

Developing a Characterization Standard for Biochar

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September 2010

LEADING CARBON LTD.
Consulting and Project Development



Providing leadership in a
carbon constrained economy

Outline

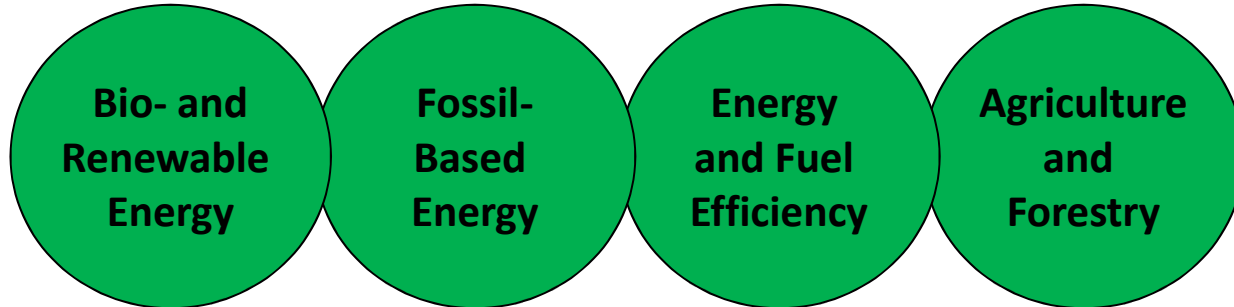
- About Leading Carbon Ltd.
- What do we mean by “Characterization Standard”?
- Background on Standards Development Approaches
 - ISO (large international)
 - IEEE (large international)
 - ASTM (large national)
- IBI Approach for Biochar Characterization Standard Development



About Leading Carbon Ltd.

“Providing leadership in a carbon constrained economy”

- Areas of Expertise



- Consulting

- Project Assessment
- Protocol Development
- GHG/REC Credit Development
- Strategy and Policy Support
- Market Assessment

- Project Development

- Project Design
- Structure and Strategy
- Business Plan Development
- Project Execution





What do we mean by “Characterization Standard”?



Characterization Standard

- Guidelines for biochar that can be adopted by producers and retailers
 - Use as basis for certification standard
 - Definition of the biochar brand
- *What it can include...*
 - *Definition of biochar*
 - *Set of parameters that define the product*
 - » *Source material and processing*
 - » *Properties and contaminants*
 - » *Classification framework*
- *What it will not include...*
 - *Complete fit with research requirements*
 - *Sustainability index or GHG quantification*
 - *Absolute perfection*



Standards Development Processes in Brief

(ISO, IEEE, ASTM)



International Standards Organization (ISO)

- International process lead by national bureaucratic entities
 - Stage 1: Confirmation of Interest
 - Stage 2: Preparatory stage
 - » Research and working draft development
 - Stage 3: Committee stage
 - » Comment and voting within committee
 - Stage 4: Enquiry stage
 - » Broad and open comment period
 - Stage 5: Approval stage
 - » Vote among membership (>2/3 vote yes, <1/4 vote no)
 - Stage 6: Publication stage
 - Stage 7: Periodic Review

http://www.iso.org/iso/standards_development/processes_and_procedures/stages_description.htm



Institute of Electrical & Electronics Engineers (IEEE)

- International process led by focused stakeholder groups
 - Step 1: Confirmation of Interest
 - Step 2: Initiate the Project
 - » Formalize process and focus of efforts
 - Step 3: Develop the Working Group
 - » Committee with broad stakeholder participation
 - Step 4: Write the Draft
 - » Develop draft in sections
 - Step 5: Ballot the Draft
 - » Vote on draft – 75% of 75%
 - Step 6: Get Final Approval
 - » Review of process by oversight committee
 - Step 7: Publish the Standard
 - Step 8: Periodic Review

<http://standards.ieee.org/resources/development/initiate/index.html>



ASTM International (ASTM)

- International process led by focused stakeholder groups
 - Step 1: Confirmation of Interest
 - » Prevent duplication of effort
 - Step 2: Background Research
 - Step 3: Establish Stakeholder Network
 - » Fit with existing committee
 - » Develop new committee
 - Step 4: Write the Draft
 - » Fit within existing templates
 - Step 5: Ballot the Draft
 - Step 6: Get Final Approval
 - Step 7: Publish the Standard
 - Step 8: Periodic Review

<http://www.astm.org/MEMBERSHIP/standardsdevelop.html>





Proposed Approach for Biochar Product Standard Development



Proposed Approach for Biochar

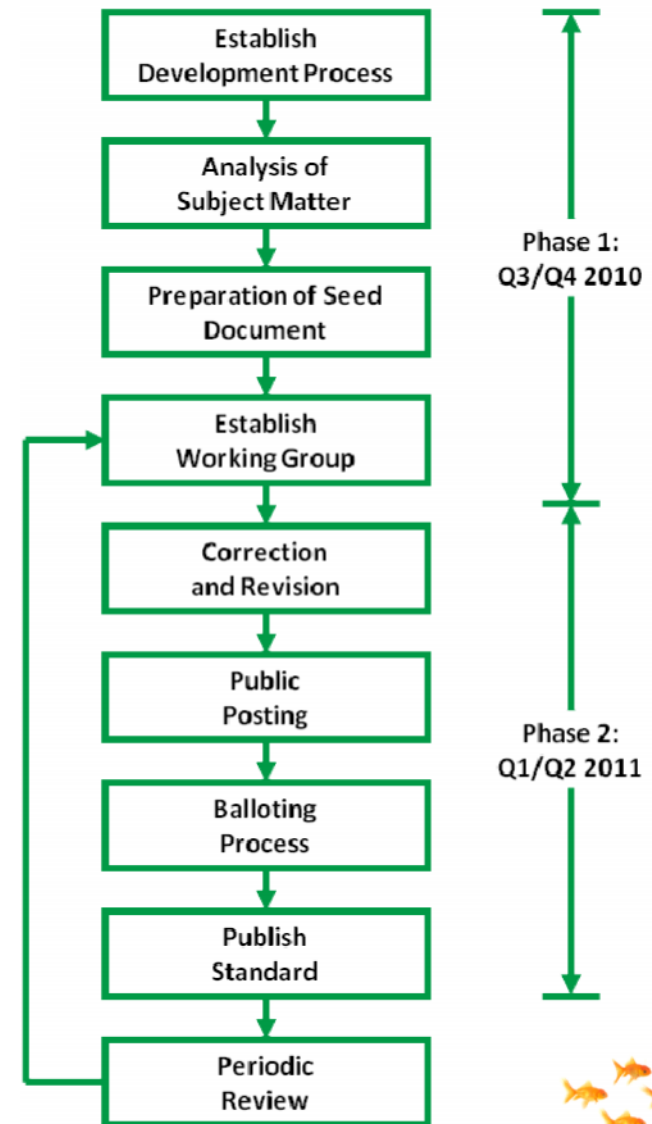
- Build off of congruence in best practice guidance for standard development
 - Strict adherence to process required
- Engage the diverse stakeholder group active in biochar industry
- Rely on existing infrastructure of IBI for leadership
 - Provide oversight to activities
 - Formalize development and review process
- Organize an independent review committee
 - Broad stakeholder coverage (project developers, ENGOs, Researchers, etc.)

Need to understand end-game
Certification of Biochar Products



Proposed Approach for Biochar

- Defined, step-wise process for product standard development
 - Establish the process
 - Analysis of subject matter
 - Preparation of seed document
 - Establish working group
 - Correction and Revision
 - Public Posting
 - Balloting Process
 - Process Review
 - Publish Standard
 - Periodic Review



Proposed Process in Detail

**Establish
Development
Process**

**Analysis of
Subject Matter**

- IBI to establish standard development process
 - Develop process approach linked to standards development end-point (ISO?)
 - » All elements of process including balloting
 - Codify and publish process document
 - Initiate communication strategy to engage stakeholder network
- Complete preliminary analysis of biochar and fit with other standards
 - Build off existing IBI analysis and resources
 - Establish common background to support standards development process
 - Provide sample output as signal of direction



Proposed Process in Detail

Preparation of Seed Document

- Develop Seed Document for Review
 - Formatted document as straw-dog to support discussion
 - Transparency in documentation development and tracking of revisions
 - Initiate on-going stakeholder engagement

Establish Working Group

- Working Group of Interested Stakeholders
 - Solicit expressions of interest from stakeholders
 - Diversity in working group - function and geography (ENGOs, Project Dev, Researchers, etc.)
 - Chatham House rules
 - Working group to revise drafts
 - Consultant provides capacity for revisions
 - Secretariat to facilitate and track process



Proposed Process in Detail

**Correction and
Revision**

- Copyrighting of draft for external audience
 - Format document for streamlined review
 - Address consistency, grammar and flow
 - Supervision by secretariat/consultant

Public Posting

- Posting of the Standard for Stakeholder Review
 - Post on IBI website for 45 days
 - Secretariat to consolidate feedback
 - All comments posted for review
 - Working group to review all comments



Proposed Process in Detail

Balloting Process

- Follow-through with balloting process
 - All IBI members and selected non-members afforded voting rights
 - Precede balloting with webinar on standard
 - 14 day voting period
 - Anonymous voting tool
 - > 66% Approval – automatic adoption
 - 50% to 65% Approval – IBI review
 - < 50% Approval – Return to Working Group



Proposed Process in Detail

**Publish
Standard**

- Publish all project documents
 - IBI to confirm process managed properly
 - Disclosure of all documents
 - » Ensure transparency to process
 - » Support revision cycle
 - Communication campaign on process results
 - Leverage results into desired system

**Periodic
Review**

- Establish periodic review process
 - Set timelines for review
 - Link back into established process
 - Re-affirm commitment to results and transparency



Key Process Features

- Full transparency is a corner-stone of the process
 - Seed document posted once compiled
 - Each complete version of the document
 - » Tracking document that outlines the key changes
 - » No attribution of the changes to anyone
 - » Disclaimer that all versions are considered drafts
 - Final version and drafts will remain available
 - » Ensures memory through revision cycles
 - » Support further work leveraging into regional certifications

*Intention is to ensure process is inclusive,
builds off collective knowledge
and is open for all to engage.*



Key Process Features

- On-going stakeholder engagement process
 - Open request for information at project initiation
 - Working group members involved in all stages of review
 - » Open selection process to draw out multiple perspectives
 - » Limited number of positions to ensure group can be efficient
 - » Meetings held virtually (webinar and teleconference)
 - Stakeholder input considered at each phase of the project
 - » Only comments at Public Posting phase will be disclosed

Intention is to create an environment that promotes open dialogue.

Please send all seed documents to kdriver@leadingcarbon.com



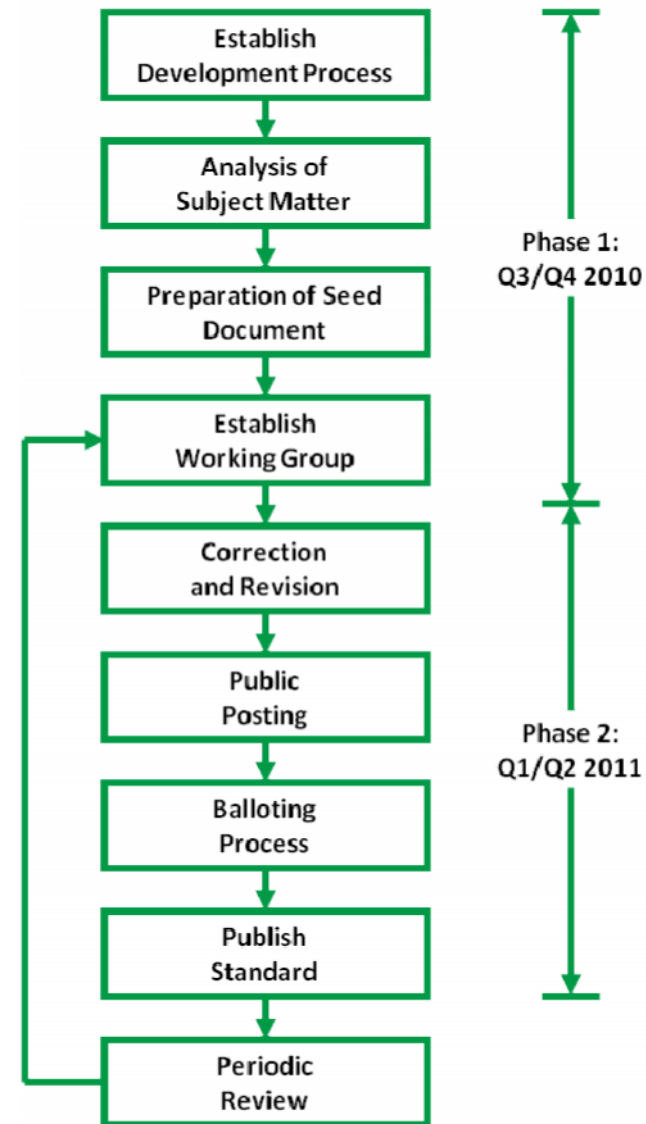
Complementary Activities

- Many related tasks that will be done in parallel
 - 1) Establish business case for standards development and product certification.
 - 2) Communications strategy to support stakeholder engagement.
 - 3) Initiate dialogue with standard setting organizations.
 - 4) Development of Biochar marketing strategy.
 - » Link between characterization standard and product marketing
 - 5) Development of a Biochar certification program.



Process Review and Recap

- Process Summary / Timeline
- Submission of Seed Documents
- Applications for Working Group Participation
- Questions?



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