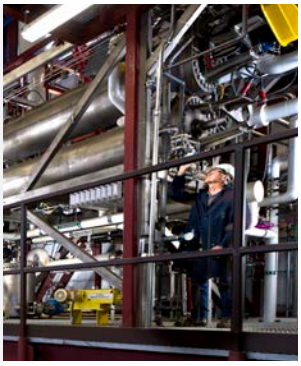
fcic
FEEDSTOCK-CONVERSION INTERFACE CONSORTIUM
U.S. DEPARTMENT OF ENERGY



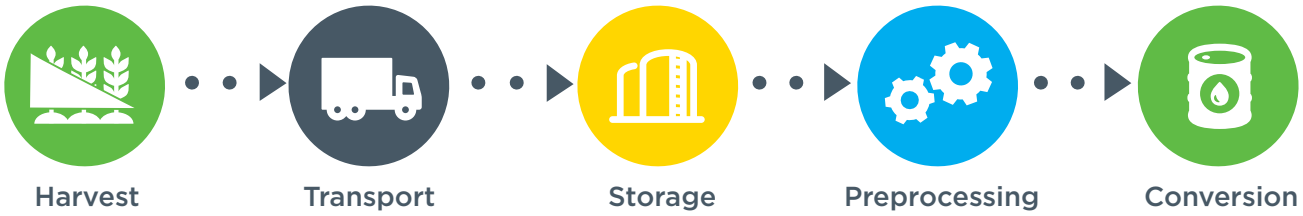
FEEDSTOCK-CONVERSION INTERFACE CONSORTIUM

ADVANCING BIOREFINERIES THROUGH SCIENCE-BASED TOOLS

The Feedstock-Conversion Interface Consortium (FCIC) is a Bioenergy Technologies Office-funded collaboration of industry advisors and nine U.S. Department of Energy (DOE) National Laboratories. The FCIC is dedicated to the continuous and efficient operation of the U.S. biorefinery industry. FCIC researchers endeavor to understand how feedstock composition, structure, and behavior impact overall biorefinery performance.

FCIC APPROACH

FCIC uses the Quality by Design approach to manage variability in process streams in a disciplined manner and to address issues across the biomass value chain:



FCIC: ENABLING BIOENERGY INDUSTRY SUCCESS

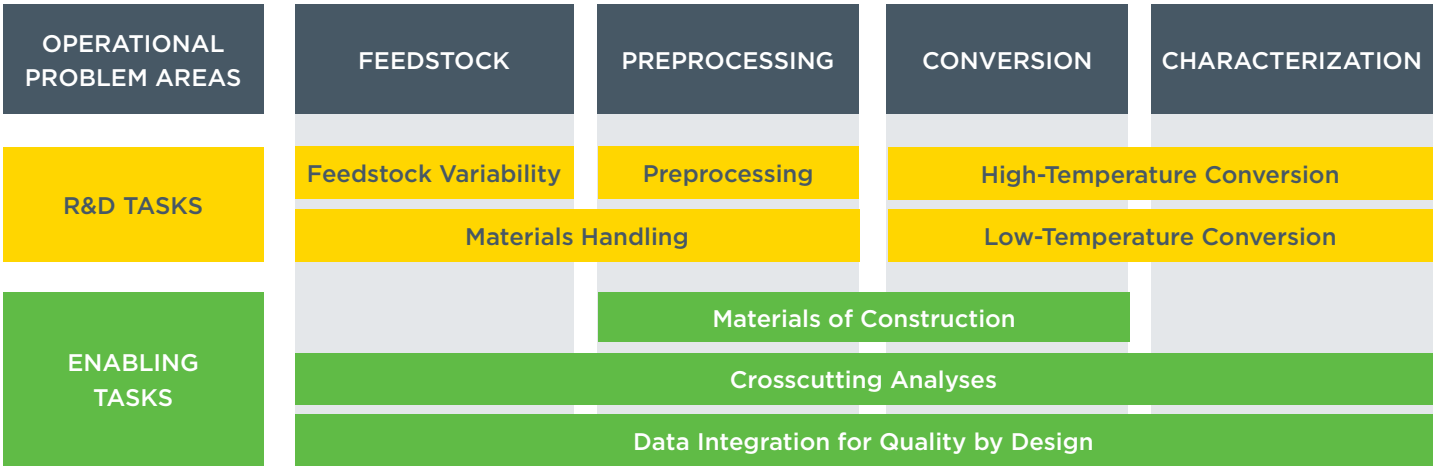
The ultimate goal of FCIC's research and development (R&D) is to enable the successful start-up and operation of a pioneer biorefinery. Through an understanding of scientific first principles of the physical, mechanical, and chemical properties of biomass, the FCIC strives to develop tools that can increase the likelihood of biorefinery success.

The FCIC studies the value chain, from biomass harvest to conversion, and includes both high- and low-temperature conversion processes. FCIC R&D projects assist biorefinery technology developers, designers, and operators with:

- Knowledge and tools to help improve biorefinery design and process specifications.
- A systematic approach to evaluating feedstock variability and managing process risk.
- Frameworks to assess the quality and value of streams in biorefinery processes.

R&D TASKS TO DEVELOP BIOREFINERY TOOLS

FCIC's technical approach is organized into eight complementary tasks that are aligned with operational problem areas. Each task involves contributions from DOE National Laboratories and is designed to provide useful tools for the biorefinery industry:



OUTCOMES

Some of the outcomes developed by the National Laboratories for use by the biorefinery industry include:

- Particle behavior models
- Databases of biomass physical, chemical, and behavioral properties
- Reactor optimization and wear models
- Techno-economic cost-benefit analyses

CURRENT PARTNERSHIPS

The FCIC is working with industry through both an Industrial Advisory Board and a National Lab-led call for proposals to address critical feedstock-conversion interface issues.

Learn more about the Feedstock-Conversion Interface Consortium, its partners, and its impact on the bioeconomy at **energy.gov/fcic**.

NATIONAL LABORATORIES AFFILIATED WITH FCIC

Argonne NATIONAL LABORATORY
BERKELEY LAB
INL Idaho National Laboratory
Los Alamos NATIONAL LABORATORY EST.1943
NETL NATIONAL ENERGY TECHNOLOGY LABORATORY
NREL Transforming ENERGY
OAK RIDGE National Laboratory
Pacific Northwest NATIONAL LABORATORY
Sandia National Laboratories

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