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*Essay*

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# The Power of Bioenergy-Related Standards to Protect Biodiversity

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**Abstract:** *The sustainable production of bioenergy is vital to avoiding negative impacts on environmental goods such as climate, soil, water, and especially biodiversity. We propose three key issues that should be addressed in any biodiversity risk-mitigation strategy: conservation of areas of significant biodiversity value; mitigation of negative effects related to indirect land-use change; and promotion of agricultural practices with few negative impacts on biodiversity. Focusing on biodiversity concerns, we compared principles and criteria set to address biodiversity and other environmental and social issues in seven standards (defined here as commodity-based standards or roundtables, or relevant European legislation): five voluntary initiatives related to bioenergy feedstocks, the Renewable Transport Fuel Obligation (United Kingdom), and the European Renewable Energy Source Directive. Conservation of areas of significant biodiversity value was fairly well covered by these standards. Nevertheless, mitigation of negative impacts related to indirect land-use change was underrepresented. Although the EU directive, with its bonus system for the use of degraded land and a subquota system for noncrop biofuels, offered the most robust standards to mitigate potential negative effects, all of the standards fell short in promoting agricultural practices with low negative impacts on biodiversity. We strongly recommend that each standard be benchmarked against related standards, as we have done here, and that efforts should be made to strengthen the elements that are weak or missing. This would be a significant step toward achieving a bioenergy industry that safeguards Earth's living heritage.*

**Keywords:** biofuel, certification, cultivation practice, degraded land, European Renewable Energy Source Directive, residues, risk mitigation, wastes

El Poder de las Normas para la Protección de la Naturaleza Relacionadas con la Bioenergía

**Resumen:** *La producción sustentable de bioenergía es vital para evitar impactos negativos sobre bienes ambientales como clima, suelo, agua y, especialmente, biodiversidad. Proponemos tres temas clave que deben atenderse en cualquier estrategia de mitigación de riesgos a la biodiversidad: conservación de áreas de valor significativo para la biodiversidad; mitigación de efectos negativos relacionados con el cambio indirecto de uso de suelo; y promoción de prácticas agrícolas con pocos impactos negativos sobre la biodiversidad. Enfocando preocupaciones sobre biodiversidad, comparamos principios y criterios definidos para atender asuntos de biodiversidad y otros temas ambientales y sociales en siete normas (definidas aquí como normas basadas en comodidades o mesas redondas, o legislación europea relevante): cinco iniciativas voluntarias relacionadas con existencias de bioenergía, el Compromiso de Combustible Renovable para Transporte (Reino Unido), y la Directiva Europea de Fuentes de Energía Renovable. La conservación de áreas de valor significativo para la biodiversidad fue relativamente bien cubierta por estas normas. Sin embargo, la mitigación de impactos negativos relacionados con el cambio indirecto de uso de suelo estuvo insuficientemente representada. Aunque*

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