



biomass program



Insuring Success through Stage Gate and Beyond

Bob Wooley
Biomass Systems Integration
April 25, 2007



Goal of DOE Stage Gate Process

biomass program

Bring biomass science and technology to commercial application sooner, at lower cost, and with improved probability of success.

Through:

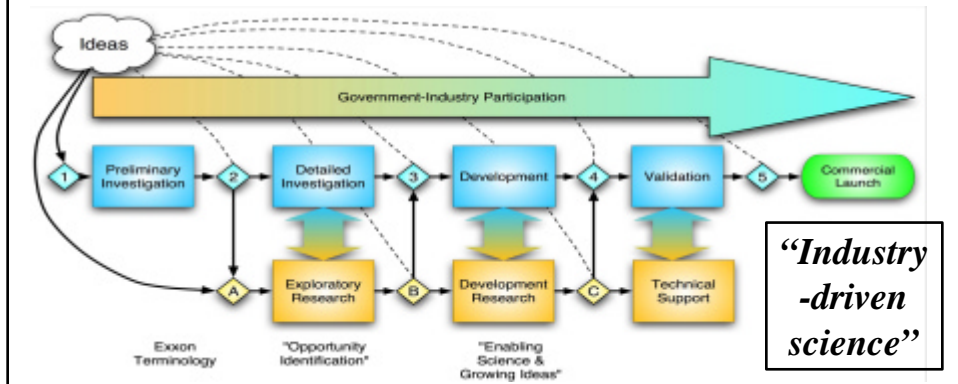
- Strong Customer/Competition orientation
- Better homework up-front
- Quality of execution
- Sharper focus, better prioritization
- Fast-paced, parallel processing
- Multifunctional team approach



What is stage gate? DOE Version

biomass program

- Modified by Biomass Program (1998) for early stage, high risk government-funded technology R&D to insure alignment with industry needs for later stage development and commercialization
- Now being extended to Public-Private Partnerships



4 Work Categories in Each Stage

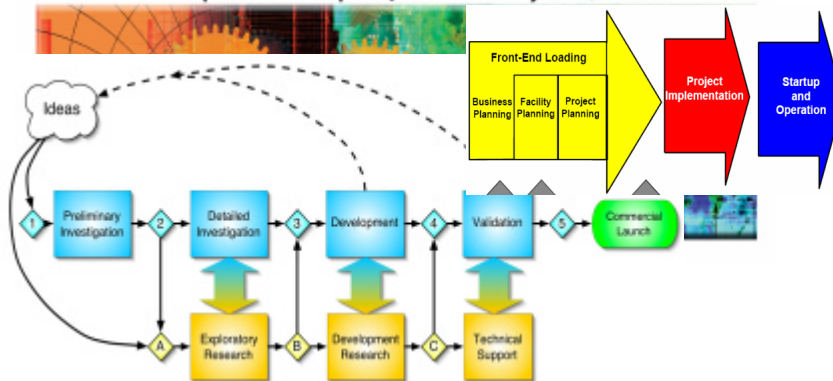
biomass program

- Market/Customer Assessment
 - Research, Development, Demonstration Activities
 - *vast majority of \$ spent here*
 - Competitive Technology/Detailed Technical Assessment
 - Financial Assessment
- ❖ **Result: Decisions and priorities regarding R, D & D are informed relative to market/customer, competition, and economics.**



Utilizing IPA to Improve Project Commercialization Performance

independent project analysis, inc.



biomass program

- Originated at RAND
 - Completed the Report “Understanding Cost Growth ... in Pioneer Plants ...” on the performance of the Synfuels Technology development in the late 70’s
- Ed Merrow Spun off IPA to do similar Analyses for Private Industry
 - Foundation is methodology and database developed for the Synfuels analysis
 - Database of analyzed projects has grown from 45 (original RAND report) to over 9500
- IPA will make suggestions on how to improve the probable outcome of the commercial project



biomass program

- IPA independently measures the performance of capital projects for over 125 companies worldwide
 - IPA is devoted exclusively to the analysis of capital projects as a field of empirical research
- They measure the practices that lead to best outcomes

They measure the relationships between what you do and what you get in project selection, development and execution

They essentially predict the risk of what we don't know



biomass program

How Does IPA Help Improve Capital Projects?



9,000+ Projects

- 125+ Companies
- Varying project types
- Over 2000 variables per project
- All project phases - R&D through Startup
- Technical difficulties ranges from minimal to cutting edge



Statistical Analysis

- Practices vs. Results
- Project Research



Performance and Plans

- Best Practices
- Benchmarks



biomass program

- Stage Gate
 - Insures R&D project objectives Align with OBP Goals
 - Requires high-level project definition including; scope, quality, outputs, and integration.
 - Plans incorporate performance indicators, decision points, off-ramps...
 - Enables Portfolio Management decisions
 - Value, balance, number of projects...
- Stage Gate + IPA and Other Assessments
 - Help DOE Make the right Investments
 - Help DOE Partners be Successful!