

ARTICO Partners

Portfolio Decarbonization Methodology

February 2023

Revision History

Version	Date	Changes
0.00	04.04.2022	Initial draft
1.00	03.06.2022	Official version with base date carbon intensity reference values
1.01	26.09.2022	Decarbonization Pathway Carbon Intensity formula corrected
1.02	08.02.2023	Base date reference carbon intensity corrected

Introduction

ARTICO Partners seeks to provide investors with actively managed, diversified funds with clear sustainability objectives and aligned with the Paris Agreement¹. This document describes the basic rules and guidelines for the construction and management of the ARTICO Sustainable fund portfolios to be compatible with a 1.5°C global warming climate scenario.

The decarbonization methodology adopted by ARTICO Partners uses relevant guidelines and minimum standards developed for the EU Paris-Aligned Benchmarks and centers around an initial reduction in Greenhouse Gas (GHG) Intensity of 50% and an annual decarbonization rate of 7% thereafter at portfolio level.

ARTICO Sustainable funds integrate ESG criteria fully in their investment process and apply a broad range of strict rule and norm-based exclusions. ESG integration and non-carbon and fossil fuels related exclusions are outside the scope of this document.

Environmental Objective

The environmental objective of the decarbonization methodology adopted by ARTICO Partners is Climate Change Mitigation.

¹ UNFCCC. (2015). The Paris Agreement: <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>.

Decarbonization Methodology

This section details the decarbonization process, metrics and key parameters. Starting point is the calculation of a Paris-aligned decarbonization pathway for a given investment universe. To this end the Carbon Intensity of a fund-specific broad market benchmark is calculated for a Base Date (start date) and then periodically reduced by a constant factor in accordance with the trajectory implied by the Intergovernmental Panel on Climate Change's (IPCC) most ambitious 1.5°C scenario. This universe-specific decarbonization pathway is then used as a target upper limit for the construction of ARTICO Sustainable fund portfolios on an ongoing basis.

The following principles apply for ARTICO Sustainable funds:

- The universe used to calculate the Carbon Emissions Intensity reference value at Base Date is a broad market index that is a good and fair representation of the ARTICO Sustainable fund's underlying investment universe.
- For the initial decarbonization pathway a reduction of 50% is applied to the Carbon Intensity of the broad market index as at Base Date. Subsequently the Carbon Intensity pathway is decarbonized by 7% annually, which is done in two semi-annual steps on the first day in June and December.
- Carbon Intensity is defined as Scope 1+2+3 Carbon Emissions (in metric tonnes CO₂) scaled by Enterprise Value including Cash (EVIC, in million USD). Reported Scope 1+2 emissions are used and company Scope 3 emissions estimated by MSCI. Estimated Scope 3 emissions are total (upstream and downstream) emissions as defined by the Greenhouse Gas Protocol. Due to lack of availability, consistency and completeness Scope 3 data is based on estimated and not reported data.
- ARTICO Sustainable funds additionally apply a forward-looking approach and control for an Implied Temperature Rise of 2.0°C or below at portfolio level.
- ARTICO Sustainable funds are constructed so that their Carbon Intensity at portfolio level follow the calculated Decarbonization Pathway Intensity. There is no specific requirement as to the Carbon Intensity of individual companies.
- The portfolio Carbon Intensity can be lower (also substantially) than the actual Decarbonization Pathway Intensity. The portfolio Carbon Intensity can also slightly exceed the actual Decarbonization Pathway Intensity (due to new company data, a recent decarbonization-step or other portfolio constraints), which will be corrected over time.
- A set of exclusion criteria regarding carbon and fossil fuel related business activities is used to exclude companies from the eligible universe. However, these criteria can be annulled for companies that show credible science-based forward-looking target emissions in line with the Paris-aligned warming scenario goal.

Appendix - Calculation of Target Metrics

Weighted Average Carbon Intensity (WACI)

Basic calculation of the portfolio-level carbon intensity:

$$WACI = \sum w_i * \frac{CE1_i + CE2_i + CE3_i}{EVIC_i}$$

where:

w_i = weight of the company i in the portfolio

$CE1_i$ = Scope 1 carbon emissions in tCO₂ for the company i

$CE2_i$ = Scope 2 carbon emissions in tCO₂ for the company i

$CE3_i$ = Scope 3 carbon emissions in tCO₂ for the company i

$EVIC_i$ = enterprise value including cash of the company i

Decarbonization Pathway Weighted Average Carbon Intensity as of Base Date (DPWACI_{t0})

The initial decarbonization pathway carbon intensity start value is the Weighted Average Carbon Intensity of the broad market index universe reduced by 50% as of the Base Date:

$$DPWACI_{t0} = 0.5 * WACI_{t0}$$

where:

$WACI_{t0}$ = weighted average carbon intensity of the broad market index universe as of the Base Date t_0

Enterprise Value Inflation Adjustment Factor (EVI AF)

$$EVI AF_t = \left(\frac{AVG_EVIC_t}{AVG_EVIC_{t0}} \right) - 1$$

where:

AVG_EVIC_t = average enterprise value including cash of the broad market index universe as of decarbonization date t

AVG_EVIC_{t0} = average enterprise value including cash of the broad market index universe as of the Base Date t_0

Calculation of Decarbonization Pathway Carbon Intensity (DPCI)

On average the portfolios follow an annual 7% decarbonization trajectory since Base Date:

$$DPCI_t = DPWACI_{t0} * 0.93^{\frac{t}{2}}$$

where:

$DPWACI_{t0}$ = decarbonization pathway weighted average carbon intensity of the broad market index universe as of the Base Date t_0

t = semi-annual decarbonization step, with Base Date $t = 0$

Calculation of Inflation Adjusted Decarbonization Pathway Carbon Intensity (IADPCI)

The effective target for the portfolio-level carbon intensity is defined by the decarbonization pathway adjusted for inflation:

$$IADPCI_t = \frac{DPWACI_{t0} * 0.93^{\frac{t}{2}}}{1 + EVIAF_t}$$

where:

$DPWACI_{t0}$ = decarbonization pathway weighted average carbon intensity of the broad market index universe as of the Base Date

t = semi-annual decarbonization step, with Base Date $t = 0$

$EVIAF_t$ = enterprise inflation adjustment factor as of decarbonization step t

Appendix - Estimation of Missing Carbon Emissions Data

For companies where carbon emissions are not available a tiered approach is adopted to estimate the missing data based on the average GICS Industry-Group Emissions Intensity, or where too few constituents populate an Industry-Group the average Carbon Intensity of the GICS Sector is used instead. Where either Scope 1, 2 or 3 emissions data is missing the full Scope 1+2+3 emissions is estimated; if only Scope 3 emissions is missing only this is estimated and added to reported Scope 1+2 emissions.

Estimation Step 1

The average Scope 1+2+3 / Scope 3 Emissions Intensity (based on revenues) of all constituents of the estimation universe in the same GICS Industry-Group to which a company belongs to is used if at least 5 constituents in the estimation cluster have defined Emissions Intensity data.

Estimation Step 2

For companies that still have missing Emissions data due to cluster size constraints the average Scope 1+2+3 / Scope 3 Emissions Intensity (based on revenues) of all constituents of the estimation universe in the same GICS Sector is used regardless of the estimation cluster size.

The underlying estimation universe for each ARTICO Sustainable fund is shown in the table below:

Fund	Estimation Universe
ARTICO Sustainable Global Core	MSCI World
ARTICO Sustainable Emerging Markets	MSCI Emerging Markets
ARTICO Sustainable Global Small Cap	MSCI IMI

Appendix - Outlier Handling

In order to remove data errors Carbon Intensity values exceeding upper threshold values are truncated to the maximum (threshold) level. Some thresholds are sector-specific:

EVIC Carbon Intensity	Sector	Upper Threshold (tCO2e / mUSD)
Scope 1+2	All	30'000
Scope 1+2+3	All but Energy	50'000
Scope 1+2+3	Energy	150'000

Appendix - Decarbonization Trajectory Start Carbon Intensity

The Weighted Average Carbon Intensity (based on Scope 1+2+3 emissions to EVIC ratio) on the Base Date is the initial reference value used to compute the target decarbonization pathway at any semi-annual decarbonization step.

A broad market index is used to calculate the Carbon Intensity for each investment universe and an initial reduction of 50% is applied for the reference value.

The table below shows the Base Date and corresponding Carbon Intensity at the start:

Fund	Index	Base Date	Index Carbon Intensity (tCO2/mUSD)	Reference Carbon intensity (tCO2/mUSD)
ARTICO Sustainable Global Core	MSCI World	June 01, 2020	373.41	186.70
ARTICO Sustainable Emerging Markets	MSCI EM	June 01, 2020	797.86	398.93
ARTICO Sustainable Global Small Cap	Custom MSCI Small Cap 4 Regions	June 01, 2020	611.22	305.61

Appendix - Carbon and Fossil Fuel Related Exclusions

For the portfolio construction of ARTICO Sustainable funds the following set of climate-relevant exclusion criteria is used to remove companies from the eligible universe:

Business Activity	Screening Criteria
Thermal Coal	Revenue \geq 5%*
Oil & Gas (conventional or unconventional)	Revenue \geq 5%*

* The 5% threshold is applied to cumulative oil, gas or coal related revenues and not individually.

Appendix - Data Sources

Dataset	Data Source
Scope 1 Emissions Scope 2 Emissions Estimated Scope 3 Emissions Implied Temperature Rise	MSCI Inc.
EVIC Revenue	MSCI Inc. / Bloomberg L.P. (where MSCI data is missing)

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