

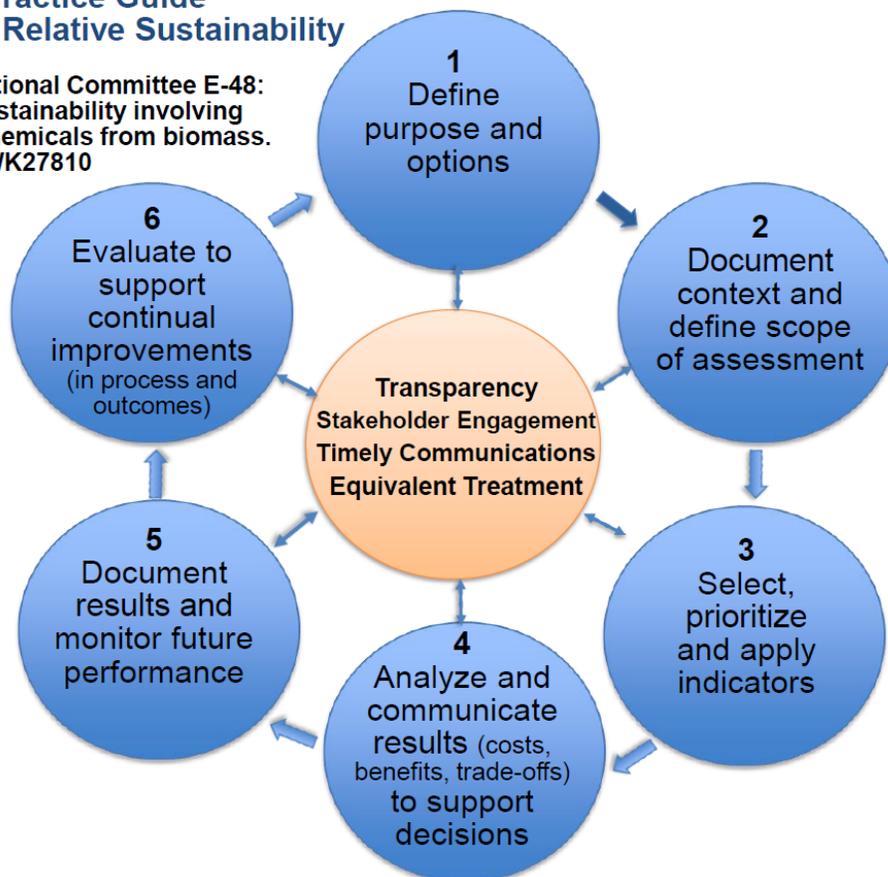
**Bioenergy in the Southeastern United States**  
Hosted by Oak Ridge National Laboratory (ORNL)  
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**Standards - ASTM International Standard Practice for Sustainability Assessment**

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**Standard Practice Guide**  
**Assessing Relative Sustainability**

ASTM International Committee E-48:  
Assessing Sustainability involving  
energy and chemicals from biomass.  
Work Item # WK27810  
DRAFT



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DOE BETO supports efforts to “enable long-term supply of renewable biomass for clean, domestic bioenergy.” Progress toward a more sustainable bio-economy can be facilitated by clear “rules of the game” and standards. To this end, we

- Promote common definitions of environmental & socioeconomic costs & benefits of bioenergy systems
- Develop standard, science-based approaches to quantify opportunities, risks, & tradeoffs associated with sustainable bioenergy production in specific contexts
- Help stakeholders understand sustainability assessment grounded in agreements on criteria, baseline & targets & a manageable set of relevant indicators
- Provide decision-relevant, credible information to help design systems that add value

Examples include science-based contributions to several initiatives:

- Global BioEnergy Partnership (GBEP)
- Roundtable for Sustainable Biomaterials (RSB)
- Council for Sustainable Biomass Production (CSBP, agricultural biomass standard later evolving to become > BMAS: Biomass Market Assessment Standards)



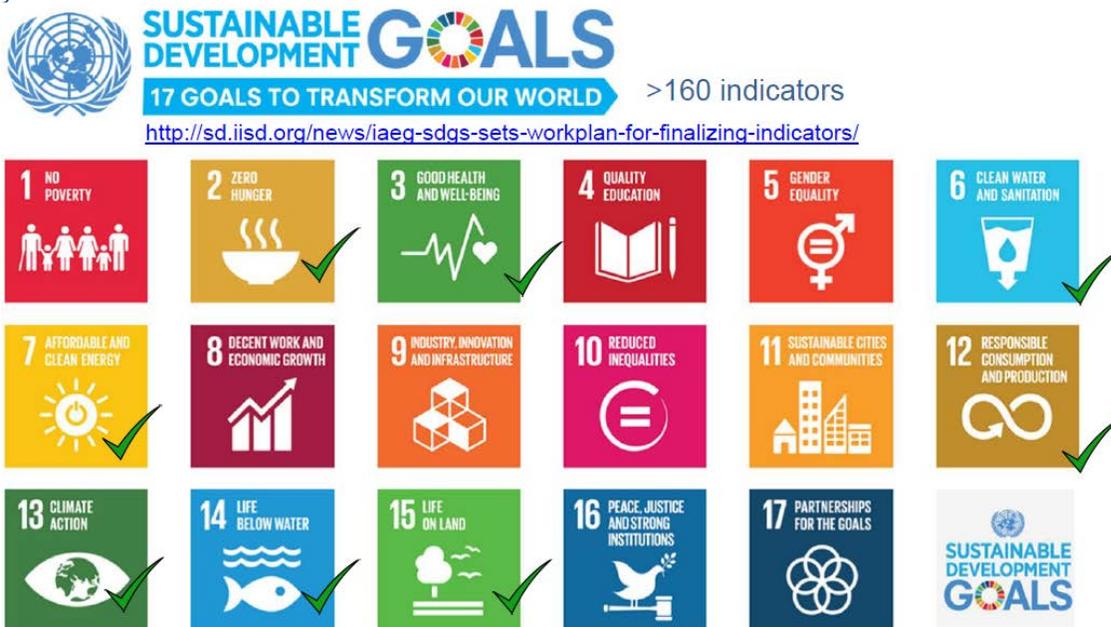
- International Organization for Standardization (ISO 13065 Sustainability Criteria for Bioenergy)
- Improved codes and standards for handling biomass while minimizing fire risk
- **ASTM International Standard Practice**, sustainability assessment guide (in development)

Most sustainability certification schemes divide products into two segments: those which qualify and all others that do not. Such approaches can involve significant costs and requirements to determine whether criteria are met but may not improve actual conditions. **ASTM International E-48 rationale for Standard Practice guide**: provide guidance about practices so that sustainability assessments:

- are relevant to local needs and priorities;
- provide the information necessary to support continual improvement;
- rely on relevant, replicable, measurable and verifiable indicators: and
- support fair comparisons and informed choices.

ASTM (draft Standard Practice) acknowledges that sustainability is always a relative proposition in a specific place/time situation. The selection of criteria and indicators is not pre-determined but depends on local context, stakeholders, costs, data availability and project goals; and sustainability involves a transparent and iterative process of problem definition, stakeholder engagement, goal-setting, monitoring, adjustment, and reassessment to promote continual improvement.

Bioenergy plays an important role in the Paris Climate Agreement and UN SDGs (figure); both demand clear indicators and standards to support monitoring and adaptive management to achieve goals.



A standard provides requirements, guidelines or characteristics that can be used **consistently** to ensure that products, processes and services **are fit for purpose**.

- Standards should be reasonable and useful; requirements should be justifiable
- International Standards are often developed in “voluntary standard setting” process and designed to reduce trade barriers” Over 19,500 International Standards.

Sustainability depends on context and priorities vary with place and time (system boundaries)

- Import markets want assurance of GHG reductions and biodiversity protection
- Producers want jobs, water quality, economic opportunities
- Analysis and clear communication are necessary to support informed decisions
- **Certification ≠ sustainability**

Governing bioenergy supply chains often involves regulatory requirements designed to ensure compliance with a defined set of criteria. Certification reflects values-based systems with market intent. Certification provides a system to document and communicate how criteria are met but may not describe important aspects of sustainability for a given context and local stakeholders.

