of the total equity and debt that a certain company is invested in which corresponds to the outstanding amount of loans and investments of the specific institution.

“Financial firms will need to review more than the emissions generated by their own business activity. They must measure and report the financed emissions generated by the companies, properties and projects to which they lend. Some of the largest firms have already committed to doing so and the PCAF will help many more to follow.”⁹

⁹ <https://carbonaccountingfinancials.com/standard>

Then, in order to calculate the financed emissions, the total amount of GHG emissions of the borrower or investee is multiplied by this attribution factor (see figure 4). This method is basically the same for all asset types.

This means that, if determined institution is associated with “x” percent of a company’s loans or investments, they are financing “x” percent of the emissions from this company



Figure 4: Calculation of financed emissions with PCAF

The application of the PCAF Method as explained above requires the accessibility of carbon dioxide emissions for projects, assets or companies, which in many cases might not be available. In this situation, PCAF gives a variety of estimation methods (e.g. industry typical emissions per unit) that can be applied.¹⁰ It is planned to create a platform for PCAF data such as estimation factors that is available to all PCAF users.

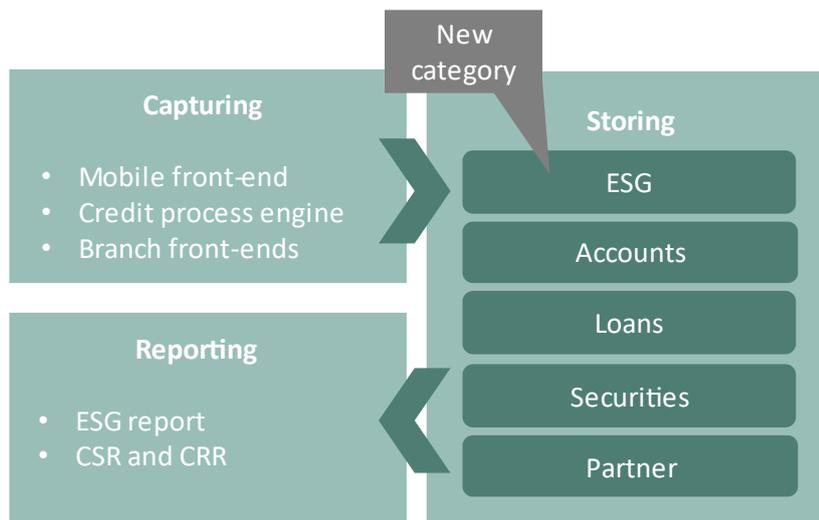
5. Implications for IT

The described requirements for sustainability create the necessity to capture, store and report upon a new set of Information that has been up to now not been relevant for the banks. This concerns most of the business objects of a bank. In the following for each object examples of additional information are given.

1. Business Partner: GHG Emissions of a Partner, further qualifications of Basis Points regarding the specific EBA reports such as flags for the NFRD (Non-Financial Reporting Directive) /CSRD (Corporate Sustainability Reporting Directive) obligations of the partner.
2. Loans, Financing, securities, accounts (if overdrawn): Compliance flags for the achievement of the defined environmental objectives in the taxonomy.
3. Assets: Information about emissions to calculate taxonomy flags and attribute financed emissions for the associated loans

¹⁰ Emission factors are available on a database. See: PCAF standard page 17

Furthermore, there is information that cannot be directly assigned to one these objects, such as co2 emissions, since they can be measured for partners, assets or projects and then must be attributed to the finance or loans respectively. This leaves the banks with two options: Extending the systems or creating one new system -specific for ESG data. (see figure 5).



The sustainability regulation will create new demands for capturing and storing data disbursed over the whole IT landscape of a bank.

Figure 5: New category of data storage for ESG data

Creating a new system has an advantage on giving more flexibility for the development of the ESG requirements, that are highly likely to evolve in the next years.

The disadvantages of that are the higher possibility of data redundancy and excessive complexity on the data systems. However, these disadvantages can be covered with help of restful APIs and a clear data architecture, which finds a golden source for each data field. The decision about the sustainability IT-strategy is also depending on the type of existing systems. Since many standard software manufactures will adapt sustainability regulations within their standard. Banks with IT based on standard platforms could wait and rely on this standardisation process.

7. Summary

In order to achieve the EU's goals for 2030, making progress towards the objectives of the European Green Deal, this will be a decade of many changes and its recommended to start early. Regarding the implications for the IT, we stated that the necessary change will be affecting many areas of the banking IT-systems and should not be underestimated. As strategic options there are the usage of a standard application, the development of an bank specific application or the integration of the sustainability requirements within the existing systems. If a bank wants to become a leader within sustainability it seems to be helpful to start the development of an individual IT-solution within the bank with a clear integration plan to the existing environment rather than waiting on the standard software providers to adapt the regulations.

Authors



Christian Meyer is partner at changeforce and is responsible for the public and banking clients of changeforce. His consulting focus lays in data integration, regulatory requirements and overarching architecture



Beatriz Bloch is an associate consultant for changeforce with a focus on strategic management. Beatriz holds a bachelor of science from the San Jose State University in the Silicon Valley California and pursues a masters degree at cologne international business school.



Livia Toledo Martins is an intern for changeforce and an engineering student in Bonn. She directed a sustainability project in Brazil and conducted an UN Model simulation.



Dr. Christian Horstmann is founder and CEO of changeforce. He lead many of the biggest banking IT Transformation within DACH region in various roles such as project manager, lead business analyst or architect.