

# Introducing Green Bank Equity to fund the low-carbon transition\*



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*This note proposes the introduction of Green Bank Equity (GBE) certificates to facilitate funding of the transition towards a low-carbon economy. GBE complements green bond issuances and thereby enables conventional, publicly listed banks to attract new sources of equity from the large market for green investments. By the use of GBE certificates, banks will be able to reduce their cost of equity and thereby overcome limitations on lending.*

## 1. Motivation

The transition towards a low-carbon economy is estimated to require annual investments in EU energy infrastructures amounting to 180 Billion € until 2030 (EU, 2018). As the European economy heavily relies on bank funding (ECB, 2020), a large fraction of transitional projects will critically depend on banks to hand out adequate volumes of new credit facilities. Additionally, any direct or indirect involvement of banks in green lending offers the unique opportunity to raise the additional funding through money creation; a feature that is not available in case only non-bank financial intermediaries (NBFIs) are involved in the raising of funds (Bundesbank, 2017). For this reason, and in sight of possible implications that a green transition may have for monetary policy, regulators and central bankers discuss ways to support green finance (Boneva, Ferrucci, and Mongelli, 2022).

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\*The views expressed are those of the authors and do not necessarily reflect those of the Deutsche Bundesbank.

In order to generate the new loans, credit institutions require sufficient amounts of fresh own funds. Three factors drive the cost of bank equity and thereby endanger the success of the green transition. First, European banks suffer from low profitability, thereby limiting the internal generation of equity through retained earnings (Enria, 2021). At the same time, second, low profitability reduces the attractiveness of bank stocks, thereby impeding access to investors that participate in new stock issuances (De Guindos, 2019). To complicate things, third, institutions will have to reserve part of their current own funds to allow for loss provisions in the portfolio business with borrowers from carbon intensive sectors that lose their proven business models (Bolton et al., 2020).

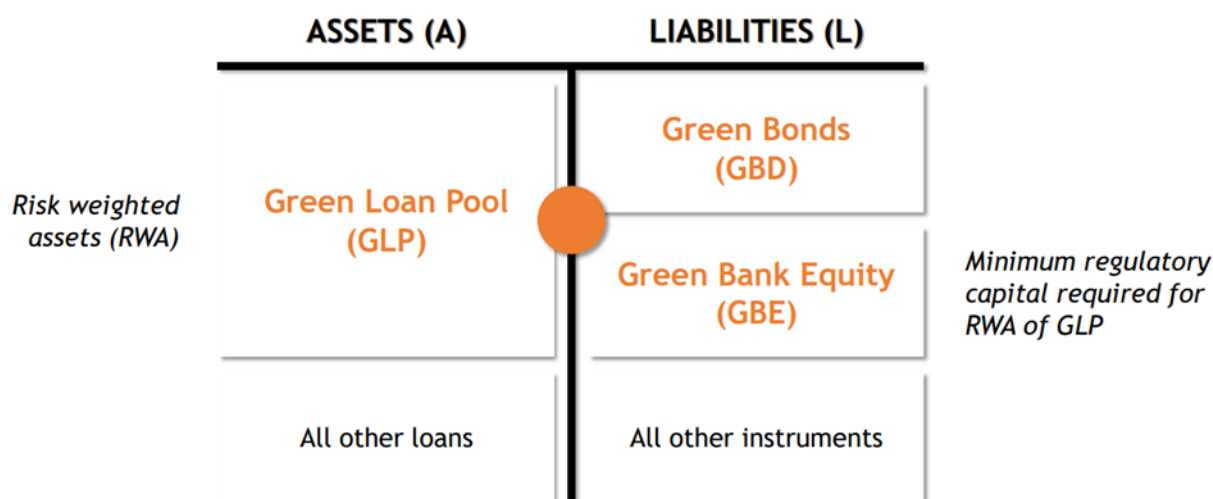
Fortunately, a high investor demand for green bonds, ESG screened investment funds, and other conscious financial products prove that capital markets are highly attracted to green products (Morningstar, 2021). Therefore, investors may require lower returns from green financial products as is often empirically confirmed for bonds (MacAskill et al., 2021). This observation can show the way on how to approach a solution to avoid a possible credit shortage that impedes the transition to a low-carbon economy. In order to better market new equity issuances, banks are in need of a trusted green label that lowers the cost of equity.

The next section of this note sketches the design of Green Bank Equity (GBE) certificates as a new financial product that implements such a solution while allowing for bank supervisors to recognise freshly raised own funds as core capital Common Equity Tier 1 (CET1). Before concluding, this note briefly states the major implications of GBE certificates for investors, supervisors, and central bankers.

## 2. Design of Green Bank Equity certificates

GBE provides the minimum amount of regulatory equity capital required to fund a pool of new loans that finance low-carbon transformation projects (see Figure 1).

Figure 1: Bank balance sheets with Green Bank Equity



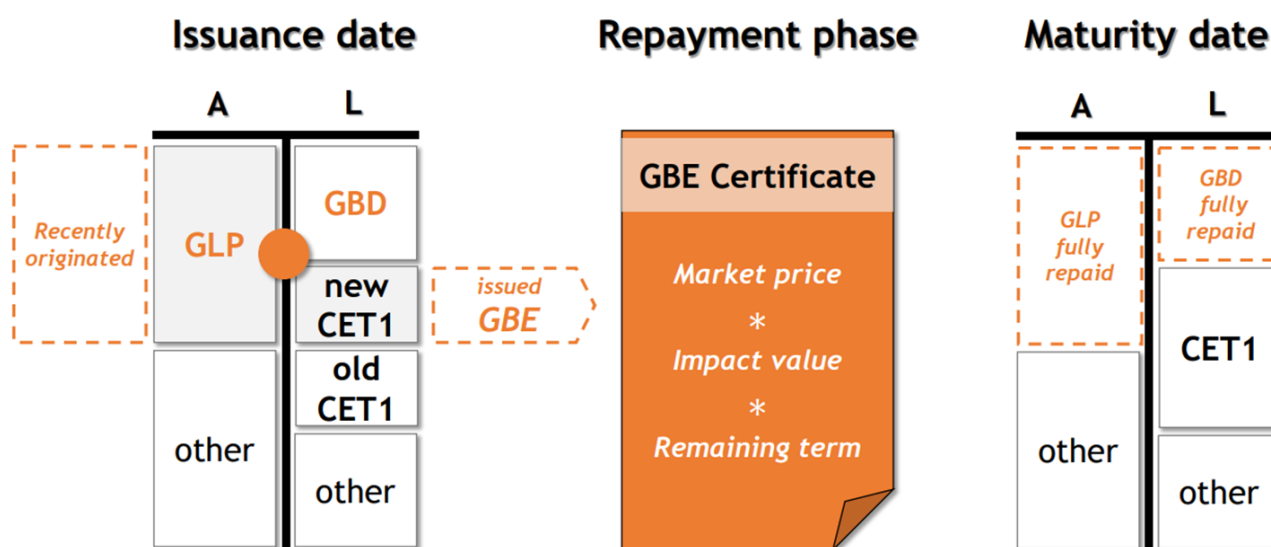
Once GBE shares are issued, it will not be possible to differentiate it from any other share of the bank. At issuance, however, GBE investors on primary markets receive one additional certificate per share purchased. Such certificate constitutes no claims to collect residuals or repayments from the bank. However, the certificate's market value will mirror the premium that secondary market investors are willing to pay for the environmental impact that GBE enables through facilitating green lending in the green loan pool (GLP).

Secondary market investors will be able to determine a market price for the GBE certificate based on two time-dependent data points that are frequently updated with reference to the certificate’s identifier: an impact value and the latter’s average remaining term.

The impact value is measured as the current outstanding amount of green loans in the GLP that is funded by one GBE share. Thus, the impact value reflects the repayment of loans in the GLP and therefore accounts for the ongoing reduction of the risk that the bank takes in order to finance the transition.

The average remaining term of the GBE certificate’s impact value is the volume-weighted average residual maturity (at a given time) of the specific GLP that the GBE issued simultaneously with the certificate finances. Figure 2 gives a brief summary of the GBE design and its lifecycle.

Figure 2: Lifecycle of GBE certificates



On secondary markets, most importantly institutional investors will drive the demand for GBE certificates in order to prove towards customers that a managed portfolio contributes to the low-carbon transition.

Legally separating the GBE certificate from the equity instrument has two advantages. The separation ensures that the issued equity itself (i.e. the GBE) meets the fundamental regulatory requirement to be available to cover the losses of the entire institution unconditionally. Therefore, from a legal point of view, the GBE does not fund the GLP in any privileged way. At the same time, having the opportunity to sell the proof of impact (i.e. the GBE certificate) independently from the GBE share, will allow to cover any other conventional asset with the positive environmental impact. Such practice is comparable with purchasing emission reduction certificates that proof that accredited projects neutralise released greenhouse gases elsewhere.

Equity instruments will have to meet the following criteria in order to be eligible for GBE certificates.

**Embeddedness** demands the GBE to help fund the outstanding nominal amount of a GLP that is directly linked to GBE. The loans in the GLP must be originated with proximity in time to the GBE issuance. In order both to maximize the effect on GLP funding costs and to reduce GBE operational costs, it is reasonable to not only embed GBE in a GLP but also to link such pool to a set of green bonds (GBD).

**Additionality** restricts the GBE label to volumes of newly issued equity exclusively.

**Adequacy** ensures that GLP loans meet a given taxonomy. The taxonomy defines the set of criteria that qualify specific projects to support the transition towards a low-carbon economy meaningfully.

**Transparency** requires compliance with the taxonomy to be audited by an independent entity.

**Recognition** limits GBE to instruments that are eligible as core capital CET1 under the capital requirements regulation (CRR) or any comparable regulation that meets the own funds criteria under the Basel accord.

**Proportionality** scales the certified GBE volume to equal the minimum amount of own funds that are required by capital regulations to back the risk weighted exposure amounts (RWA) of the GLP in which the GBE and GBD are embedded.

Having demonstrated the rationale for a GBE certificate and outlined its basic architecture, the following section briefly summarises its main features and demonstrates that it is compatible with the interests of major stakeholders.

### 3. Implications

The GBE concept serves to credibly signal investors that the issuing bank is involved in additional lending to transformative projects. The label is not intended to introduce a new type of equity instrument in any economic or legal sense. The function of the GBE concept is solely to help market issuances in a way that ensures environmental integrity and thereby secures lower cost of equity in the long term.

The cost of equity is reduced because new investors on primary market know that they may sell the certificate either along with the shares or separately, thereby generating additional revenues that are not linked to the financial performance of the bank. New issuances of shares are associated with a dilution of voting power of existing investors. Such negative externalities are generally solved by means of granting subscription rights which existing investors can sell in order to return a compensation. Therefore, existing investors will welcome GBE as it also generates positive externalities in the form of facilitating market access and thereby growth.

Regulators will welcome GBE as a means to incentivize generally higher equity ratios in the banking sector. The volume limits that are introduced by the principles of *embeddedness* and *proportionality* imply that the GBE certificate's impact value—and hence its market price—will decrease over time, in synchronisation with the repayment of principal within the GLP. After certificates mature, however, initially issued GBE equity will still fund the bank as ordinary CET1.

GBE is in the interest of central bankers as it supports the isolation of inflation dynamics from external sources and supports the lending channel of monetary policy. To a substantial part, current inflation is driven by the rise in prices of carbon intensive energies—oil and gas in particular—that are imported from outside the currency area (ECB, 2022). GBE renders the lending to non-imported sources of renewable energy more attractive, if the GBE adequacy taxonomy is defined accordingly. Then, GBE supports independence from price shocks that are imported. In times of too low inflation, in turn, expansionary monetary policy crucially depends on the lending channel through which aggregate demand is pushed by new lending towards non-financials, such that inflation increases to the desired levels. A banking sector well endowed with surplus equity capital, i.e. a level of equity that is above the regulatory minimum requirements, will hand out more credit to the non-financial sector (Gambacorta and Shin, 2018).

Central bankers may support GBE and green lending by helping to decrease audit costs. Currently, the application of the Green Bond Principles (GBP) issued by the International Capital Market Association (ICMA) is the most widely used mechanism to ensure environmental integrity on international green bond markets. The GBP provide a guideline that issuers may use to structure their own frameworks that govern green bond programmes. It is common practice that external reviewers verify adherence to such frameworks. Such private standards and auditing solutions may be subject to incentive problems that limit the integrity of the certification (v. Wangenheim, 2019). At the same time, in cases where private certifiers have to invest in separate technical audit infrastructures and processes, the average cost of reviews may be unnecessarily high even in a competitive market environment. However, GLP audit costs could be reduced by making use of centralized credit registers that are already in place and have a wide coverage, as for example the analytical credit datasets (AnaCredit) used by central banks of the Eurosystem.

#### 4. Conclusion

Policy makers, bank regulators, private standard setters, and market platforms can enable banks to support funding the transition towards a low-carbon economy. To reach this aim, a comprehensive governance scheme can be provided that allows credit institutions to offer green equity products.

This policy note sketches the design of a new financial product, i.e. GBE certificates, which ensures the environmental integrity of Green Bank Equity and allows it to be eligible as regulatory core capital. While the GBE set up aims at reducing the cost of equity of conventional banks in the first place, its design principle and infrastructure are universal and hence can likewise be used to collect own funds for any other investment vehicle that finances green projects. ■

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