Aperio Carbon Credit Program – Helping Investors on Their Climate Mission

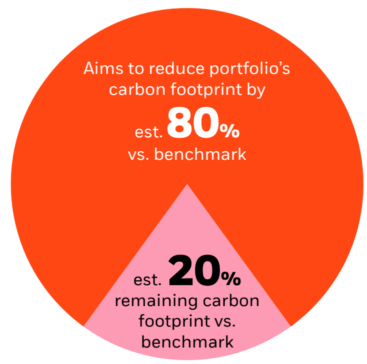
A novel tool for climate-conscious investors

- At Aperio, investors looking to align their portfolios with their concerns about climate change have multiple options at their disposal, from portfolio exclusions and tilts to proxy voting, shareholder advocacy, and now carbon credits.
- Scientific research[1] indicates that greenhouse gas (GHG) emissions, including carbon dioxide, need to be reduced at greater than the current rate to stem the impacts of climate change. Supporting carbon credit projects may be one way to positively impact the climate.

Supporting investors' climate journey with no additional portfolio risk

- The Carbon Credit Program is available to investors who have selected Aperio's Low-Carbon Footprint Tilt, which targets an estimated 80% reduction in a portfolio's carbon footprint compared to its benchmark.
- Credits are allocated quarterly to program participants commensurate with their portfolios' estimated remaining carbon footprints[2].
- Participating accounts are billed quarterly for this service.
- Importantly, the program has no impact on portfolio risk profiles.

Aperio's Low-Carbon Footprint Tilt



Carbon credit project selection and credits purchase

- To source projects, Aperio has engaged Carbon Direct[3] and their 30+ climate scientists' expertise in conducting due diligence on carbon credit projects. Through this collaboration, program participants benefit from scientific experience in evaluating projects' capacity to deliver on their goals.
- Aperio purchases carbon credits from selected projects, and the credits are retired. Transactions are recorded on a public carbon credits registry and held for allocation to program participants.
- Aperio's initial focus is on nature-based projects, such as deforestation reduction or planting new forests, with potential positive co-benefits for biodiversity and indigenous communities.

We make it simple

	Quarterly	Quarterly	Quarterly
Program enrollment	Aperio estimates portfolio carbon footprint and allocates carbon credits to program participant	Program participant billing	Aperio reports on carbon credits allocation and selected projects

[1] Intergovernmental Panel on Climate Change (IPCC) Summary for Policymakers.

[2] The Program is being offered to clients solely as a separate service unrelated to Aperio's investment advisory services and portfolio management. Neither Aperio nor BlackRock certify that carbon credits actually offset or reduce any portfolio carbon footprint or that the carbon credits themselves provide any climate benefits.

[3] BlackRock has an indirect ownership interest in Carbon Direct through Decarbonization Partners, which is a partnership between Temasek and BlackRock, subject to change.

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Sample projects

See "Important notes" for photo credits.

Sample Carbon Avoidance Project: Keo Seima Wildlife Sanctuary[4]

The Keo Seima project, located on 300,000 hectares in Cambodia, is one of the country's most successful conservation programs. It holds more than 75 million metric tons of carbon and hosts more than 1,000 species, including 55 globally threatened vertebrate species and 75 globally threatened flora and fauna species.

Since the initial involvement of REDD+[5] in 2010, the Keo Seima project has protected almost 167,000 hectares of trees. This project has helped combat deforestation in the area, which is typically caused by farmland expansion, hunting and targeted logging. From a biodiversity perspective, Keo Seima provides a home to the highest number of species recorded in any protected area, including more than 350 bird species. In addition to positive climate impacts, the project also benefits local community members by supporting the construction of local water systems (including piped water), community halls, and bridges.

Sample Carbon Removal Project: The International Small Group & Tree Planting Program (TIST)[6]

TIST is a reforestation and sustainable development program designed to combat climate change and poverty. The program is carried out by subsistence farmers growing trees on converted farmland, where participants decide which trees to plant and where to plant them. TIST began in Tanzania in 1999 and has since expanded to Kenya, Uganda and India.

The TIST Program has designed innovative procedures for monitoring, quantifying, and tabulating the carbon stocks in planted TIST trees. As of November 2022, TIST farmers have planted over 23.9 million trees, sequestering 9.1 million metric tons of CO2e. Planting trees also supports biodiversity and encourages the return of various forms of life to the area. Further, participating farmers have restored over 60,000 hectares of land through conservation farming and tree planting. The program supports sustainable livelihoods by improving degraded land and increasing crop yields. Further, more than three-quarters of participating farmers receive health and nutrition education. TIST educational opportunities are offered and accessible to community members of all ages, genders, or social status.

Understanding carbon credits

What are greenhouse gases (GHG)?

Greenhouse gases are those gases in the atmosphere that have an influence on the earth's energy balance. They cause the so-called greenhouse effect. The most well-known greenhouse gases, carbon dioxide (CO_2), methane and nitrous oxide, can be found naturally in low concentrations in the atmosphere. However, the proportion has increased significantly since the beginning of the last century, which many scientists attribute to the burning of fossil fuels.

What is a carbon credit?

At a high level, a carbon credit represents a reduction in greenhouse gases (GHG) to compensate for emissions made somewhere else. Carbon credit projects can either avoid or remove emissions. One carbon credit represents one metric ton of carbon dioxide or equivalent (CO_2e) of emissions reduced. CO_2e is also represented as GHG emissions.

How are carbon credit projects selected?

Criteria considered in project selection include factors such as additionality (projects would not have occurred if not for carbon finance), durability (the physical integrity of carbon storage over time; the longer the duration, the better), leakage (ensuring that because a project is set up in one location, the harmful activities aren't simply moved to another location), pursuit of co-benefits, and environmental justice. In addition, monitoring, reporting and verification are prioritized in the evaluation.

There are two kinds of carbon credit projects — avoidance and removal. What's the difference?

Carbon avoidance projects seek to prevent CO_2e emissions that would have been released into the atmosphere, while carbon removal projects aim to remove existing CO_2 out of the atmosphere.

For example, carbon avoidance projects could be building a wind farm to lower reliance on fossil fuels, replacing wood burning cookstoves with cleaner alternatives, or preventing deforestation.

Carbon removal projects aim to remove CO_2 out of the atmosphere. They can be nature based (e.g. tree planting which sequesters carbon as the tree grows for the lifespan of the tree) or engineered (e.g, direct air capture) with some crossover, such as kelp farms which grow kelp, allow it to sequester carbon, and then sink it to the bottom of the ocean where it will remain for more than 100 years.

What does it mean to "retire" a carbon credit?

Retiring a credit means taking it off the market permanently. This ensures that the credit cannot be traded or resold, nor can emission reduction claims be made against it by any other entity. Once a credit is retired, its status is recorded on a publicly available carbon credit registry.

Who is Carbon Direct?

Carbon Direct, Inc. is a science-first carbon management firm enabling organizations to turn industry-leading carbon science into action. Carbon Direct helps their clients create quality criteria for carbon credits, reduce supply chain emissions, procure low carbon fuels and materials, and facilitate large-scale carbon credit and removal procurement. The US-based company is backed by a team of over 30 of the world's top carbon scientists, and it helps leading companies and governments around the world reach their climate goals.

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[4] WCS Keo Seima Wildlife Sanctuary.

[5] REDD+ is a framework created by the UNFCCC Conference of the Parties (COP) to guide activities in the forest sector that reduce emissions from deforestation and forest degradation, as well as the sustainable management of forests and the conservation and enhancement of forest carbon stocks in developing countries.

[6] The International Small Group & Tree Planting Program (TIST). Data & information as of November 2022. Visit program.tist.org/about for more information.

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Important notes

Aperio Group, LLC, provides this material on the Carbon Credit Program ("Program") for informational purposes only and for the sole use of the recipient. The Program provides an opportunity for investors to be allocated carbon credits that BlackRock has selected, purchased, and retired, as described in the Program agreement required for participation.

Information on carbon credits offered through the Program is provided with the understanding that neither Aperio nor BlackRock guarantees its accuracy. Neither Aperio nor BlackRock are engaged in rendering environmental/sustainability, legal, accounting, or tax services. We recommend that all clients seek out the services of competent professionals in these areas.

Retired carbon credits are not securities and have little or no inherent monetary value. Nothing in this material is a recommendation to buy or sell any securities.

The Program is being offered to clients solely as a separate service unrelated to Aperio's investment advisory services and portfolio management. Participation in the Program will not affect the performance of any portfolio. There is no secondary re-sale market for retired carbon credits. There is no resale value for retired carbon credits and, other than the initial purchase price, no value assigned to them.

Neither Aperio nor BlackRock certify that carbon credits actually offset or reduce any portfolio carbon footprint or that the carbon credits themselves provide any climate benefits.

Neither Aperio nor BlackRock is providing any advice or recommendations in respect to the intrinsic value or quality of carbon credits, but merely offering them through the Program to clients using the Aperio Low-Carbon Footprint ("LCF") Tilt strategy under a two year pilot program, which is subject to change.

Photo 1 courtesy of KSWS and Wildlife Conservation Society. Pictured is a black-shanked douc langur. KSWS is home to the largest population in the world of this critically endangered monkey, and to the highest number of species recorded in any protected area in Cambodia.

Photo 2 courtesy of The International Small Group and Tree Planting Program (TIST).

Program Structure

BlackRock has partnered with Carbon Direct, Inc., BlackRock's carbon management advisor, to source and conduct due diligence on carbon credit project(s) that will be selected for the Program. BlackRock will purchase and retire carbon credits generally directly from the selected projects.

The Program is expected to function as follows:

- BlackRock will select the project based on information provided by Carbon Direct.
- BlackRock will generally purchase and retire carbon credits directly from the selected project.
- Carbon reduction projects that offer carbon credits for sale are anticipated to be selected on an as-needed basis.
- Carbon credit purchases for each project will be retired on a public carbon credits registry.
- BlackRock will hold the carbon credits for the purpose of allocation to Aperio Clients with portfolios in the participating strategy.
- Carbon credits will be allocated quarterly to participating clients, based on previous quarter-end portfolio weights and AUM, and publicly available emissions data (which is generally updated only on an annual basis).
- Program fees will be billed quarterly at a flat rate dependent on client project selection, as described below.
- Clients will generally receive semi-annual reporting, which will include carbon credit allocation and project information. This information is subject to error and other limitations. See below.

NOTE: BlackRock has an indirect ownership interest in Carbon Direct through a partnership in Decarbonization Partners, which is a partnership between Temasek and BlackRock.

Limitations and approximations in evaluating carbon credits

A carbon credit is an instrument that purports to represent ownership of one metric ton of carbon dioxide (CO_2) equivalent (1 tCO_2e). Calculations underlying this measure are limited and dependent on information and data that may be incomplete, inaccurate, or unavailable, which could adversely affect the accuracy and evaluation of individual carbon credits. Analysis of a company's carbon footprint is limited by the information publicly available and disclosed by companies and projects that are the subject of evaluation. There are no current uniform, global regulations to set measurement standards or confirm the accuracy of data disclosed.

There are many risks associated with carbon credits, including risks inherent to the underlying project. For example, nature-based projects, such as those involved in re-forestation, are vulnerable to natural disasters such as wildfires. As a result of such events, carbon credits allocated under the program could represent less than one metric ton of CO_2 equivalent.

The allocation of carbon credits through the Program does not guarantee any level of emissions offset or credit for a portfolio's carbon footprint. The Program merely allocates available carbon credits to Clients based on measures of estimated carbon emissions in Client portfolios. See below. Any projections of carbon emission reductions or carbon footprint data are necessarily subject to error and inaccuracies. Any quantifications should be used solely as estimates or approximations of carbon emissions and carbon reduction. **Credits are to be used for estimate purposes only and their accuracy in representing a measure of carbon emissions is not guaranteed.**

Limitations in evaluating the carbon footprint of a Client portfolio and benchmark

Aperio will base Client carbon credit allocations on the estimated measure of aggregate carbon-equivalent emissions of a participating portfolio. To determine these estimated carbon emissions, Aperio uses publicly available third-party data from MSCI ESG. While companies emit CO_2 continuously and those emissions levels change over time, companies typically only publish emissions data annually. The Program therefore relies on potentially stale emissions data to estimate the number of carbon credits to allocate to a Client in any given quarter. Both the credits themselves and Aperio's evaluation of the carbon footprint of a participating Client portfolio's holdings may be based on stale or inaccurate information.

Credits offered through this Program are not represented to reduce carbon footprints of any portfolio at any point in time and will not be certified as such. Clients should not rely on carbon credits to reach specified emissions reduction targets. Aperio further makes no representations or guarantee as to the quality or measure of the carbon credits purchased and relies entirely on Carbon Direct, BlackRock's carbon removal advisor, to source and provide due diligence on carbon credit projects available for Aperio selection.

Fees

Participating Program clients will be charged an annual flat fee based on the cost of the underlying project, billed quarterly. The fee rate will depend on project characteristics, for example, whether a project is a carbon removal or avoidance-based project. In aggregate, the flat fee is designed to cover the cost of carbon credits and, in part, the sourcing and vetting of carbon projects by Carbon Direct, as well as the costs of operationalizing and operating the Program. The flat fee will generally not equal the cost of allocated carbon credits for any individual Client. Therefore, the flat fee structure will result in some clients paying more (and others less) for the allocations received under Program. A Client's actual fee per carbon credit unit will vary, among other things, based on a Client's portfolio benchmark and portfolio customization options implemented.

Program Clients may opt out at any time, but will not be refunded any previously invoiced and/or paid fees.

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