



BANCA ETICA'S CARBON FOOTPRINT ACCOUNTING

September 2022

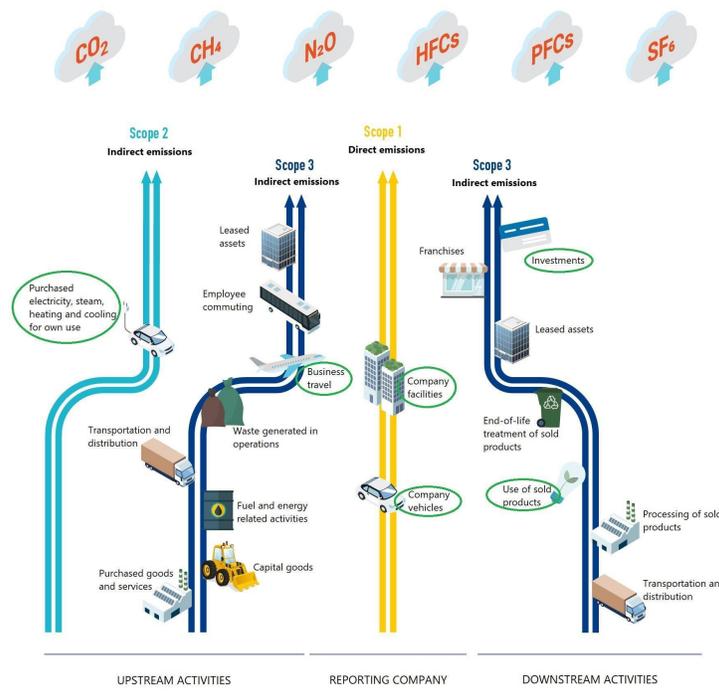
Introduction

Banca Etica is a cooperative bank that operates in Italy and Spain. It was established thanks to the commitment of a number of individuals and organizations who joined forces to create a credit institution based on Ethical Finance principles: transparency, participation, sobriety, efficiency and attention to the non-economic consequences of economic actions.

The carbon footprint is a parameter that is used to estimate the greenhouse gas emissions associated directly or indirectly with a product, service, organization, event or individual, generally expressed in tons of CO₂ equivalent (tCO₂e, those greenhouse gases that are equivalent to CO₂ in the effects of global warming).

Banca Etica reports data on the climate impact of its activities both considering the emissions directly produced and those generated by the investments and loans granted.

Member of Global Alliance for Banking on Values (GABV), Banca Etica has committed to disclose its climate impact resulting from its portfolio of loans and investments according to the Climate Change Commitment (3C Initiative).



Source: GHG protocol

Total greenhouse gas emissions

Indeed, this year Banca Etica has published its third [Impact Report](#), with a specific chapter on Carbon Footprint accounting, based on PCAF standard¹.

Banca Etica fully evaluated Scope 1 & 2 emissions. In the case of Scope 3 Downstream indirect emissions the evaluation covers 78% of its assets. Its assets overall produced 80 thousand tonnes of CO₂ equivalent (almost 31% less than 2020 emissions).

Direct and indirect emissions produced by Banca Etica in 2020		
Category	tCO ₂ e	Notes
SCOPE 1: Direct emissions		
Company facilities - heating	14	
Company vehicles	12	
SCOPE 2: Electricity use		
Purchased energy	15	
SCOPE 3: Indirect emissions		
Paper	5	
Business travel	40	
Employee commuting	137	
Working from home	95	
Loans and investments:	79,235	
<i>Sovereign bonds</i>	4,785	<i>100% of sovereign bonds and 50.7% of total assets</i>
<i>Corporate/SME loans estimated</i>	67,785	<i>100% of corporate loans and 26.5% of total assets</i>
<i>Corporate/SME loans reported</i>	6,132	
<i>Mortgages</i>	637	<i>13.9% of Mortgages and 0.3% of total assets</i>
<i>other investments</i>	532	<i>6.7% of other investments and 0.3% of total assets</i>
Total Emissions	80,190	Emissions per €M of loans & investments 27.7 tCO₂e/€M
Emissions avoided due to loans	82,439	
Emissions avoided due to hybrid working	164	
Total emissions avoided	82,603	

¹ [PCAF, Global GHG Accounting and Reporting Standard for the Financial Industry](#)

In accordance with the PCAF method, these estimates do not include Scope 3 (upstream) emissions of financed institutions. For the sake of completeness, we report that these would represent an additional:

- 4,068 tCO₂e for sovereign loans;
- 144,200 tCO₂e for loans to enterprises.

The adopted methodology for the calculation of the emission factors is certainly crucial for the footprint's estimation. We present in the following chapters methodologies and estimations for the covered assets.

Scope 3 emissions: **Sovereign bonds**

In 2021 sovereign bonds represent 51% of Banca Etica's assets. It is estimated that they produce emissions (Scope 1 and Scope2) for 4,785 tonnes of CO₂e .

The bigger share of emissions is ascribable to Italian bonds which are 96% of the total amount held by the bank and 93% of the produced emissions. This is due to the fact that the emission factor of Italian bonds is quite low compared to other countries that use more fossil fuels in their energy mixes.

For the evaluation of the sovereign bonds' Scope 1 emissions, the emission factor is the ratio between CO₂ equivalent tonnes produced by the public administration of each country and their central government consolidated gross debt. Then, the emission factor is multiplied by the amount of euros invested in a specific sovereign bond.

$$(1) \quad \text{Scope 1} = \sum_{i = \text{country}} \frac{\text{Public administration GHG}_i}{\text{Central government consolidated gross debt}_i} \times \text{exposure}_i$$

For the estimation of the sovereign bonds' Scope 2 emissions (equation 2), the emission factor used is the ratio between CO₂ equivalent tonnes produced by the Nace D (*energy sector*) sector of each country and the respective Nace D GDP. Then, the emission factor is multiplied for the value of products from the energy sector (*Nace D*) used by the public administration (*Nace O*), which we call "IO table value". This is then multiplied by the share owned by Banca Etica of the total country's public debt (%*exposure*).

$$(2) \quad \text{Scope 2} = \sum_{i = \text{country}} \left(\frac{\text{Nace D GHG}_i}{\text{Nace D Gdp}_i} \times \text{IO table value}_i \right) \times \% \text{exposure}_i$$

Lastly, within the estimated emissions for sovereign bonds, Banca Etica did not include Scope 3 emissions, as provided by PCAF methodology. Nevertheless, we did calculate Scope 3 Upstream emissions for sovereign bonds (4,068 tCO₂e), which were evaluated referring to public administration's emissions due to the use of resources supplied by all the other sectors, excluding the energy and public administration sectors already accounted for in Scope 2 and 1 (equation 3). The "IO table value" in this case is the value of products used by Nace O from all other sectors with the exclusion of Nace D. The "% exposure" is the share owned by Banca Etica of the total country's public debt.

$$(3) \quad \text{Scope 3} = \sum_{i = \text{country}} \left[\frac{(\text{Total GHG} - \text{Nace O GHG} - \text{Nace D GHG})_i}{(\text{Total Gdp} - \text{Nace O Gdp} - \text{Nace D Gdp})_i} \times \text{IO table value}_i \right] \times \% \text{exposure}_i$$

Emissions produced by sovereign bonds held by Banca Etica in 2021			
Country	Total amount held (M€)	Emission factor (tCO ₂ e/M€)	Emissions (tCO ₂ e)
Croatia	11.5	14.1	161.6
Greece	10.2	3.2	32.2
Italy	1,416.3	3.1	4,458.3
Portugal	14.5	4.5	65.6
Spain	16.4	4.1	67.0
Total	1,468.9		4,784.7

Scope 3 emissions: **Corporate/SME loans**

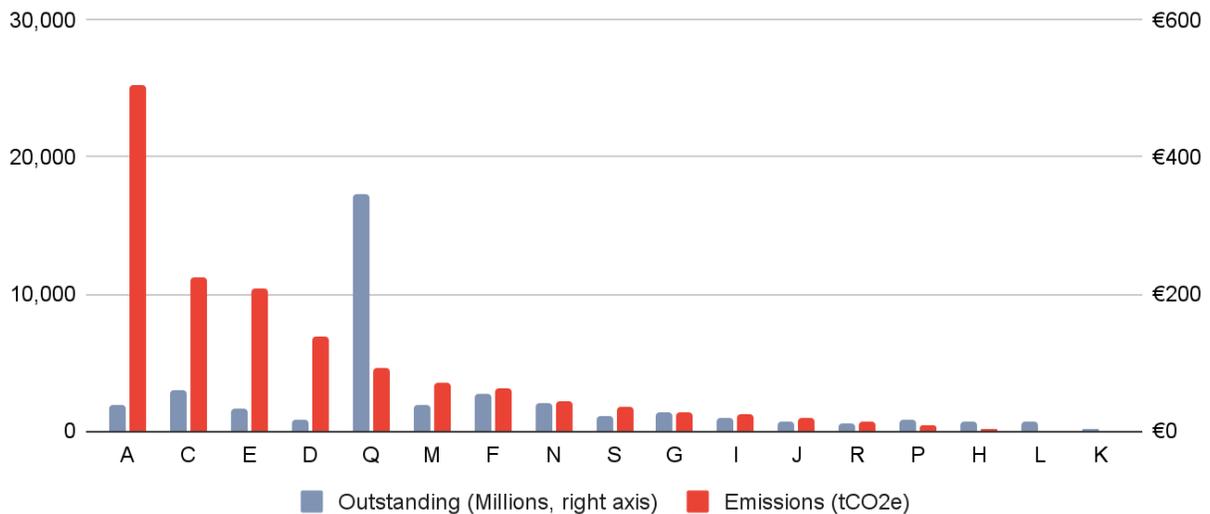
The emissions produced by corporate/SME loans (27% of Banca Etica's assets in 2021) were estimated assigning to each granted organisation the average sectoral emissions and calculating the emission proportionally to the outstanding loans. The considered emissions were relative to Scope 1 and 2, as required by PCAF methodology. The emission factors per euro of assets were provided by PCAF.

$$(4) \quad SME \text{ loans } GHG = \sum_{i=SME} Av. \text{ sectoral } GHG \times \text{ outstanding loans }_i$$

Only for a small number of organisations (less than 2%) no estimates were made, as they reported their emissions through our Socio-Environmental Questionnaire.

Corporate/SME loans produced in 2021 accounted for 73 thousands tonnes of CO₂e. The three sectors that most contributed to total loans emissions were "Agriculture, forestry and fishing" for 34%, "Manufacturing" for 15% and "Water supply; sewerage; waste management and remediation activities" for 14%.

Emissions from corporate/SME loans for NACE sector and outstanding at 31.12.2021



The adopted methodology leads to overestimated figures, since the agricultural sector's emissions are considered in its sectoral average - which is typically high - while Banca Etica finances mainly companies using organic farming techniques which may often be less polluting.

Banca Etica also estimated Scope 3 Upstream emissions, even if not accounted for in total corporate/SME loans emissions: the total Scope 3 Upstream emissions would be 144,200 tCO₂e.

An in-depth study based on information collected by Banca Etica as part of the Social and Environmental Assessment makes it possible to quantify the activities financed that have led to the avoidance of climate-changing emissions. These can be divided between the installation of new renewable energy production plants from renewable sources (which explain most of the avoided emissions), energy saving activities and impacts from energy efficiency actions related to the use of "Superbonus" and "Ecobonus" tax credits.

Source of emissions avoided	Clients	Emissions avoided (tCO ₂ e)
Renewable energy plants	20	81,785
Energy efficiency	11	563
Tax credits related activities	66	90
Total	97	82,439

Scope 3 emissions: **Mortgages**

Emissions from mortgages in 2021			
Type of building	Granted loans, (M€)	Number of buildings	CO ₂ e tonnes
Residential buildings	9.0	185	621
Retail	0.1	1	8
Parkings	0.3	1	4
Total	9.4	187	632

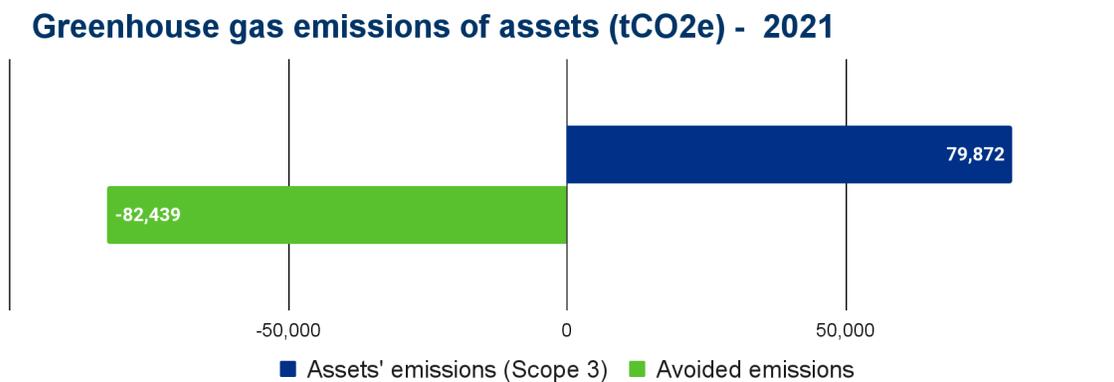
Because of lack of information about the specific building characteristics, square meters in particular, Banca Etica could only estimate emissions for the 14% of total mortgages granted in

2021. The emissions were estimated multiplying the square meters of the 187 buildings funded for which the information was available by a Scope 1 emission factor, resulting in a total of 632 tonnes of CO₂ equivalent.

$$(5) \quad \text{Mortgages' GHG} = \sum_{i=\text{mortgage}} \text{Average apartment GHG} \times \text{square meters}_i$$

Different emission factors were used for Residential building and Non residential buildings (retail and parkings).

Scope 3: **Avoided emissions**



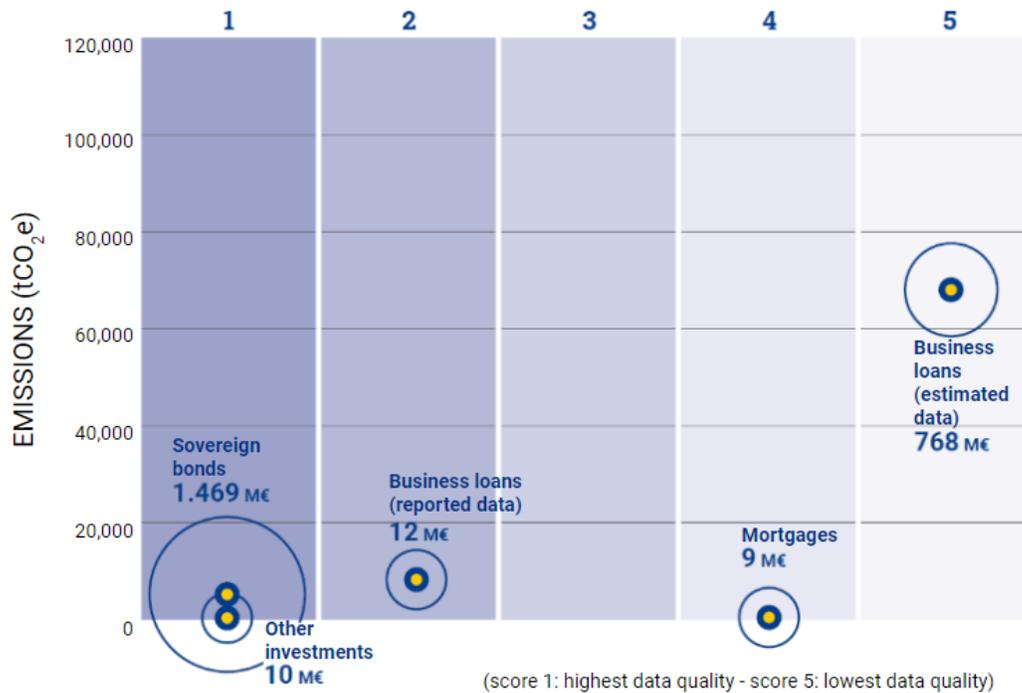
Total avoided emissions by Banca Etica's loans in 2021 were 82,439 tCO₂e.

Regarding the estimation of the avoided emissions we considered the loans granted by Banca Etica to organizations declaring they would use the loan to implement energy efficiency projects or to install renewable energy plans..

The data on energy savings resulting from our loans, already expressed in kWh in clients' estimations, were directly multiplied by an emission factor based on the national energy mix published by the Italian Ministry of the Environment, thus obtaining the tonnes of CO₂e avoided. In order to convert the data on newly installed renewable energy installations, provided by clients in kW, the European Union's PVGIS platform was used, converting according to the municipality where the renewable energy plant was installed.

Data quality² of scope 3 emissions

According to the PCAF methodology classification, a scoring of data quality was assigned to each different kind of estimate. The highest levels of emissions data quality are for sovereign bonds and other investments, that have a score 1 level of data quality, and for business loans (reported data), which have a score 2 level. The remaining data, mortgages and business loans (estimated data) emissions, have respectively a score 4 and 5 level of data quality.



References:

PCAF (2020). *The Global GHG Accounting & Reporting Standard for the Financial Industry. First edition.*

² Details on data quality scores assigned per Banca Etica's asset class:

- Business loans (estimated data). Score 5: GHG emissions per sector and Assets per sector.
- Business loans (reported data). Score 2: unverified GHG emissions data calculated by the company in accordance with the GHG Protocol.
- Mortgages. Score 4: estimated building energy consumption per floor area based on building type and location-specific statistical data and floor area financed.
- Sovereign bonds and Other investments. Score 1: verified GHG emissions data from the company in accordance with the GHG Protocol