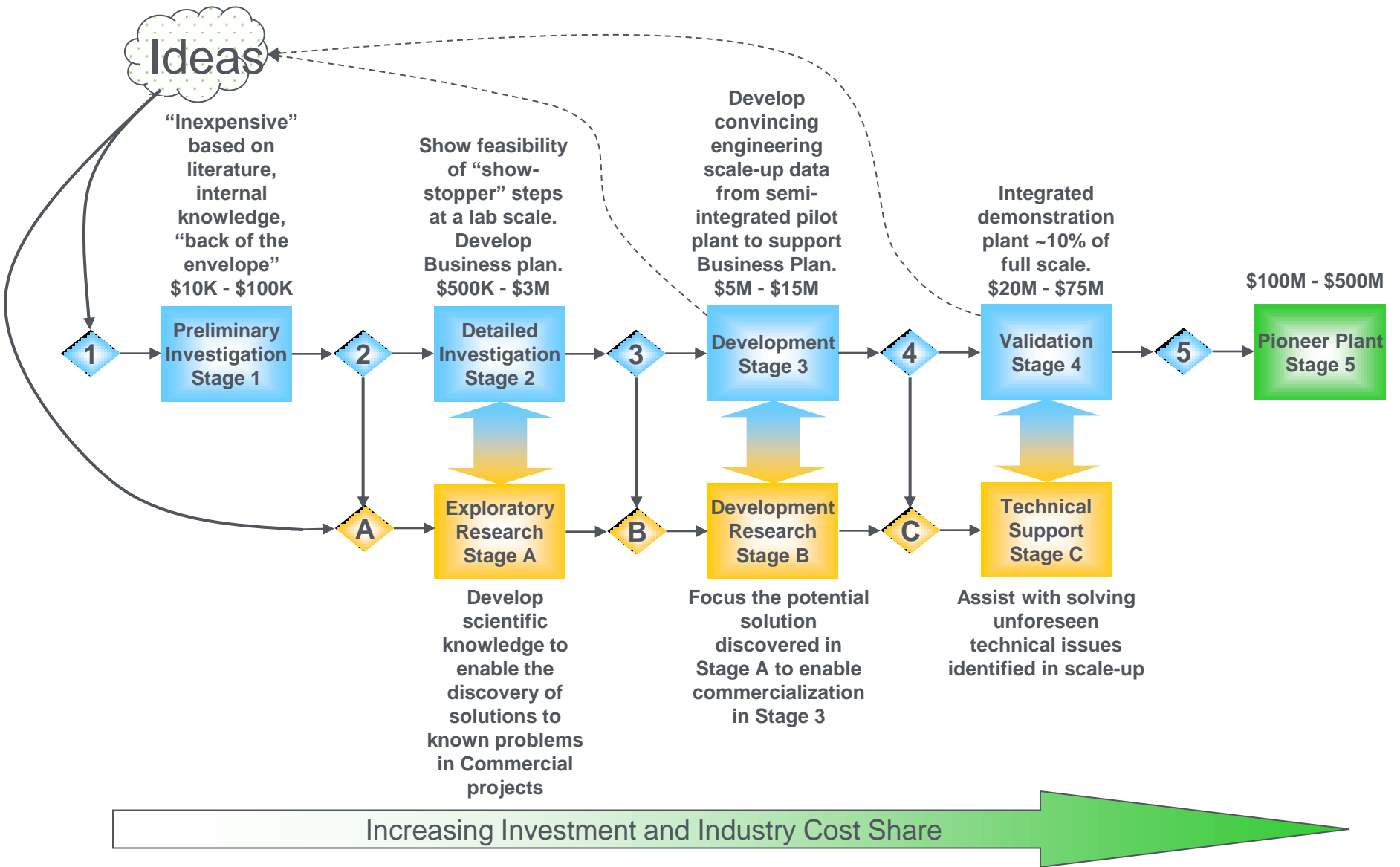


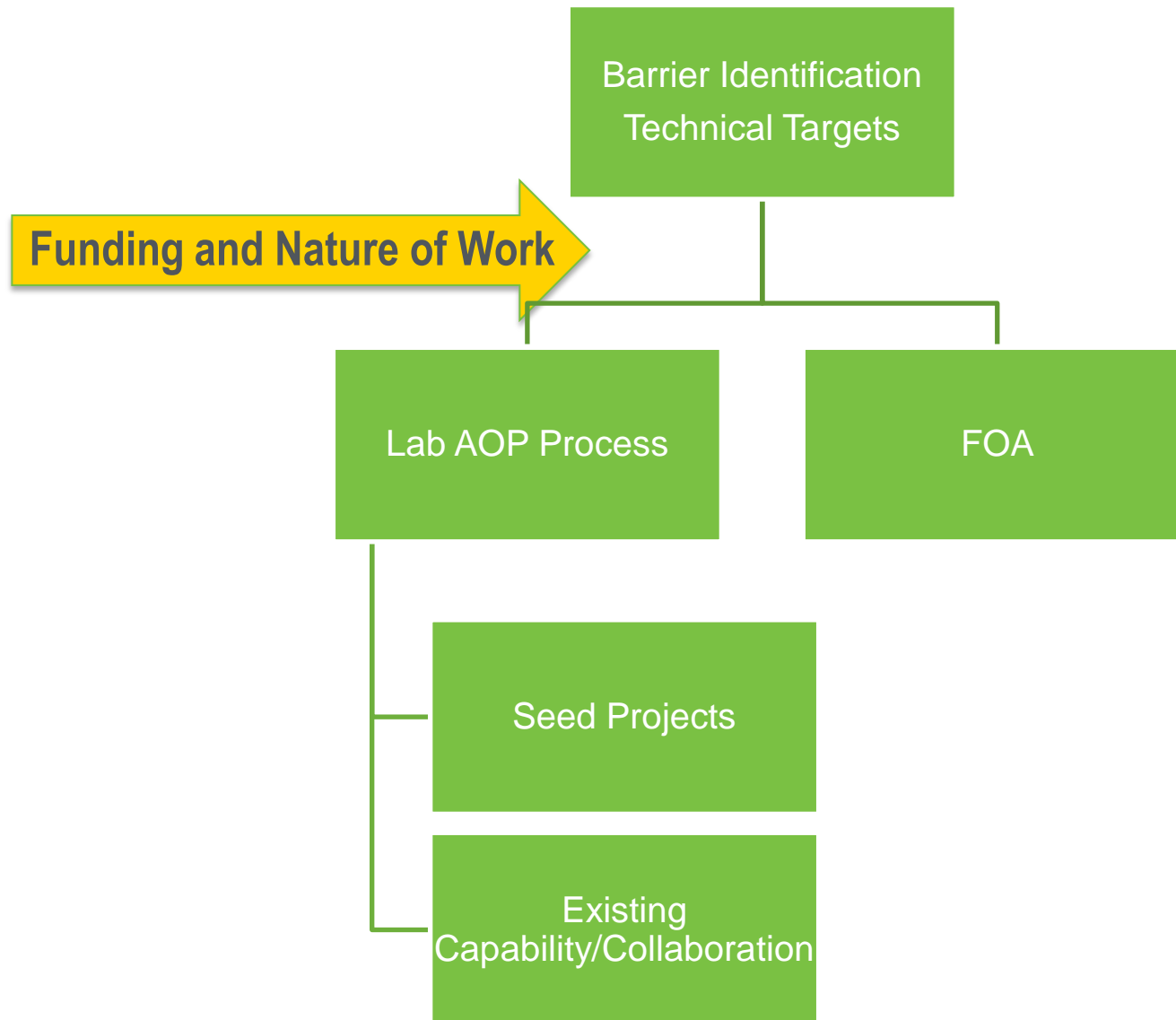


**2013 Program Management Review**  
**July 30, 2013**

**Kevin Craig – Conversion  
Program Manager**

# Stage Gate Management





## **Direct Lab Funding**

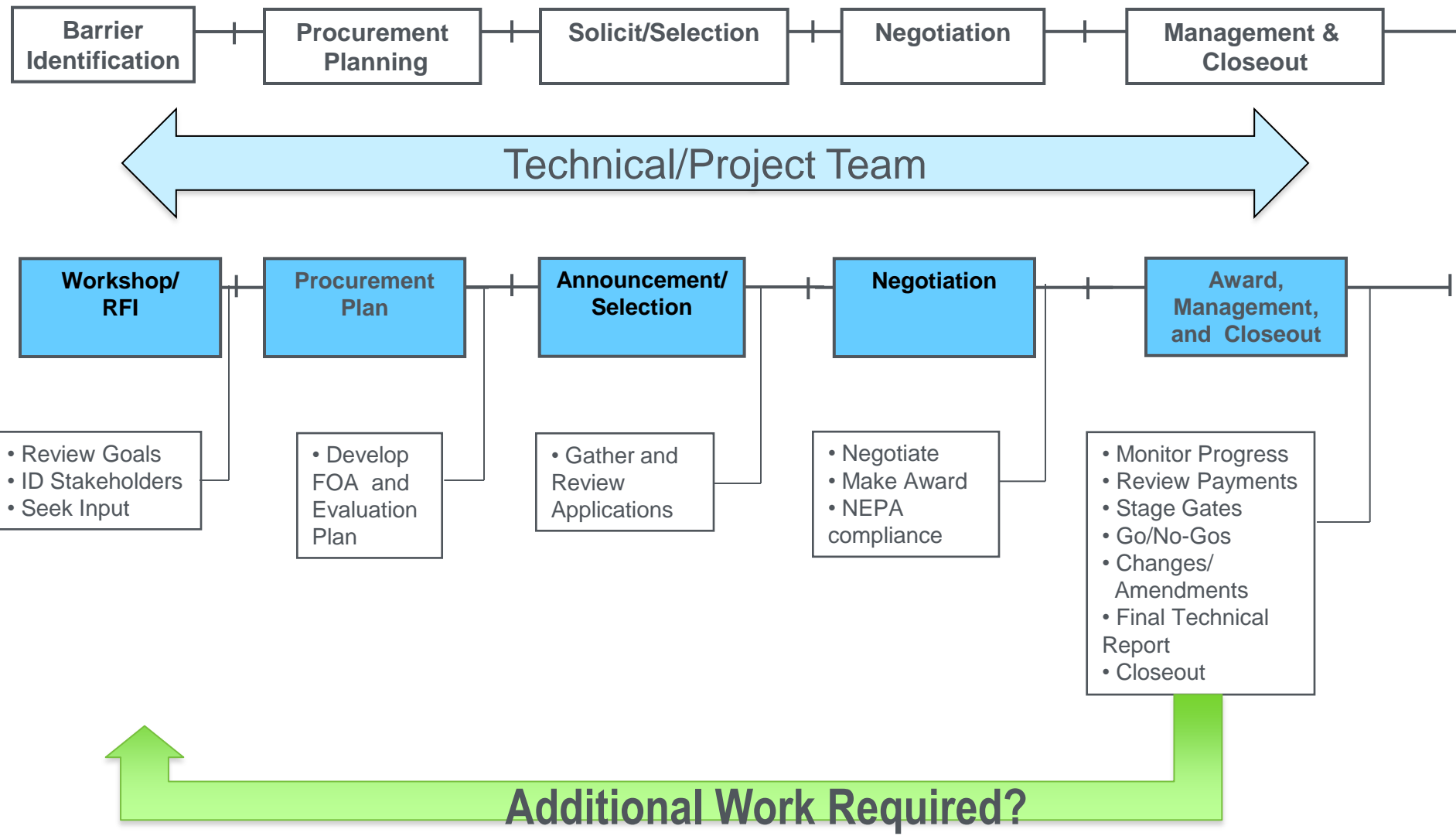
- Substantial and unique capability
- Fundamental or specialized work benefitting many stake-holders
- Consistency of approach
- Third-party validation work
- The need to make R&D data publically available
- Nature of work requires FFRDC relationship
- Developing standard analytic procedures for dissemination and general use
- Work at early stage and unlikely to attract significant cost-share

## **Competitive (industry and lab and universities etc. eligible)**

- Moving technology from fundamental to applied
- Transition of technology from applied research to development/application
- Areas where all entities have complementary capabilities/background

## **Competitive (industry only)**

- Demonstration/commercialization projects
- IP essential to successful commercialization
- Significant resources required
- Significant cost-share required
- Market knowledge and/or commercialization experience essential for success.



- Manage project progress against Program goals/SOW/milestones
  - Conduct site visits and project reviews
  - Maintain on-going relationship/communication with Principal Investigator and team members
  - Review invoices/reimbursements
  - Review and analyze progress reports
  - Ensures projects are conducted within the requirements and regulations



- Graded Approach
  - More funding & higher risk = greater oversight/control
  - Low dollar/"risk" -> appropriate SOW, review costs for allowable, allocable, reasonable; review deliverables
  - High dollar/"risk" -> Tailored use of management tools (informed by DOE O 413.3)
- Project Management Plan\*
  - Contact information
  - Tracking information
  - Stage/status (Beginning and ending TRL)
  - Description/Objectives
  - Annual work plan
  - Subcontractor information
  - Current and out-year budgets by task
  - Milestones

\* Required of all projects

- Standardized quarterly reports\*
  - Milestone status/variance
  - Budget status/variance
  - Modified/simplified earned value
  - Narrative (in some cases)
- Technical base-lining & Gate reviews
  - Initial state of technology
  - Progress verification
- Uniform Work Breakdown Structure
  - Work-package invoicing
- Risk assessment
  - Guides contingency, gates, data requirements
- External independent engineering reviews and oversight
  - Readiness review
  - Design reviews, construction progress, and earned value management

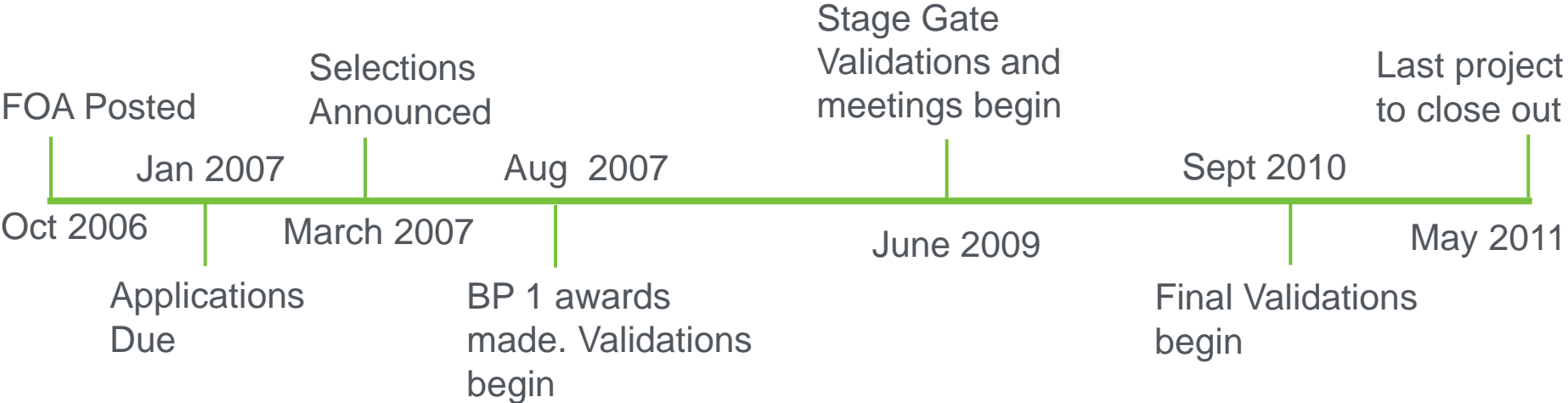
\* Required of all projects



# R&D Project Management

## Organism Development Projects Example

# Organism Development Projects - Timeline Overview



## On-Site Validation

Validation Phase	Schedule	Scope and Purpose
1. Initial	Two to three months after initiation of the project.	<ul style="list-style-type: none"> <li>•Primary emphasis is on the baseline organism performance to validate the performance <u>as submitted in the application</u>.</li> <li>•Secondary emphasis is on <u>process design and cost validation</u>.</li> <li>•Assessment of the project's facilities and quality assurance and quality control program.</li> </ul>
2. Pre-Stage Gate	Approximately 18-22 months after initiation of the project.	<ul style="list-style-type: none"> <li>•Emphasis will be equally weighted on the organism performance and the process design and cost to verify the progress against the intermediate targets.</li> <li>•The results of the validation will be provided to the Stage Gate Panel who will use the information and other sources such as the PI's presentation at the review to provide their input on the project's progress.</li> </ul>
3. Final	Within 60 days prior to the project completion date (36 months).	<ul style="list-style-type: none"> <li>•Assess the progress made at achieving all of the final targets, to determine if the project successfully met the performance metrics and desired results.</li> </ul>

- Stage Gate Review
  - Three projects **passed** their stage gate reviews and obtained Phase 2 funding
  - One project was **re-scoped** and awarded Phase 2 funding
  - **One project was discontinued.**
- Final Validations
  - Strains are being used in demonstration plants
  - Strains available for licensing
  - All awardees have made their strains available to NREL for independent testing in a cellulosic ethanol process

*Successfully developed a model for future project validations*



- Technical base-lining & Stage-Gate reviews
  - Validation of Initial state of technology and technical progress
  - Progress verification
    - Pioneered in Biochem projects (enzyme, organism development)
    - Being implemented across R&D portfolio
- Expanded Project Management Approach/Tools
  - Reporting interval (monthly)
  - Uniform Work Breakdown Structure (WBS) elements
  - Earned Value management
  - Formal Risk Assessment
    - Independent Project Analysis, Inc.
    - Guides contingency, data requirements
  - Phased Approach
    - Design, Construction, and Operational Readiness Reviews (DOE Order 413.3)
  - External independent engineering reviews and oversight
    - Design reviews, construction progress, and ground-truthing
  - Annual Comprehensive Project Reviews (CPRs)

- Management and Performance
  - Performance against Baseline Cost and Schedule
  - Technical Performance
- Risk Management
  - Risk Mitigation and Market Approval
  - Feedstock supply
  - Project financing
  - Project economics

# Project Management Tools

## The Project Management Plan (PMP)

### The Project Management Plan (PMP, Excel Workbook)

#### Features

1. One page summary of project, contact information, partners, locations, analysis of recent progress.
2. Annual estimated spending plans, out-year funding requests & historical obligations & spending (by task & subcontractor)
3. Summary of milestones, deliverables and links to program level C milestones and technical barriers, performance metrics
4. Gantt charts, narrative AOP for that FY

#### Applications & Use

1. Project management and tracking, links to high level program milestones and targets, program planning and defining current and out-year milestones. Measures and performance metrics for project management needs.
2. Contains project and DOE contact information, assignments to platforms by Program WBS, CPS & B&R numbers, non-proprietary statement of objectives, detailed annual plans, overview of project structure and schedule.
3. Data calls, information for requests and budget planning, data for PART, feed into Biomass Database (MS-Access) for HQ budget planning. Resources broken out by tasks
4. Milestones and project summary for CPS, provides better understanding of project and annual plans, allows DOE to see how the project is organized by tasks, Annual narrative for operating plans



## The Quarterly Report – *Excel Workbook*

### Features

1. One page summary of project, contact information, partners, locations, 'one glance' status and analysis of recent progress.

2. Financial update and summary by quarter for current FY plus historical data

3. Summary of milestones, deliverables and links to program milestones and technical barriers

4. Quarterly narrative progress report (based on a template)

### Applications & Use

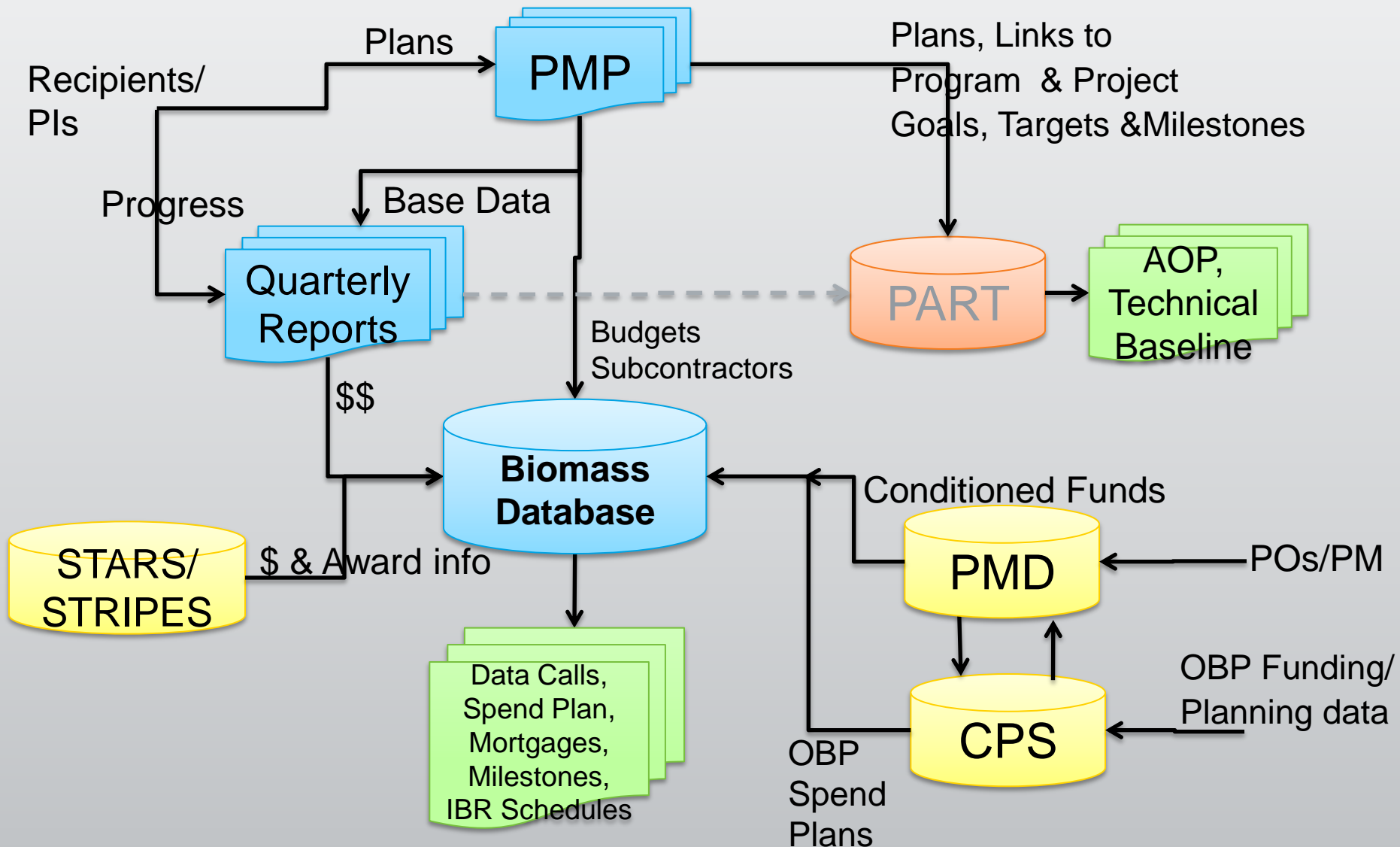
1. Tracking technical progress, ability to show links to high level program milestones and targets, self-evaluation by applicant on progress

2. Source of information upon which to base analysis of recent progress, info on outreach and publications, insights into variances and project issues

3. Tracking costs, uncosteds, cost share, data for PART, feed into Access database for HQ budget planning

4. HQ data calls, contact information, summary suitable for CPS, assignments to platforms by WBS, CPS & B&R numbers, short statement of objectives, overview of project structure.

# Biomass Information Environment - Current





# Questions