

Chapter 7: Agriculture, Forestry and Other Land Uses

- > The Agriculture, Forestry and Other Land Uses₁ (AFOLU) sector include managed ecosystems and provide major mitigation strategies while delivering several natural and renewable resources along with biodiversity conservation, assuming the sector adapt to climate change.
- > In the period 2010-2019, the AFOLU sector contributed for 13-21% of global total greenhouse gas (GHG) emissions. At the same time managed and natural terrestrial ecosystems work as a carbon sink absorbing around one third of anthropogenic CO₂ emissions. Mitigation strategies represent the highest proportion of the economic (up to USD100 tCO₂-eq-1) AFOLU mitigation potential between 2020 and 2050 in forests and other natural ecosystems . Although the AFOLU industry has great near-term mitigation potential at a low cost, it cannot compensate for delayed emission reductions in other sectors
- > Land use change drives AFOLU CO₂ emission fluxes. Deforestation has usually decreased, accounting for 45% of total AFOLU emissions, while global tree cover and forest growth stock levels are anticipated to increase.
- > A major portion of the overall mitigation potential is represented by bioenergy and other bio based approaches. Depending on how food security and environmental concerns are addressed, current estimates for the technical bioenergy potential by 2050 for residues and specialised biomass production systems ranges from 5 to 50 and 50 to 250 EJ yr⁻¹ respectively.
- > Persistent constraints hamper the economic and political feasibility of implementing AFOLU mitigation measures. Assisting countries in overcoming impediments will contribute to significant short-term mitigation
- > All land-based mitigation methods combined can yield several co-benefits however inappropriate land management also carries risks and trade-offs. The ideal way to manage these risks is to undertake AFOLU mitigation in response to the demands and viewpoints of many stakeholders in order to produce results that maximise synergies while minimising trade-offs.
- > Despite the fact that alternatives related to forests have a positive impact on reducing global emissions, AFOLU mitigation methods are very well known but currently being deployed slowly and emissions trends show poor progress.
- > To achieve high levels of mitigation in the AFOLU sector, all stakeholders from policymakers and investors to land owners and managers—must work together quickly and consistently.
- > Policies that directly target emissions and encourage the deployment of land-based mitigation strategies in line with carbon prices in deep mitigation scenarios are essential for realising the AFOLU sector's mitigation potential.
- > Between different approaches to calculating human land CO₂ fluxes, there is a

disparity that is equal to 5.5 GtCO₂ yr⁻¹. The validity of AFOLU-based emissions offsetting is considerably increased by reconciling both approaches. Additionally, it would help with a global stocktake's assessment of collective progress.

- > The possibility of attaining persistent mitigation can be increased quickly by addressing the numerous knowledge gaps in the creation and testing of AFOLU mitigation strategies.

