



CLEAN FUEL STANDARD LAND USE AND BIODIVERSITY CRITERIA

AAFC / ECCC / Stakeholder meeting
- Agricultural feedstock perspective
September 2, 2020



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POLICY OBJECTIVE

- Announced in 2016 as part of the Pan Canadian Framework on Clean Growth and Climate Change
- Clean Fuel Standard aims to address 3 objectives
 - Reduce GHG emissions by lowering the lifecycle carbon intensity of fuels used in Canada
 - Stimulate investment/innovation in low carbon fuels & technologies
 - Minimize compliance costs through flexible compliance options
- Phased approach
 - Phase 1: liquid fuels (gasoline, diesel) used in mainly in transportation
 - Draft regulations in Canada Gazette, Part I fall 2020, followed by a 75-day consultation period
 - Final regulations in Canada Gazette, Part II in late 2021
 - Requirements will come into force in 2022
 - Phase 2: gaseous fuels (natural gas) and solid fuels (petroleum coke) used mainly in industry and buildings
 - Will follow timeline for the liquid fuel regs + 12 months

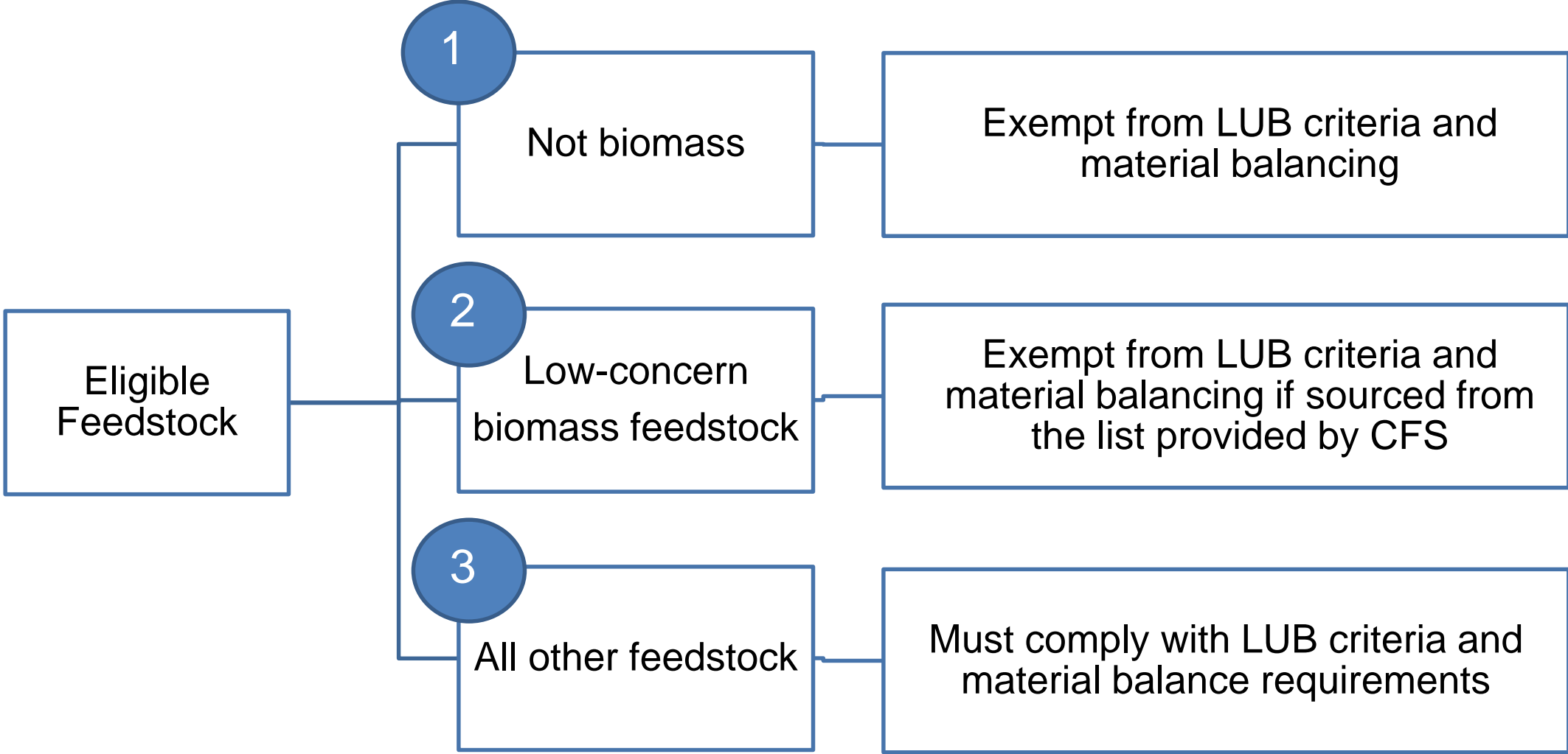
REQUIREMENTS AND COMPLIANCE

- Fossil fuel producers and importers are required to reduce the lifecycle carbon intensity of their fossil fuels annually, starting in 2022
 - Requirements separately for each fuel classes (solid, liquid and gaseous)
- Compliance with the reduction requirement is based on a system of tradeable credits. Primary suppliers must create or acquire sufficient credits annually to match their reduction requirements
 - Credits and reduction requirements are measured in tonnes of carbon dioxide equivalent
- Participation in the credit system includes primary suppliers and voluntary credit creators
- Three methods for creating credits:
 1. GHG reduction actions along the lifecycle of the fossil fuel that reduce fossil fuel carbon intensity (e.g., reductions during extraction, production, distribution and use)
 2. Producing low-carbon fuels for use in Canada
 3. Specified end-use fuel switching in transportation

LAND USE AND BIODIVERSITY CRITERIA

- First draft of criteria (previously ‘sustainability criteria’) were published in June 2019 Proposed Regulatory Approach and was closely modeled on EU RED II
- Since June 2019, have continued to refine LUB criteria
- Considerations
 - Ensure financial incentives created by CFS do not result in loss of biodiversity from biofuel feedstock cultivation and harvesting
 - Provide clear, objective criteria applicable globally
 - Minimize administrative burden on biofuel feedstock suppliers

ELIGIBLE FEEDSTOCK



NOT BIOMASS FEEDSTOCK

- Feedstock that are non-bio or not 100% bio-based are exempt from LUB criteria and material balancing
- Examples
 - Industrial effluents
 - Used construction and demolition materials (not 100% bio-based)
 - CO₂ capture from atmosphere or stack emissions to fuel
 - H₂ (as feedstock for fuel)

LOW-CONCERN BIOMASS FEEDSTOCK

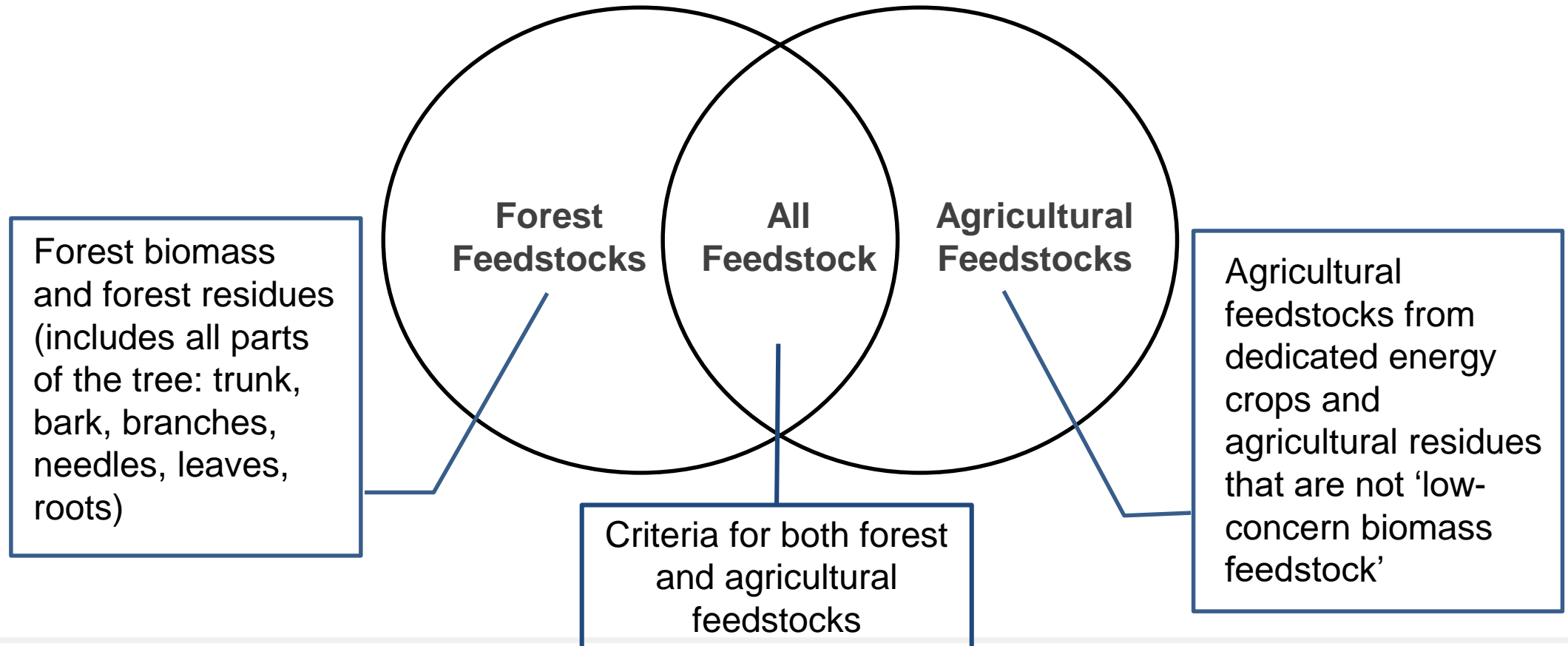
- Certain feedstocks that are either **non plant-based**, or are of **low land-use-change concern**, are exempt from the LUB criteria
- Examples
 - Animal materials, including manure
 - Used animal litter or bedding
 - Used or inedible organics from a residential area, retail store or restaurant
 - Used fat and used vegetable oils
 - Used construction and demolition materials (bio-based)
 - Industrial effluents (biogenic)
 - Municipal wastewater

FEEDSTOCK SUBJECT TO LUB CRITERIA

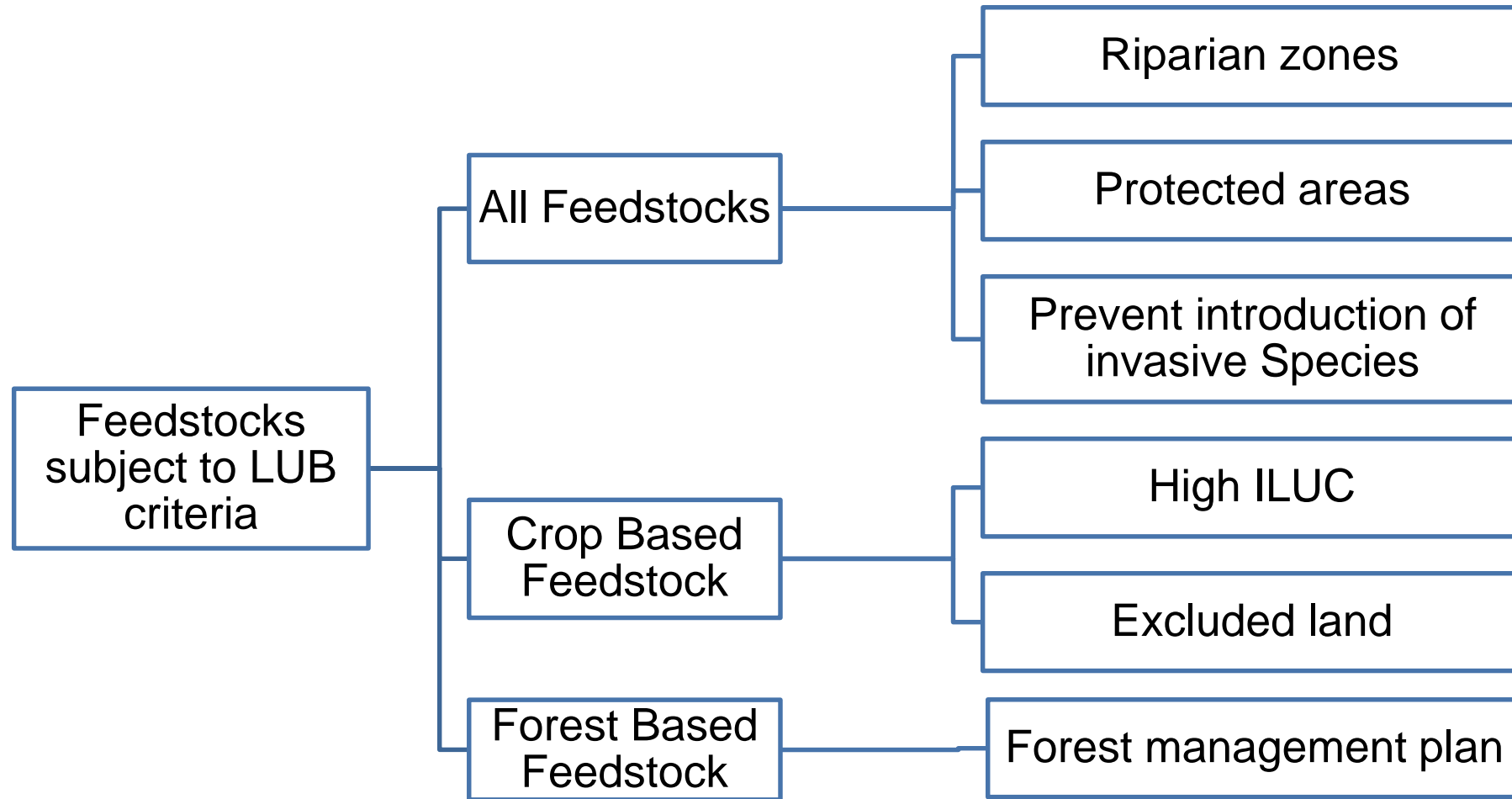
- Crop-based and forest feedstocks that are derived from biomass and are not exempted from the LUB criteria as Type 2 Feedstocks must adhere to the LUB criteria (considered to be Type 3 Feedstocks)
- Examples
 - corn
 - sugarcane
 - sorghum
 - soy
 - canola/rapeseed
 - wood biomass

LAND USE AND BIODIVERSITY CRITERIA

Separate requirements for forest feedstock, agricultural feedstock and all feedstocks



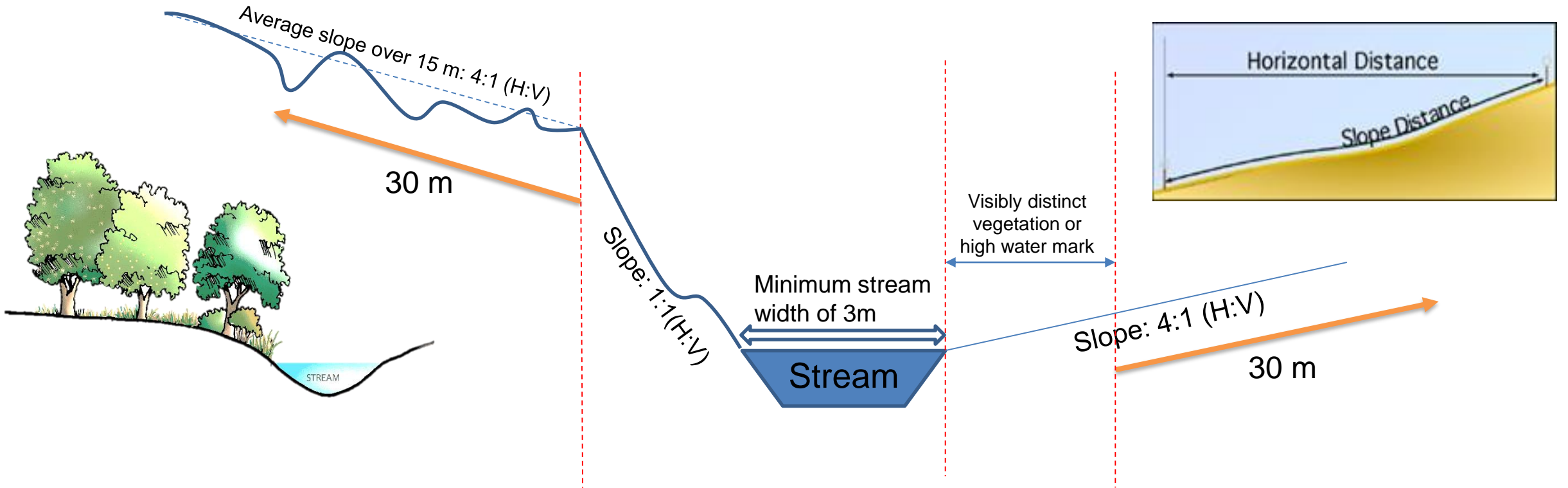
LAND USE AND BIODIVERSITY CRITERIA



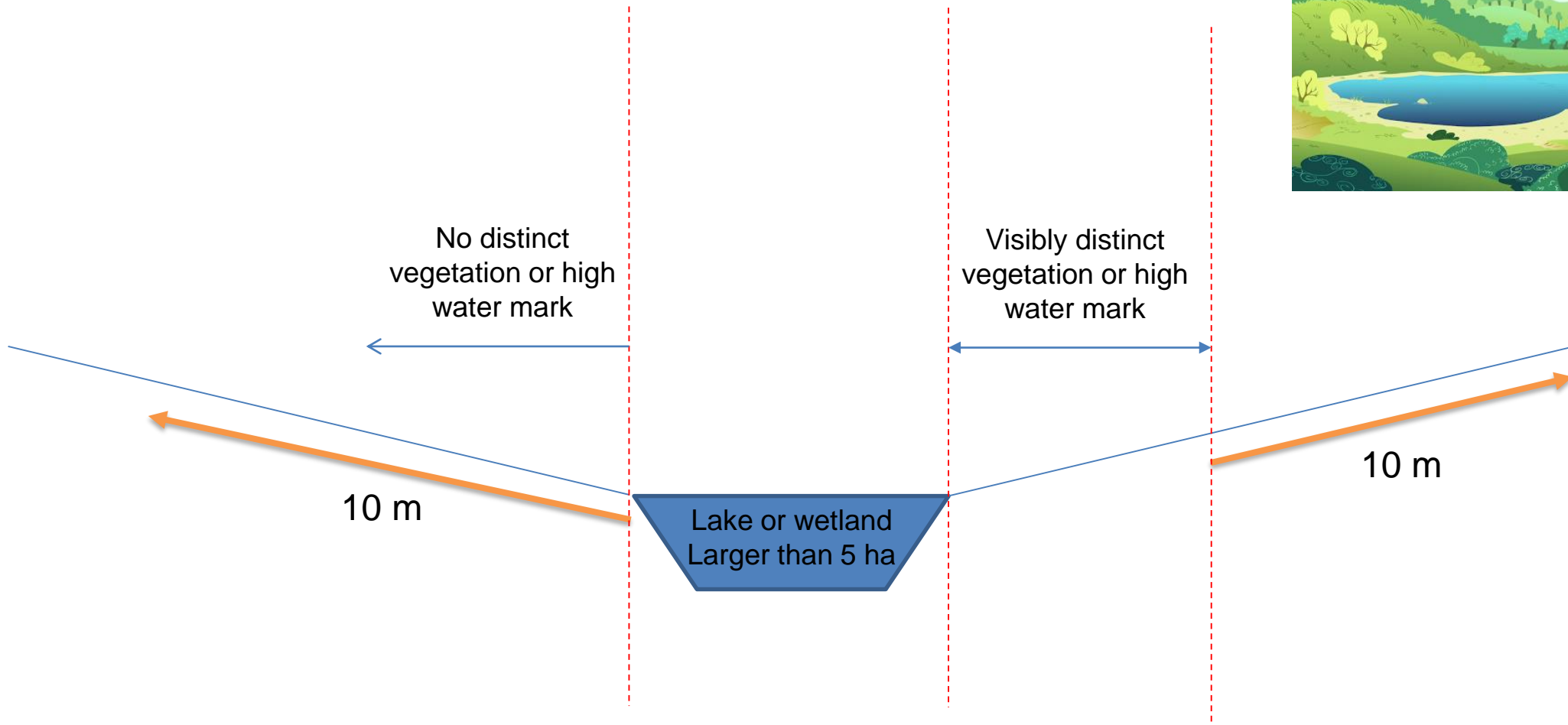
CRITERIA FOR ALL FEEDSTOCKS – RIPARIAN ZONES

- Eligible feedstocks must not be cultivated or harvested in a riparian zone
 - ***A riparian zone is the area*** within:
 - a) For streams wider than 3m, the farther from the stream of the following measurements:
 - 30m measured on a slope distance from a visible high water mark caused by the presence and action of water or an active flood plain marking the soil or vegetation with a character distinct from the banks of that stream, or
 - 30m from a point where the slope grade above a stream first becomes flatter than 3:1 (H:V) and the average slope grade remains flatter than 3:1 (H:V) for a slope distance of 15 m, measured perpendicular to the stream flow
 - b) 10m of a wetland or lake, larger than 5 ha, measured on a slope distance from
 - A visible high water mark caused by the presence and action of water or an active flood plain marking the soil or vegetation with a character distinct from the banks of that water body
-

RIPARIAN ZONE FOR A STREAM



RIPARIAN ZONE FOR A LAKE OR WETLAND



CRITERIA FOR ALL FEEDSTOCKS – PROTECTED AREAS

Feedstocks must not be harvested from land in an area that has been, at any time, on or after January 1, 2008 designated

- as a protected area under environmental legislation or by a competent authority, or
- for the protection of any rare, vulnerable or threatened species or their habitats or of vulnerable ecosystems as recognized by
 - an international agreement, or
 - an intergovernmental or international organization

CRITERIA FOR ALL FEEDSTOCKS

– INVASIVE SPECIES AND APPLICABLE LEGISLATION

- Feedstocks must be
 - managed in accordance with any applicable laws that prevent the introduction of damaging agents, such as pests, invasive species, and disease, including from its transport
 - cultivated and harvested in accordance with applicable legislation

CRITERIA FOR CROP BASED FEEDSTOCK – HIGH ILUC-RISK

- High ILUC-risk crop-based feedstocks are not eligible for CFS credits, based on EU criteria and study of global production area expansions
 - The Commission Delegated Regulation (EU) of 13-3-2019 sets out the criteria for determining high ILUC-risk feedstocks where a significant expansion of the production area into land with high-carbon stock is observed
 - EU Commission study identified the following cumulative conditions for classifying feedstock as high ILUC risk
 - The average annual expansion of the global production area of the feedstock since 2008 has increased by more than 1% and affects more than 100,000 hectares; and
 - More than 10% of this expansion has taken place into land with high carbon stock

CRITERIA FOR CROP BASED FEEDSTOCK – NON-ELIGIBLE LAND EXPANSION

- Feedstocks from land defined by one of the categories below, on or after January 1, 2008, are not eligible
 - **Forest** - an area that contains trees that have or are capable of reaching a height of 5 metres, and provide or are capable of providing a canopy cover of more than 10 percent
 - **Wetland** - an area that is saturated with water for a period that is long enough to promote the growth of hydrophytic vegetation and biological activity that is adapted to a wet environment
 - **Grassland** – An area dominated by herbaceous or shrub vegetation that has not produced crops for ten years or more, including:
 - Self-seeded or cultivated land, including land used for livestock grazing; and
 - Non-agricultural land that satisfies the ten-year requirement, regardless of human interference (mowing, fertilizing, etc.)

CRITERIA FOR CROP BASED FEEDSTOCK – AQUATIC ECOSYSTEMS

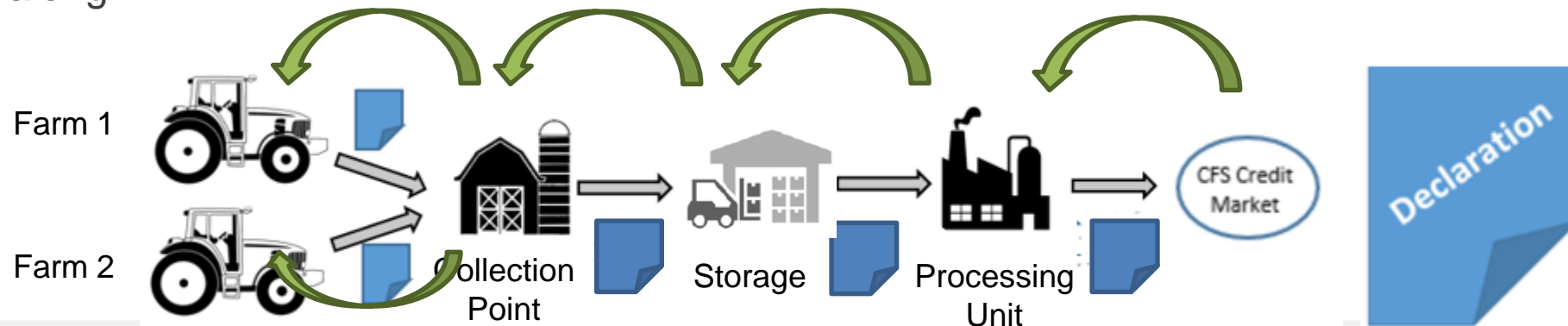
- If a biofuel was produced using aquatic plants or algae, the feedstock must not have been cultivated on a pond that is
 - on a regional flood plain, or
 - connected to or draining into natural waters

MATERIAL BALANCE

- Material balance allows flexibility for biofuel production to occur from the physical mixing of eligible and non-eligible feedstock materials
 - It uses traceability and declarations to demonstrate the amount of eligible feedstocks that move through each point in the supply chain to the biofuel producer
 - Each point in the feedstock supply chain, after the point of harvest, demonstrates that the volumes of eligible material that were sold to the next point in the supply chain do not exceed eligible feedstock inputs at the site
- Where a biofuel is produced from both CFS eligible and non-eligible feedstocks, the number of credits will be based on demonstrated material balances
- Regulations will set out the material balance process requirements, the records that must be maintained, and the parameters for reporting material balance equations

DECLARATIONS

- **Declarations** are issued to **trace** eligible material from any point in the supply chain between feedstock producer and biofuel producer
- Document accompanies the physical feedstock
- Declarations are issued by the feedstock harvester, and each point along the supply chain where the feedstock is mixed, divided or processed
- Copies must be retained by the issuer and the receiver of the feedstock
- Biofuel producer must have declarations for all feedstock used to create CFS credits
 - Biofuel producers need to work with supply chains to ensure declarations are issued and passed along



DECLARATIONS – CONTENT

Feedstock Harvester

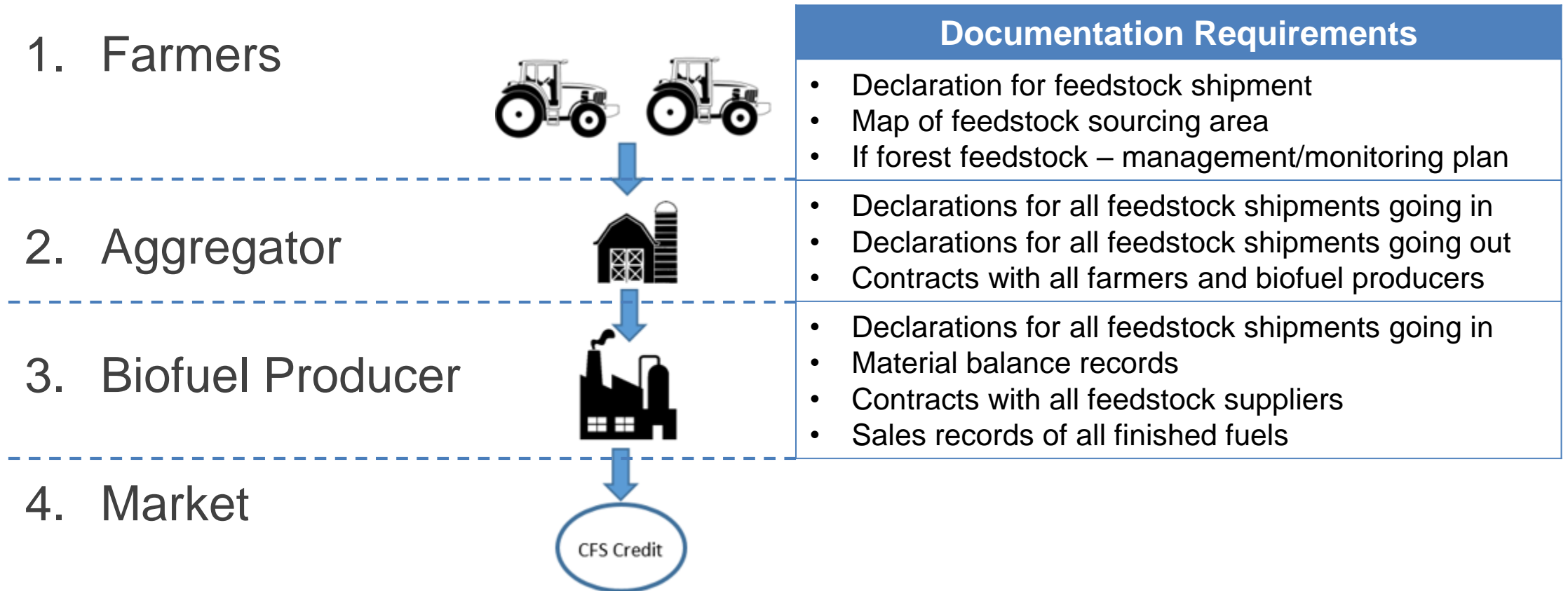
- Name and civic address
- Geographic boundaries of harvest area
- Name and location of recipient
- Date
- Feedstock type
- Quantity of feedstock being sold
- Signed attestation stating the feedstock complies with the LUB criteria

Other persons

- Name and civic address
- Name and location of recipient
- Date
- Feedstock type
- Quantity of feedstock that exits the site
- Signature

Other persons – any entity along supply chain that is not a feedstock harvester (aggregator, biofuel producer)

FEEDSTOCK SUPPLY CHAIN – DOCUMENTATION AND REPORTING



DEMONSTRATING COMPLIANCE WITH THE LUB CRITERIA

Jurisdictional laws and regulations

- Regulations will set criteria to recognize national or sub-national regulatory frameworks that align with CFS LUB criteria, on a criteria by criteria basis
 - Frameworks would be approved and listed by the Minister

Certification

- A certification scheme is the set of rules and requirements (standards) upon which a certification of conformity is based
- Regulations will set criteria to recognize certification schemes that align with CFS LUB criteria
 - Scheme would be approved and listed by the Minister
- Work is in early stages on the above frameworks for the CFS, and consultations are possible with the CFS Technical Working Group, provincial regulators, certification bodies and accreditation organizations

DEMONSTRATING COMPLIANCE WITH THE LUB CRITERIA FOR FEEDSTOCK PROVIDERS

OR

CERTIFICATION

- Feedstock provider obtains 3d party certification and provides it in declarations
- Approved certification scheme must demonstrate conformity with LUB requirements

RECOGNIZED JURISDICTIONAL FRAMEWORK

- Feedstock provider indicates recognition in declarations
- Jurisdiction works with ECCC on assessment of framework

OR

CFS REGULATIONS

- Feedstock provider attests to conformity with LUB requirements in declarations