

Written by

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(Madison, WI, December 8, 2009) – Leonardo Academy released a white paper today that aims to bring to light an issue that is under-addressed in emissions protocols - how long carbon must be held in forests that receive carbon sequestration credits. Determining how to recognize and reward existing forest owners for the carbon held in their forest is essential to successfully address climate change. The white paper, “Defining Forest Sequestration Impacts: Tonne to Tonne-Year Correlations Implicit in Existing Forestry Offset Standards,” introduces a new metric, tonne-years, as a way to account for not only the quantity of carbon emissions specified in a forest carbon sequestration credit, but also the length of time during which that carbon must remain sequestered. Beyond simply recognizing this new metric, the paper also calls attention to the need to determine an appropriate ratio between tonne-years of carbon sequestration and the capacity to offset a tonne of carbon emissions.

Unlike other types of offset projects that reduce greenhouse gas emissions in a permanent way, such as by generating electricity using wind or collecting and combusting methane emitted from landfills, trees that absorb carbon dioxide (CO₂) from the atmosphere and store (sequester) the carbon can subsequently rerelease that CO₂ due to natural or human-caused destruction. Forestry projects – whether planting new or maintaining existing forests – remain vital to addressing climate change, however, as 12-20% of global greenhouse gas emissions each year result from deforestation. While prominent offset programs employ a variety of tactics to ensure that forestry offset credits represent permanent reductions in greenhouse gas emissions, no offset program requires credited carbon stocks to be maintained ad infinitum. Rather, each tonne of carbon offset awarded represents an implied number of what Leonardo Academy refers to as “tonne-years” – a tonne of carbon held in a forest for one year.

To explore this matter, three prominent emissions standards were analyzed to understand the relationship between “tonnes” and “tonne-years” in current emissions protocols. The result was that the standards varied widely, from a 1:1 all the way to a 1:250 tonne to tonne-year ratio. This demonstrates that while one standard required only one year of forest maintenance for a one-tonne carbon offset, another included close to 250 years of maintenance in the same commodity.

Leonardo Academy’s analysis also hit upon another important finding: that the pricing of forestry offsets is directly correlated to the length of time forest carbon is required to be sequestered. As the maintenance requirements for forest carbon sequestration increased for a given standard, the corresponding market price of the offset credit increased as well.

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The paper concludes that the time element already implicit in existing forest offset protocols should be made explicit to consumers through the use of the tonne-years metric. This would not only clarify the true impact that a tonne of carbon offsets has on climate change, but would also provide a common language for the comparison of existing forest carbon offsets, setting the stage for an open discussion about the quantity of tonne-years that must be used to offset a tonne of greenhouse gas emissions.

To view a full copy of Leonardo Academy's white paper, visit <http://leonardoacademy.org/publications/reports/300-tonne-to-tonne-year-correlations.html>