

Preface

This document was produced as a joint venture between the U.S. Department of Agriculture's U.S. Forest Service (USFS) and Appalachian State University. It is a product of the initial phase of a broader study evaluating the voluntary and regulatory compliance protocols that are used to account for the contributions of forests in U.S.-based greenhouse gas (GHG) mitigation programs. Although the broader study is particularly concerned with these protocols' use of the Forest Service's Forest Inventory and Analysis (FIA) data to describe forest conditions, ownership, and management scenarios, this document is oriented toward providing regulators, policymakers, industry stakeholders, and other interested parties with an objective comparison of the options, uncertainties, and opportunities available to offset GHG emissions through forest management. This report is focused on the approach adopted by the California Air Resources Board (ARB) for incorporating forest-based carbon offsets as a compliance option in California's cap-and-trade program. This report offers insights into accounting approaches, protocol methods, and program designs that may prove useful in numerous jurisdictions as efforts to develop state implementation plans for compliance with the Environmental Protection Agency's proposed Clean Power Plan drive increased interest in GHG mitigation strategies.

As a starting point, this document introduces basic concepts related to the use of carbon offsets in a cap-and-trade system, provides a brief overview of California's cap-and-trade program, and offers some early data on ARB-eligible offset project activity. The California protocol and methods used for quantifying the offset of GHG emissions through forest-based project activity are reviewed in the next chapter and followed by a section focused on the implementation and adherence to GHG accounting principles. The next chapters then embark on an in-depth examination of specific aspects of the ARB document "Compliance Offset Protocol U.S. Forest Projects" and the use of forest-based offsets in the California cap-and-trade program in general. This includes the treatment of boundaries, baselines, and leakage;

defining additionality and permanence; management of risk and uncertainty; and accounting for carbon storage in wood products. We include broader programmatic topics such as barriers to participation, spatial and temporal approaches to diversification and risk management, and the implications of distinguishing between programmatic- and project-oriented achievement of objectives.

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Understanding and Analysis: The California Air
Resources Board Forest Offset Protocol

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