



**FSC-US**



Forest Certification  
and  
Chain of Custody  
for  
Biomass-derived  
Fuels and Energy



## Issues for FSC and Biomass Harvest

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- **How does biomass harvest affect FSC-certified forest management?**
    - Whole tree harvest
    - Harvest of woody debris
  - **Concerns regarding maintenance of ecosystems**
    - Habitat
    - Soil Structure
    - Soil Fertility
    - Soil-based Carbon
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# Certification Issues of Bioenergy and Biofuels

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- **How can fuel and energy derived from well-managed forests be distinguished?**
    - Certification
    - Chain of Custody
  - **Concerns addressing unwanted inputs**
    - Uncontrolled wood
    - Non-wood controversial sources
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# FSC Standards and Certification Goals

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- **Goals of FSC Standards**
    - Present guidance for environmentally and socially sound forest management
  - **Goals of FSC Certification**
    - Offer a mechanism through which environmentally and socially sound forestry can be distinguished from other forestry practices
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# Forest Management and Chain of Custody

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- **Forest Management Standards**
    - Ensure environmentally and socially sound management of forest
  - **Chain of Custody Standards**
    - Ensure credible identification and distinction of certified forest products in the market
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# Forest Management Certification and Biomass

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- **Issues surrounding whole-tree harvest are addressed in FSC Principles and Criteria through their potential ecological effects.**
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# Forest Management Certification and Biomass

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- **Criterion 6.3.c:**  
“Ecological functions and values shall be maintained intact, enhanced, or restored, including...natural cycles that affect the productivity of the forest ecosystem.”
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## Examples from FSC standards

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- **Indicator 6.3.c.1**  
“Coarse woody debris is maintained in the form of large fallen trees, large logs, and snags of various sizes.” (NI)
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## Examples from FSC standards

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- **Indicator 6.3.c.2**  
“Harvest and post-harvest management activities allow for the maintenance or restoration of soil fertility, structure, and functions...e.g. slash is broadly distributed across the harvest area.”
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## Examples from FSC standards

- **Indicator 6.3. b.2**  
“A diversity of habitat components for native species is protected, maintained, and/or enhanced...e.g. declining trees and snags; well-distributed large woody debris”



## Adjustments to Standards

- **Standards were written without assumption that whole-tree and woody debris harvest was an option**
- **Adjustments**
  - Guidance documents to underscore the need for managers and certifiers to pay close attention to these requirements in cases of biomass harvest.
  - E.g. reference to Minnesota Biomass Guidelines



# FSC Chain of Custody

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- **Challenge: How to ensure distinction of biomass and derivations of biomass that source from sound forest management.**
  - **Solution: FSC Chain of Custody is in place (as it is for all certified forest products)**
    - Adjustment can be made for issues addressing percentage based claims
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# The FSC Promise

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- **Volume Credit System**
  - **FSC-Pure**
    - 100% FSC certified input
  - **FSC- Mixed**
    - FSC-certified, controlled non-certified, and recycled/reclaimed
  - **Controlled Wood avoids controversial sources with FSC label**
    - Legality, Violation of traditional rights, GMOs, threats to HCVF, Conversion
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## **FSC Certification of Bioenergy**

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- **Energy derived from 100% certified sources could be certified FSC-Pure by energy plant with FSC CoC certificate**
  - **Energy derived from mixed sources could be certified FSC-Mixed – as long as the non-certified portion was controlled or reclaimed**
    - One issue that would have to be addressed by the FSC board is cofiring of biomass with coal (can coal be controlled?)
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## **FSC Certification of Biofuels**

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- **Fuels derived from 100% certified sources could be labeled FSC-Pure by an energy plant with FSC CoC certificate**
  - **Fuels derived from mixed sources could be labeled FSC-Mixed – as long as the non-certified portion was controlled or reclaimed**
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# What does certification need to be successful in the Biomass/Bioenergy/Biofuels marketplaces?



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- **Demand for sustainable biomass**
    - Renewable must be sustainable
  - **Pilot testing**
    - Especially CoC
  - **Guidance for land managers and certificate holders**
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