

Takeda's Approach to Carbon Offset Procurement

Background:

The effects of climate change are becoming increasingly visible and are already impacting the health and wellbeing of people around the globe. Vulnerability to heat extremes has steadily risen since 1990 in every region of the world. In 2017 alone we experienced 18 million more heatwave exposure events globally than the previous year and an estimated 153 billion labor hours were lost due to excessive heat, impacting national economies and local livelihoods. Beyond heat, 2017 brought over 700 extreme weather events, tripling the related economic losses relative to 2016. Such changes in temperature and precipitation can result in large changes in the suitability for transmission of important vector-borne and water-borne disease. As an example, certain coastal areas of the Baltic and Northeastern United States are already 25% more suitable for the pathogen that transmits cholera than they were in the 1980's. Similarly, such changes in temperature and precipitation can impact our ability to produce food. Studies of agricultural yield potential show declines in every region across the globe, reversing a decades-long trend of improvement. The observable trends in increasing heatwaves, extreme weather events and transmission of vector borne diseases, coupled with declines in labor capacity and food security have all contributed to the World Health Organization naming climate change as the single largest threat to public health of the 21st century¹.

Takeda's Commitment and Approach:

As a global pharmaceutical company committed to bringing Better Health and a Brighter Future to people worldwide, we recognize climate change as a critical public health issue. We also recognize that the disruptions caused by climate-related extreme weather events and rising sea levels have the potential to negatively impact our business operations, facilities and supply chain. As a result, we want to set high and ambitious standards for ourselves on climate action and have established 2040 targets to achieve carbon neutrality across our value chain. Takeda will do this by eliminating all GHG emissions from our operations (Scopes 1 and 2) and by working with suppliers to significantly reduce their emissions (Scope 3) and also address remaining Scope 3 emissions through verified carbon offsets. In addition, given the immediate risks to global health posed by climate change, beginning with FY19 GHG emissions, the company commits to carbon neutrality (Scopes 1, 2, and 3) through the purchase of renewable energy and verified carbon offsets, while simultaneously working to reduce emissions from its operations and suppliers. Procurement of high-quality carbon offsets is one piece of our holistic strategy to reduce the climate change impacts of our operations.

¹ 2018 Lancet Countdown Report, <http://www.lancetcountdown.org/>

To operationalize our climate goal, Takeda will follow the Institute for Environmental Management and Assessment's Greenhouse Gas (GHG) Management Hierarchy²:

1. **Avoid:** We evaluate the GHG impact of business decisions and show preference to those actions with a lower GHG emissions impact
2. **Reduce:** Where we cannot avoid emissions, we reduce GHG emissions through energy efficiency and conservation practices or operational changes
3. **Substitute:** Where we cannot avoid or reduce emissions, we substitute conventional energy and technology choices with renewable energy and low carbon technologies
4. **Compensate:** Where we cannot avoid, reduce or substitute emissions, we neutralize remaining GHG emissions through the purchase of high-quality carbon offsets

The scope of this document focuses on guidelines and key concepts related to the selection and procurement of carbon offsets to fulfill Takeda's commitment to carbon neutrality.

Introduction to Carbon Offsets:

A carbon offset is an investment in an activity that reduces greenhouse gas emissions. This reduction in greenhouse gas emissions is represented by a carbon offset, equivalent to 1 metric ton of carbon dioxide equivalent (CO₂e) prevented from entering the atmosphere. They are measurable, quantifiable and trackable units of greenhouse gas reductions.

Carbon offsets are generated by projects that carry out on-the-ground emission reduction activities. Most projects offering carbon offsets follow rules and procedures set out by a carbon offset certification standard. If a project meets these criteria, the standard will issue carbon offsets equivalent to the emission reductions. These carbon offsets can be procured and applied by the purchaser against its Scope 1 and 3 emissions.

It is important to note that while the primary unit of measure of a carbon offset is its climate benefit, many carbon offset projects also provide several other social and environmental benefits. These co-benefits often align with the United Nations Sustainable Development Goals and can contribute to local health improvements, biodiversity and ecosystem preservation and provision of local economic opportunities and skills training.

² 2010 IEMA Special Report GHG Management and Accounting, www.iema.net

BOX 1: Taken from “Voluntary Carbon Market Insights 2018”

Carbon offset producers can undertake a variety of activities to generate greenhouse gas reductions. The most common categories of carbon offset projects fall into the following categories:

1. Agriculture: modifying agricultural practices to reduce emissions by switching to no-till farming, reducing chemical fertilizer use, etc.
2. Chemical Processes and Industrial Manufacturing: modifying industrial processes to emit fewer greenhouse gases.
3. Energy Efficiency and Fuel Switching: improving energy efficiency or switching to cleaner fuel sources.
4. Forestry and Land Use: managing forests, soil, grasslands, and other land types to avoid releasing carbon and/or increasing the amount of carbon the land absorbs.
5. Household Devices: distributing cleaner-burning stoves or water purification devices to reduce or eliminate the need to burn wood (or other inefficient types of energy).
6. Renewable Energy: installing solar, wind, and other forms of renewable energy production.
7. Transportation: increasing access to public and/or alternative transportation (like bicycling) and reducing emissions from private transportation like cars and trucks.
8. Waste Disposal: reducing methane emissions from landfills or wastewater, often by collecting converting it to usable fuel.

Criteria for selecting carbon offsets:

To ensure that Takeda is procuring high-quality carbon offsets towards fulfilling its carbon neutrality commitment, we will apply the following criteria and standards when selecting projects to invest in:

1. **Additionality:** Offset projects are considered “additional” if they would not have otherwise occurred without the additional financial incentive provided by revenue generated through offset sales. For example, if a project is viable on its own, due to cost savings achieved or due to government funding, regulation or other policies, then it cannot be used as an offset project as it would have occurred regardless of investment secured through carbon offset markets. Takeda seeks only to contribute to reduction activities that would not have otherwise occurred without the assistance of our investment.
2. **Measurability:** Offset projects are considered “measurable” when the volume of emission reductions can be accurately quantified. Takeda will only invest in projects where widely accepted, science-based quantification protocols exist.
3. **Verifiable:** Takeda will only purchase carbon offsets where an independent, third-party auditor has completed a verification which substantiates the amount of emissions reductions achieved by the project.

4. **Leakage:** Leakage is when emission reductions occurring within the boundary of the project result in emission increases elsewhere. Offset projects that Takeda selects for investment must demonstrate that no leakage, or displacement, of emissions occurs as a result of the project activity.
5. **Permanence:** Takeda seeks to invest in carbon offset projects that provide permanent reductions in greenhouse gas emissions. The risk of non-permanence can be a concern with land-based carbon offset projects, such as forestry projects, where carbon benefits can be reversed, for example due to a forest fire or changing political situations. Where permanence is a concern, mechanisms must be in place to mitigate this risk, such as risk buffer pools.
6. **Vintage:** The term “vintage” refers to the year in which the carbon reduction took place. Takeda seeks to invest in carbon reductions that took place in a similar timeframe to the emissions generated and will prioritize purchase of carbon offsets that are within three years of the emissions we are neutralizing.
7. **Geography:** Takeda is committed to being a good and valued member of the communities we are part of and will seek to prioritize investments in offset projects located in geographies where we have a corporate presence
8. **Co-Benefits:** Takeda is committed to creating shared sustainable value for society and will prioritize investment in carbon offsets that demonstrate co-benefits in addition to carbon reductions that result in improvements to public health.

External Advisory Board:

Beyond adhering to the guidelines set forth in this document, Takeda will also convene an external advisory board to ensure that we are meeting our ambitious climate change commitment with the highest standards of integrity. The advisory board will be comprised of NGO, industry and/or academic climate science experts to review and advise on Takeda’s carbon offsetting initiatives.

Transparency, Reporting and Employee Engagement:

Takeda will publicly and transparently report on its carbon offsetting activities and progress toward its climate neutral commitment on an annual basis in its Sustainable Value Report. Public reporting and tracking will include total offsets purchased, certifying standard, project name and corresponding ID, project location and type, vintage of offsets, offset status and access to the project’s independent verification report. As part of our carbon offsetting strategy, Takeda will use this as an opportunity to further engage and activate employees on the topic of climate change by developing a program to involve employees in the selection of projects.

January 2020