

Clean Energy Ministerial Biofuture Platform Initiative  
Workstream on Biomass Quantification and Sustainability Governance

## Tools to Manage Biomass Investment Risk

*Version as of July 13, 2023*

### Background

The Clean Energy Ministerial (CEM) Biofuture Platform Initiative's (<https://biofutureplatform.org/>) Workstream on Biomass Quantification and Sustainability Governance (hereafter, [Sustainability Workstream](#)) promotes an evidence-based understanding of sustainable biomass production and use. This brief offers a synthesis of tools and policies that can reduce risk and thereby facilitate project development, reduce time to market, decrease the overall cost of capital, or enable better financing terms.

### Interventions to Help Manage & Mitigate Risks

Stakeholders often indicate that high risks associated with biomass-related project finance limits investment and the ability of sustainable biomass to contribute to a net zero, circular economy. This document provides a synthesis of suggestions received from the Sustainability Workstream's Technical Advisory Group to help reduce common risks. General recommendations include:

1. Plans should include strategies to facilitate the flow of capital to specific biomass-related projects.
2. Governments and project developers should support regional planning and cooperation across relevant government offices, industry, investors, civil society, and local economic development organizations, to better link sources of sustainable biomass supply with parties interested in developing bio-based industries and refineries (e.g., to supply specific biorefineries or demand centers at marine and airports).<sup>1</sup>
3. To identify specific policies and investments required to accelerate deployment, project developers should engage local experts and stakeholders to conduct location-based analyses of sustainable biomass supplies.<sup>2,3</sup> Then apply locally appropriate principles and criteria for acceptable feedstocks as part of due diligence in project planning.<sup>4</sup>
4. Governments and project developers should support the use of existing risk-reduction tools and the development of new tools to help achieve climate-smart development goals.

Examples of existing risk-reduction tools are described below by type of risk, with additional information provided in end notes.

#### **To manage risks related to land use and food security.**

- Assess environmental and social risks and use systematic approaches or certification schemes to document how they are mitigated or managed.<sup>5,6</sup>
- Apply standards and procedures and provide the support required to enable producers to show compliance with defined sustainability criteria and indicators.<sup>7</sup>

### **To manage risks related to sustainable supply chains.**

- Identify and promote opportunity zones that reflect feedstock supply opportunities that minimize investor risks.<sup>8</sup>
- Apply tools to assess site-specific supply chain resilience for investors, to quantify site-and project-specific risk for the capital market.<sup>9</sup>
- Take advantage of biomass feedstock insurance products to protect investors from excessive fluctuations in feedstock cost and provides guaranteed deliveries to the plant gate.<sup>10,11</sup>

### **To manage risks related to technology innovations (aka, green credit risk).**

- Many options and products now exist for managing new technology risks, for example:
  - New Energy Risks (NERs) portfolio of products.<sup>12</sup>
  - Munich Re's risk solutions designed for emerging circular economy industries and offering technology insurance for bio-based refineries and manufacturing plants.<sup>13</sup>
  - La Capitale Financial Security insurance was introduced in 2019 by Parhelion to insure against policy risks in California's Low Carbon Fuel Standard (LCFS) market. The policy is underwritten with investment-grade security (Lloyd's).<sup>14</sup>

## **Notes & Examples**

The inclusion or mention of specific products and standards in this update reflects the knowledge and experience of the members of the Sustainability Workstream Technical Advisory Group and should *not* be considered an endorsement. Moreover, the examples of tools and products are not exhaustive. Links are provided to serve as helpful examples. However, each situation has unique circumstances that consumers should evaluate to identify the tools and standards that best meet their needs.

<sup>1</sup> For an example, see how the [BDO Zone Initiative](#) establishes bioeconomy development opportunity zones.

<sup>2</sup> Review the IEA Bioenergy report on *Biomass Supply and the Sustainable Development Goals* ([Blair et al., 2021](#)) that summarizes 37 international case studies.

<sup>3</sup> See *Engaging Stakeholders to Assess Landscape Sustainability* ([Dale et al., 2019](#)).

<sup>4</sup> In addition to case studies and approaches listed in links above, another example is engaging stakeholders to integrate bioenergy into landscape design in Iowa ([Comer and Douglas, 2022](#)).

<sup>5</sup> Many certification schemes and standards are available. Consumers should identify a standard appropriate for their specific needs and market requirements. Examples of tools recommended by TAG members include the Food and Agriculture Organization [rapid appraisal of bioenergy and food security](#) and [sustainable technologies for agriculture](#), and the [Roundtable for Sustainable Biomaterials Standard](#).

<sup>6</sup> Life-Cycle-Assessment (LCA) approaches are used in most standards to help evaluate specific topics of concern, such as net emissions or Energy Return on Investment (EROI). EROI is used to assess total energy balance of different options and is important when fossil and renewable sources are explicitly analyzed. For examples, see *Energy Return on Investment of Major Energy Carriers: Review and Harmonization* ([Murphy et al., 2022](#)) and *Indicators for Assessing Socioeconomic Sustainability of Bioenergy Systems: A short list of practical measures* ([Dale et al., 2013](#)).

<sup>7</sup> Examples of standards include, [evaluating relative sustainability](#) and [reference scenarios](#) from ASTM International, and the methods developed by the [Global Bioenergy Partnership](#).

<sup>8</sup> For example, the BDO Zone Initiative issued [A ratings for flax straw](#) to the Town of Coronach, Saskatchewan, Canada.

<sup>9</sup> For example, consider [Biomass Supply Chain Risk Standards](#).

<sup>10</sup> Many new products are available, like [biofuel insurance from IMA Financial Group](#) and feedstock [supply chain insurance from Savillis](#)).

<sup>11</sup> National policies and programs developed for agriculture are increasingly available such as the [Biomass Crop Assistance Program](#) from the U.S. Department of Agriculture.

<sup>12</sup> For information on products designed to reduce “new energy risks” see <https://newenergyrisk.com/>, [Paragon Insurance Holdings](#) and [Transatlantic Reinsurance Company](#).

<sup>13</sup> For more information, see [Munich Re risk solutions for industry](#).

<sup>14</sup> For more information, see [La Capitale Financial Security](#).

Contact the Biofuture Facilitator at [facilitator@biofutureplatform.org](mailto:facilitator@biofutureplatform.org) for more information.