



U.S. Department of Energy
Energy Efficiency and Renewable Energy

biomass program

Products R&D in the Office of the Biomass Program

Presented to NASULGC August 3-4, 2004

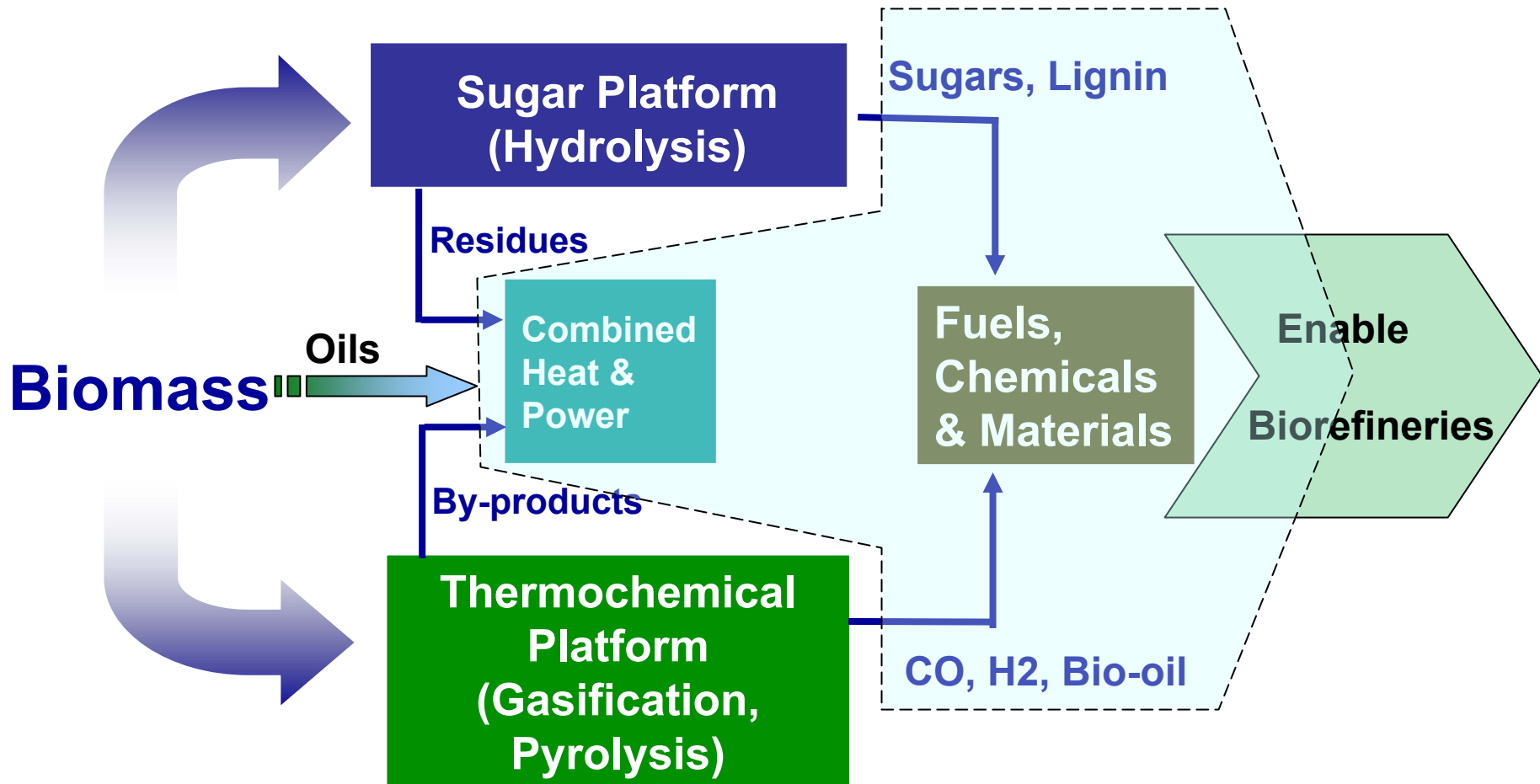
OBP/GO/NBC

Gene Petersen

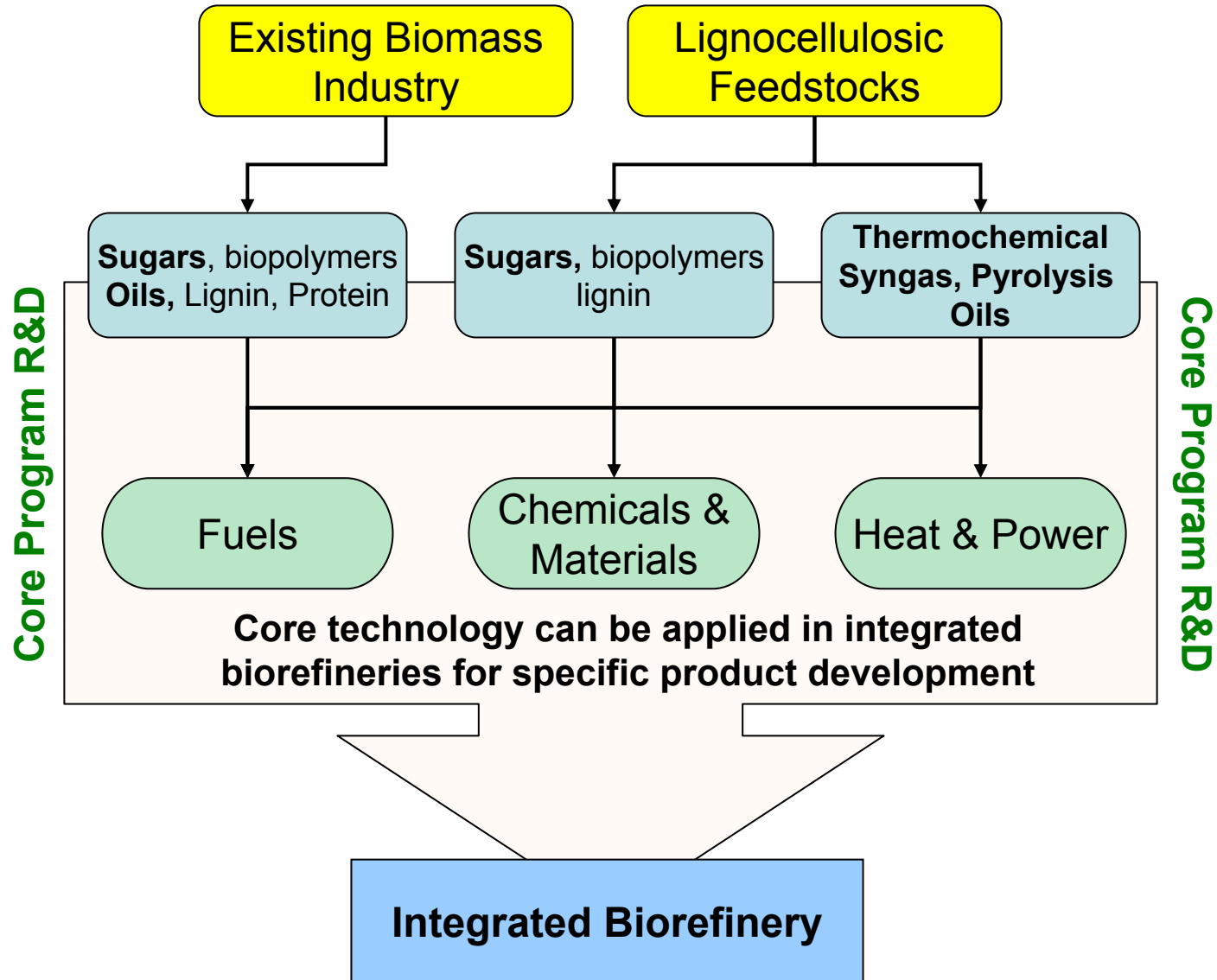
Golden Field Office

Biomass Conversion Technology

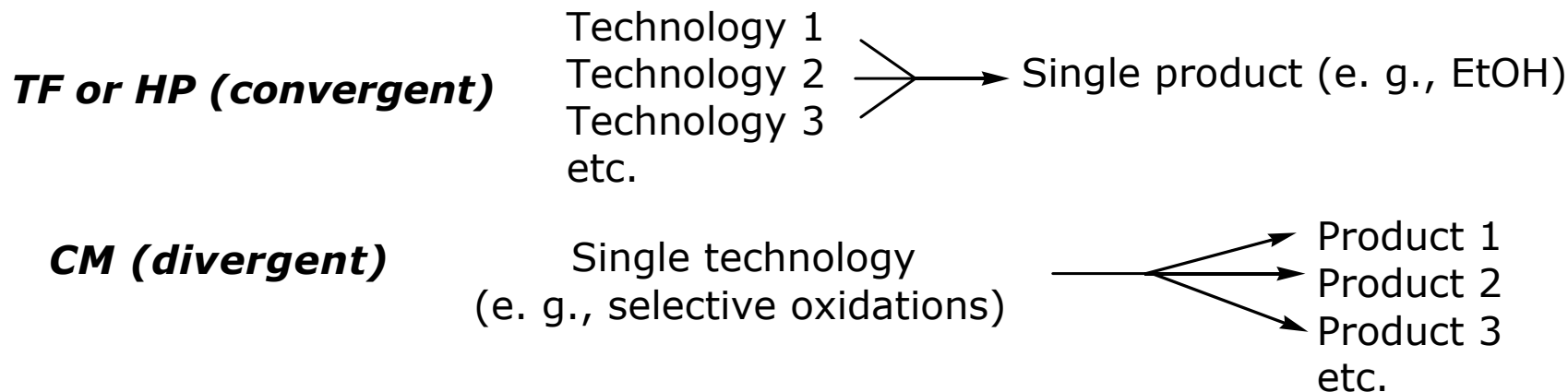
“Platforms”



Products Core R&D or Utilization of Platform Outputs within DOE's Biomass Program

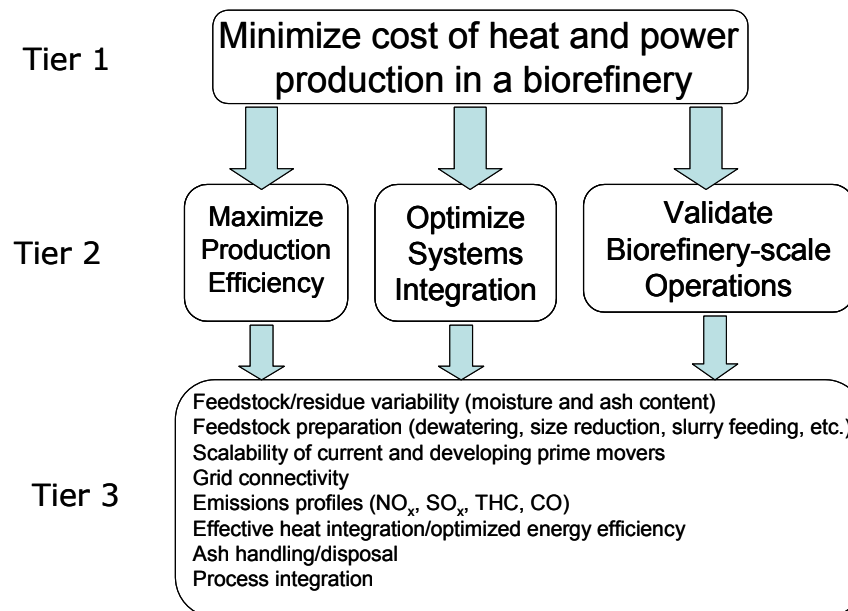
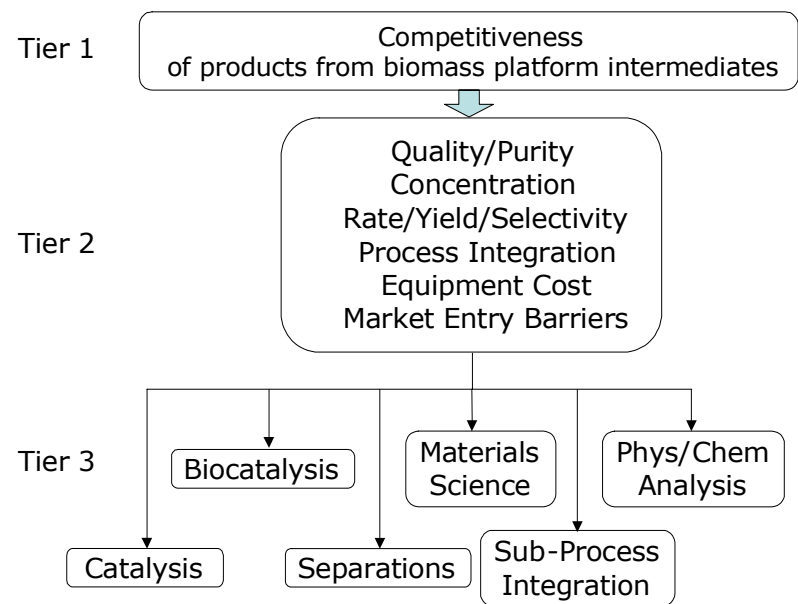
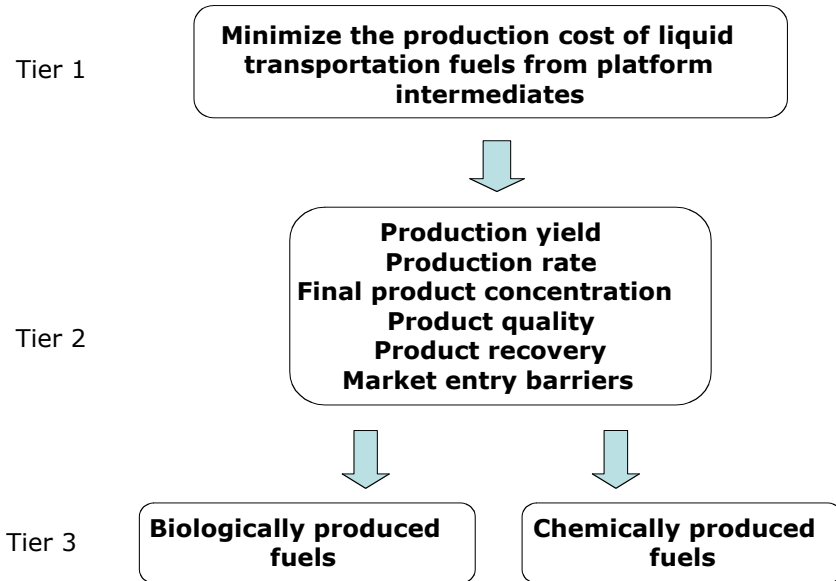


Differences in Technology Needs & Requirements



Portfolio Balance





CHALLENGES

Areas of Research Needs Across the Program

Research Need	Program Approach	Primary Instruments for Implementation Today
Feedstock Interface	Programmatic Efforts (focus=key costs) Solicited R&D	University led R&D (consortia) via solicitations & subcontracts Integrated Biorefineries
Biomass Processing	Large programmatic emphasis (focus=key costs) Solicited R&D	University led R&D (consortia) via solicitations & subcontracts Targeted subcontracts Integrated Biorefineries
Thermochemical Processing	Programmatic Efforts (focus=key costs) Solicited R&D	University led R&D (consortia) via solicitations & subcontracts Industry lead collaborative R&D Integrated Biorefineries
Products from Biomass and Platform Outputs	Small programmatic Effort Solicited R&D	Industry lead collaborative R&D University led R&D (consortia) via solicitations Integrated Biorefineries

Areas of Research Needs Across the Program & For Products

Program Research Need	Program Approach	Primary Instruments for Implementation Today
System Integration and Processing	Some programmatic efforts & Solicited R&D	University led R&D (consortia) via solicitations & subcontracts Integrated Biorefineries
Program Research Need - Enabling	Program Approach	Instrument to Implement
Catalysis, chemical and enzymatic	Solicited R&D Minor programmatic efforts	Industry led collaborative R&D (all possible partners) Integrated Biorefineries
Biological Processing	Solicited R&D Minor programmatic efforts	Industry lead collaborative R&D (all possible partners) Integrated Biorefineries
Separations	Solicited R&D Minor programmatic effort	Industry lead collaborative R&D (all possible partners) Integrated Biorefineries

Where NASULGC Can Help

- Prepare to form consortia that leverage capabilities to meet program needs – Initial Announcement, August, 2004 (\$5M total, 4 years, \$1.5-2.0 M/award). Planning on annual process if this approach shows additional promise. One major objective is to provide training ground for qualified scientists and engineers in the Biomass area.
- Provide qualified reviewers for applicants to program announcements. Current need, Oct/Nov 2004
- Partnering with industry and laboratories for other basic and applied R&D – DOE specific announcement, August 2004. Annual USDA/DOE joint bioenergy announcements. Together about \$10 -20MM annually