

Bioenergy Technologies Office

2017 Program Management Review

Bioenergy Technologies Office Response

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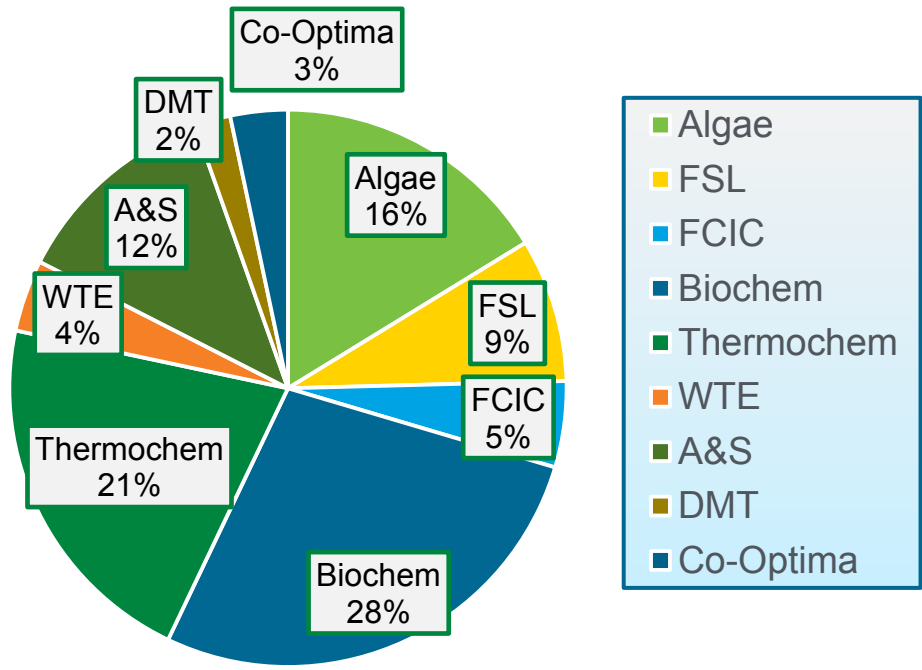
BETO Director

Arlington, Virginia

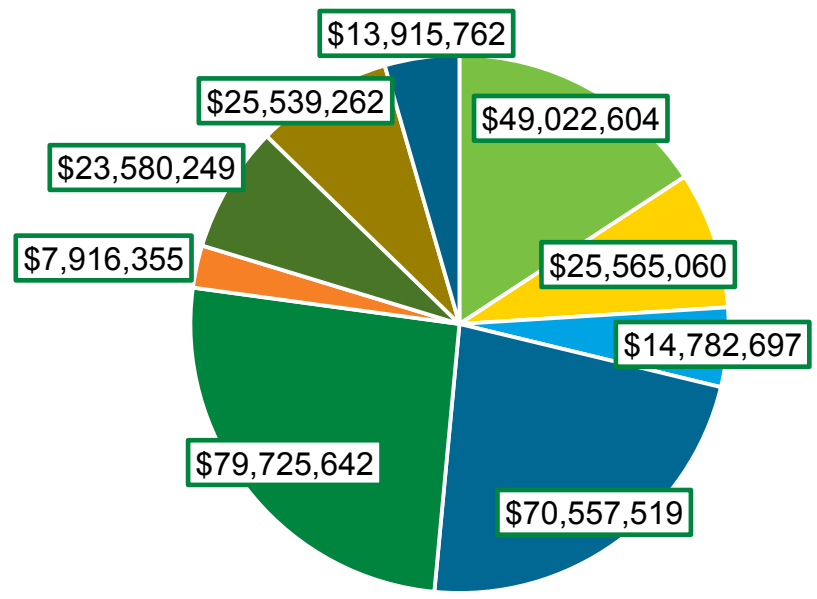
July 13, 2017

- I. BETO Portfolio Introduction
- II. Accolades
- III. Recommendations
 - I. BETO Portfolio
 - II. The Bioeconomy
 - III. Strategic Plan
 - IV. Technology and Market Trends
 - V. Budget Priority
 - VI. Collaboration and Partnerships

By # of Projects



By Project Funding



- 277 projects across the BETO portfolio were reviewed
- Approximately \$300 M total funding reviewed
- 93% of Total BETO Portfolio was reviewed

- Launch of consortia to enhance collaboration between national labs and with industry
- Enhancing cross-discipline collaboration and communication
- Retaining and developing great staff
- Great project management (stage gates, cost share, etc.)
- Emphasizing value proposition
- Adaptability to changing market and technology trends
- Impact on the development of the Bioeconomy
- Innovative new initiatives, especially Co-Optima

- Improve industry engagement
 - AOP-funded projects need more coordination with industry – Leveraging CRADAs with consortia
 - Address technical, policy, legal, and IP barriers to greater industry engagement – CRADA-Lite
 - Need more focus on valorizing real lignin streams from commercial facilities – Conversion: Lignin Utilization
 - Encourage use of DOE-funded process demonstration units
- Need to conduct an office-wide portfolio risk assessment
- Portfolio diversity
 - Early TRL Work – Exploring beyond TRL -> IRL -> SRL
 - Analysis to Illustrate Scenarios for Compelling Economics – TEA
 - Near-term Wins – Success Stories/Yardstick is changing
 - Industry Relevant Work
- Focus on aviation/medium and heavy-duty vehicles – Distillates are the opportunity
- Capitalize on oxygenated molecules in biomass – Functional equivalent molecules, bio-advantaged molecules/Co-Optima

- Collaborate with others to help build a bioenergy workforce – NASA
- More funding for DMT – ADO: Continuing to work on educating new management, Congress and OMB

- Prioritize bio-products investment in the near- and long-term:
 - DOE has sensitivities on products as a priority; more flexibility in research/less in development
 - Products must integrate with fuel
 - Analysis of energy future scenarios – for example Bioenergy Scenarios Model
- Better communicate the strategic plan of the Bioeconomy
 - Staff Meetings on Bioeconomy (BETO/Labs)
 - Roll out of Bioeconomy Action Plan (Labs)
 - The BETO Strategic Plan dove tails with the Bioeconomy

- Consider different carbon pricing scenarios in strategic planning
 - Agree; LCA should capture this & SCA is looking at this
- Collaborate with other DOE offices on R&D for using surplus Renewable Electricity
 - This was discussed at Bioeconomy 2017

- While algae technologies are important, they are disproportionately weighted in the portfolio
 - Congress has strongly supported AAS
- Waste-to-Energy represents an underfunded, yet very promising Area
 - Multiple workshops and strategic use of SBIRs to seed distinct, innovative R&D in this area
- Demonstration and Market Transformation is a critical function of the office
 - Agree; Pilot/Engineering scale drives research in new directions
- Emphasis should be placed on getting results from existing investments, rather than spreading funding too thinly
 - There has to be a portfolio balance between existing and emerging projects and FY18 budgets drove focus on priorities

- Collaborate with FCTO on hydrogen production and distribution efforts
 - BETO uses FCTO as a knowledge resource and needs renewable hydrogen cost competitive with SMR
- Collaborate with AMO on deploying bioeconomy technologies, particularly catalysis, process control automation, and CHP technologies
 - BETO engaged with AMO on process intensification, separations, and products
- Capitalize on complementarity of ARPA-E
 - Leverage ARPA-e efuels; some ARPA-e projects graduate to BETO
- Either the scope of the Biomass Research and Development Board should be expanded, or additional coordination by others in the two agencies is needed
 - BRD Board is 8 Agencies with invites to additional agencies as needed
 - Exchanged Details USDA-DOE
 - USDA/DOE Lab Summits

Thank You