

DOE Clean Fuels & Products Shot™ Summit

Advanced Feedstock Supply Systems

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Session 2: Resource/Feedstock Mobilization

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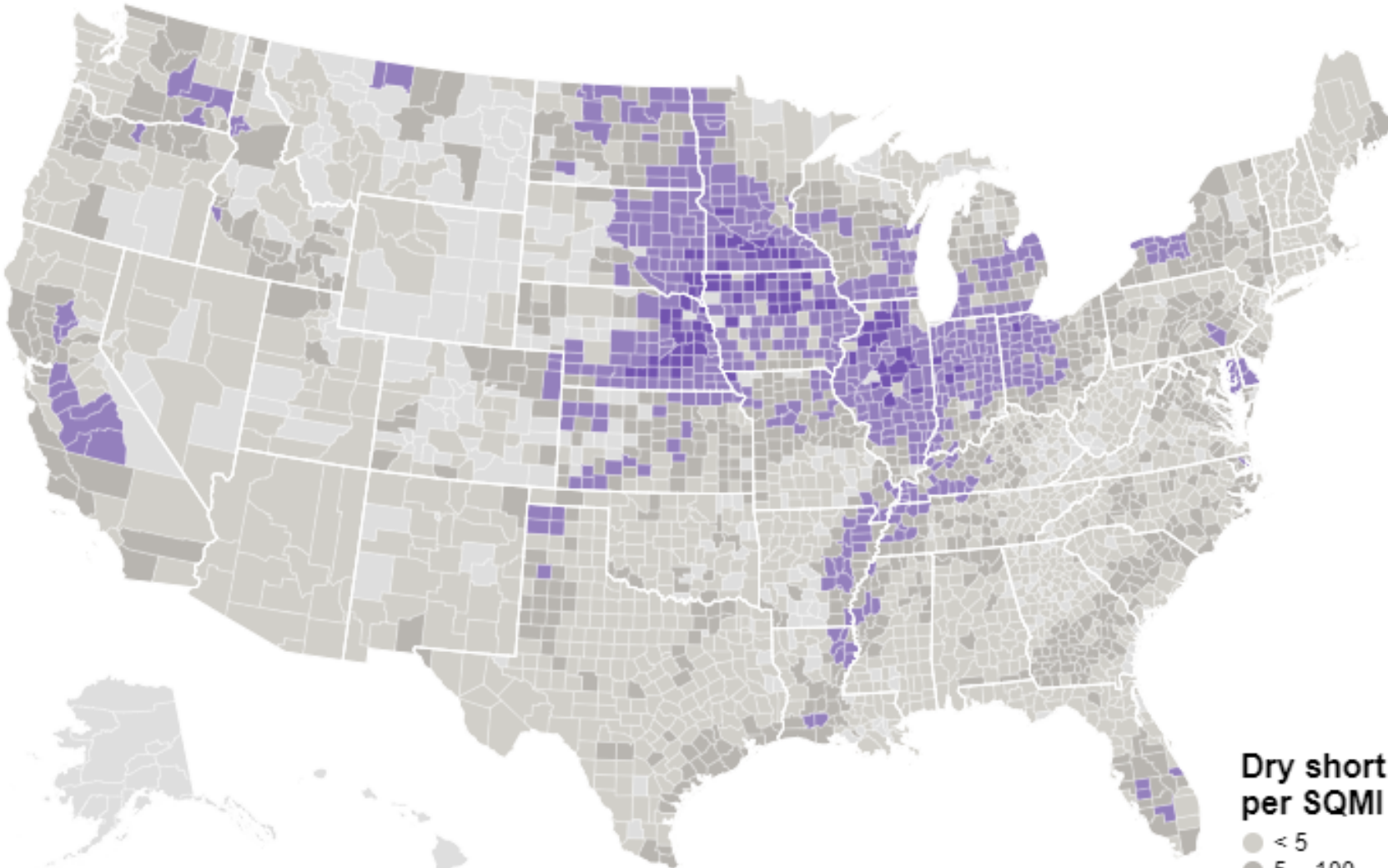


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Agriculture BT23 Resources for the Near-term Scenario in Dry tons

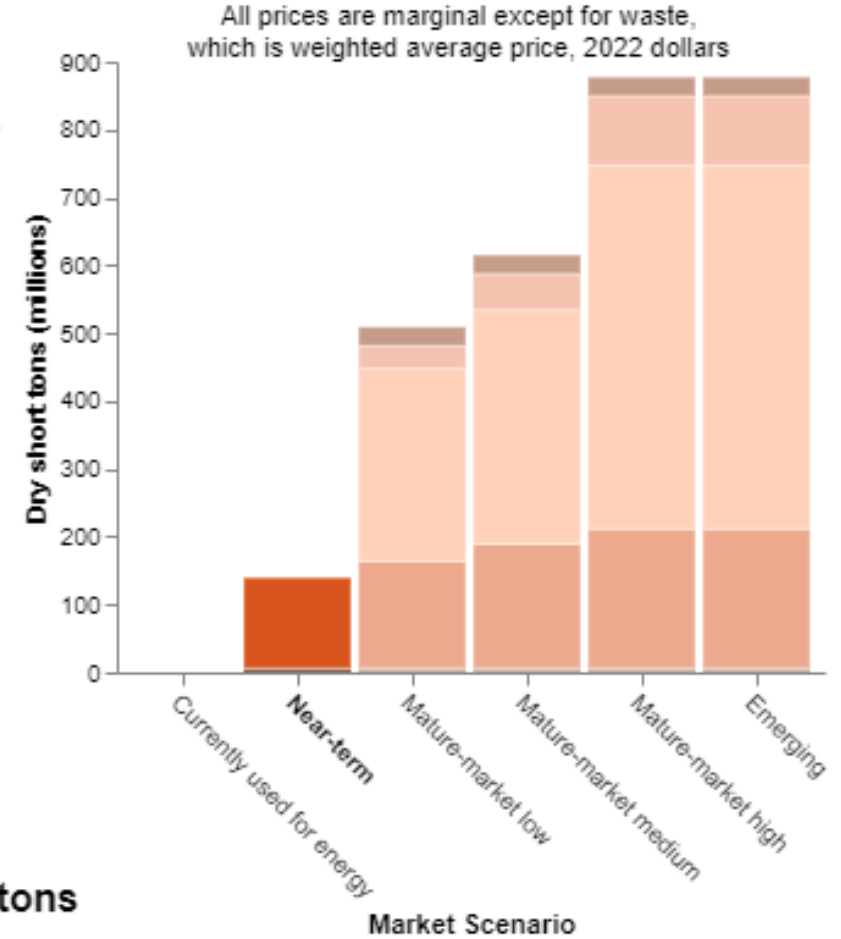
Scenarios are defined in Chapter 1 of BT23. The full data set is available at <https://bioenergykdf.ornl.gov/>, or find additional help through <https://bioenergykdf.ornl.gov/contact>.



Map excludes currently used resources and macroalgae.
Purple colors indicate sufficient supply density to support >750,000 tons per year within a 50-mile radius.

Dry short tons per SQMI

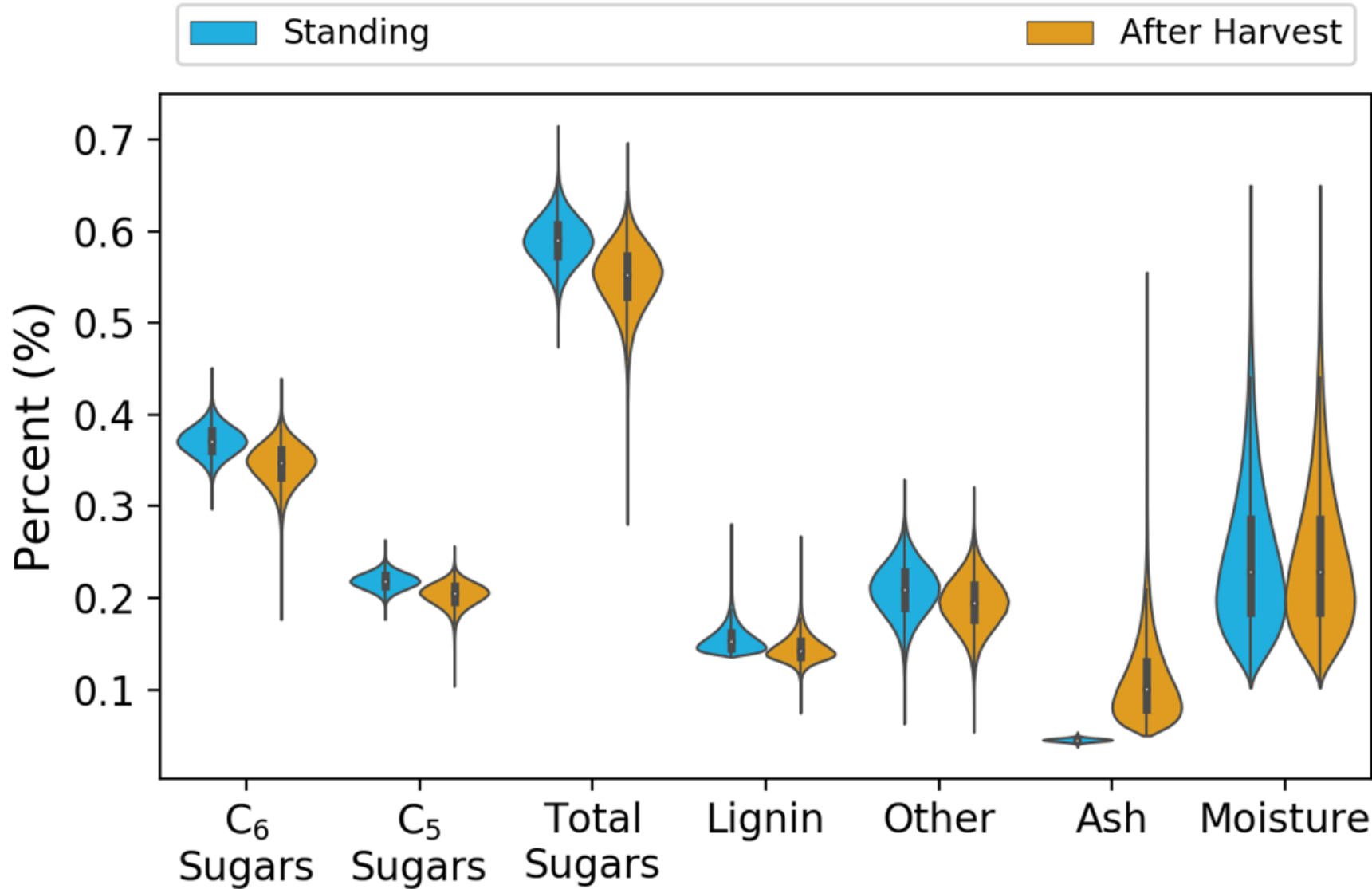
- < 5
- 5 – 100
- 100 – 500
- 500 – 1,000
- ≥ 1,000



Analysis Subclass

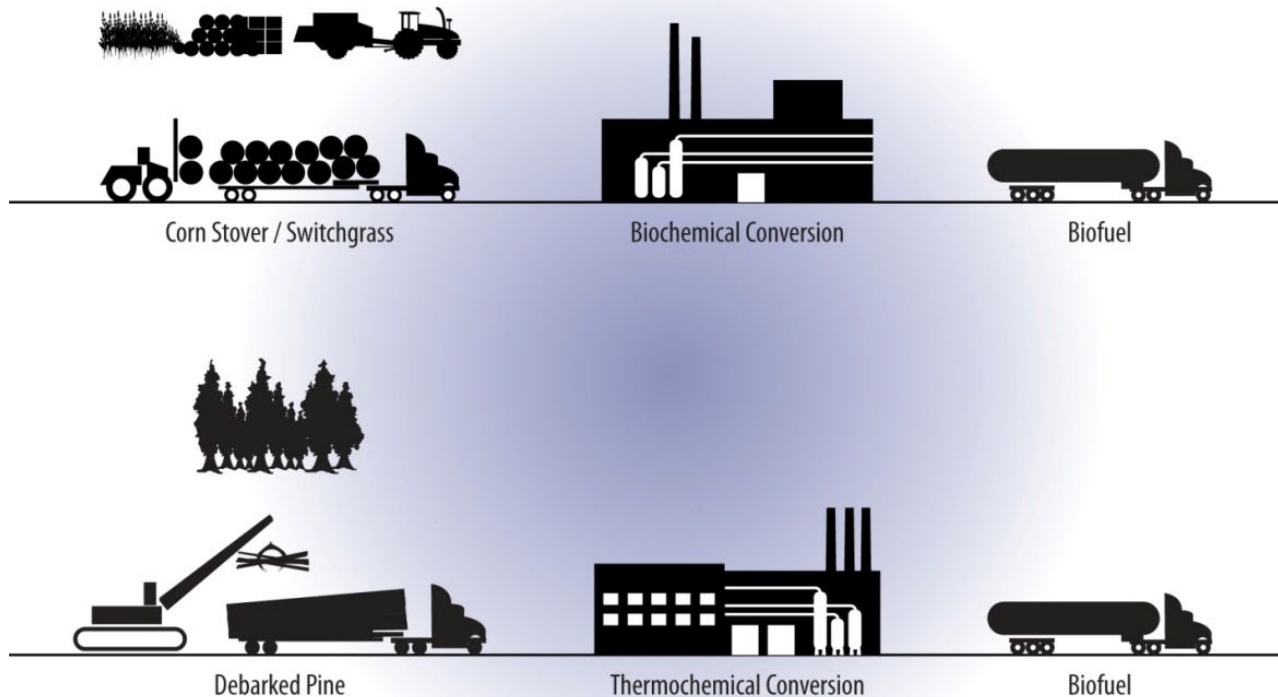
- Ag processing waste
- Agricultural residues
- Energy crops, woody
- Energy crops, herbaceous
- Intermediate oilseeds

Variability of Biomass Impacts Usable Supply



Conventional Feedstock Supply Systems

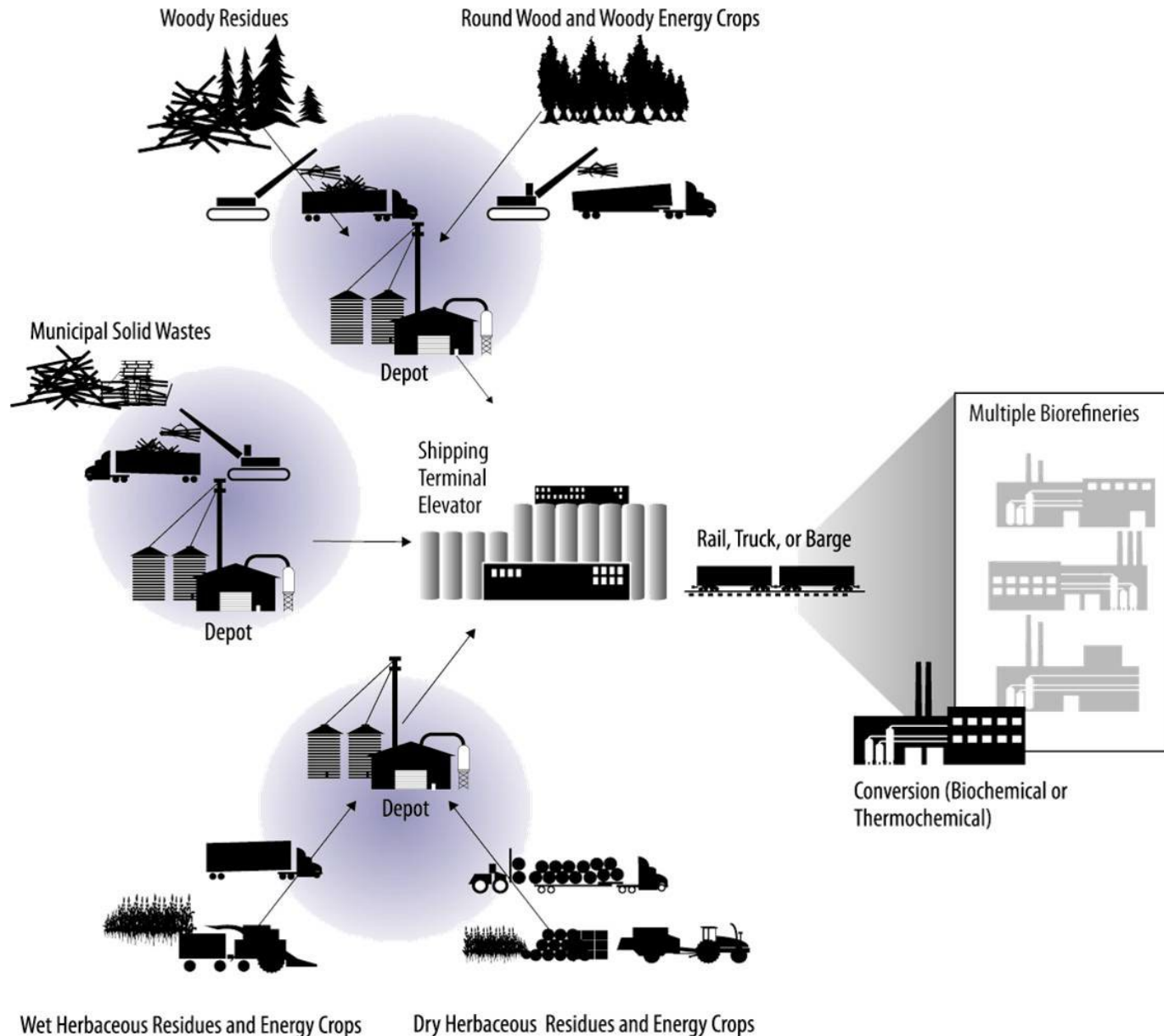
- Conventional supply systems (CFSS) provide biomass to existing markets that have less stringent quality requirements than biorefineries do



- Vertically integrated supply systems, designed around:
 - *Limited markets*
 - *Specific feedstock*
 - *Specific conversion facilities*
 - *Specific supply radius*

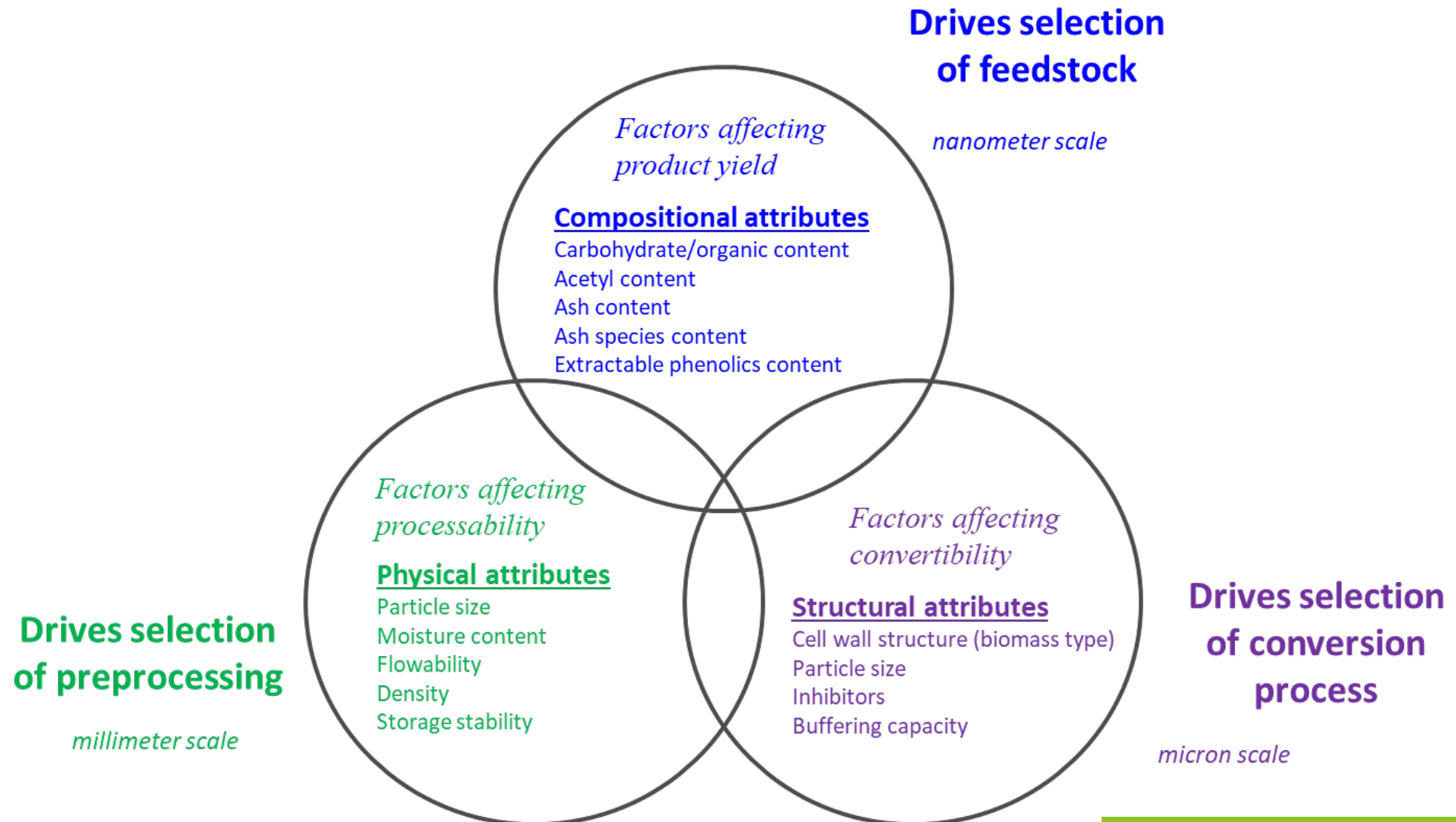
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Future: Modular Supply and Conversion

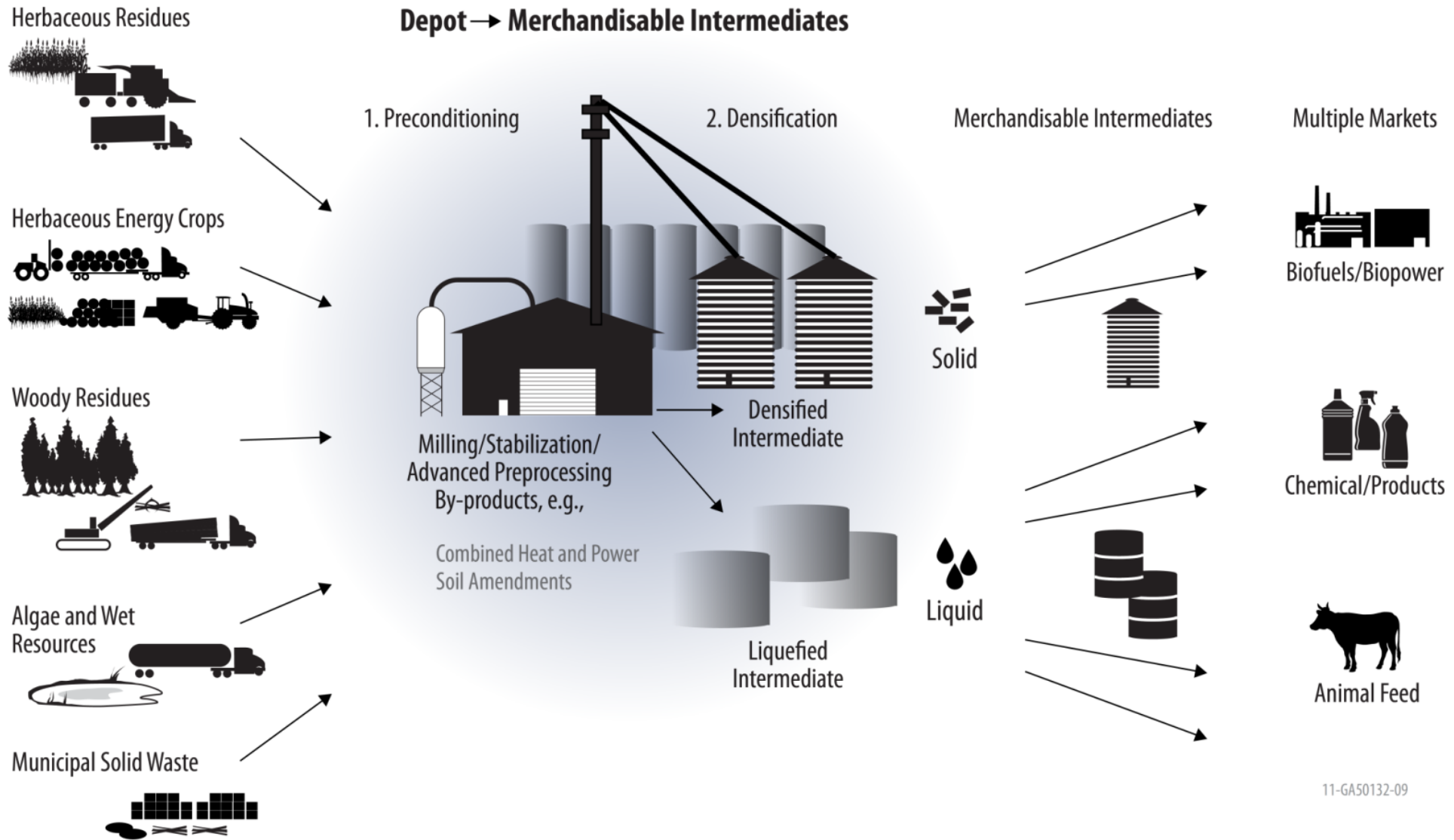


- Wide-spread, interconnected supply network
- Stable, dense intermediates
- Reduced feedstock variability in quantity, quality, cost
- Reduced uncertainty
- Terminals to buffer and blend resources to meet specifications
- Depots allow access to low-grade and diffuse resources

Biomass Quality Attributes and Impacts



Fractionation in Depots Enables Multiple Markets



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