

New Protocol for Agriculture in the California Climate Action Registry

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4th USDA Greenhouse Gas Conference

February 7, 2007

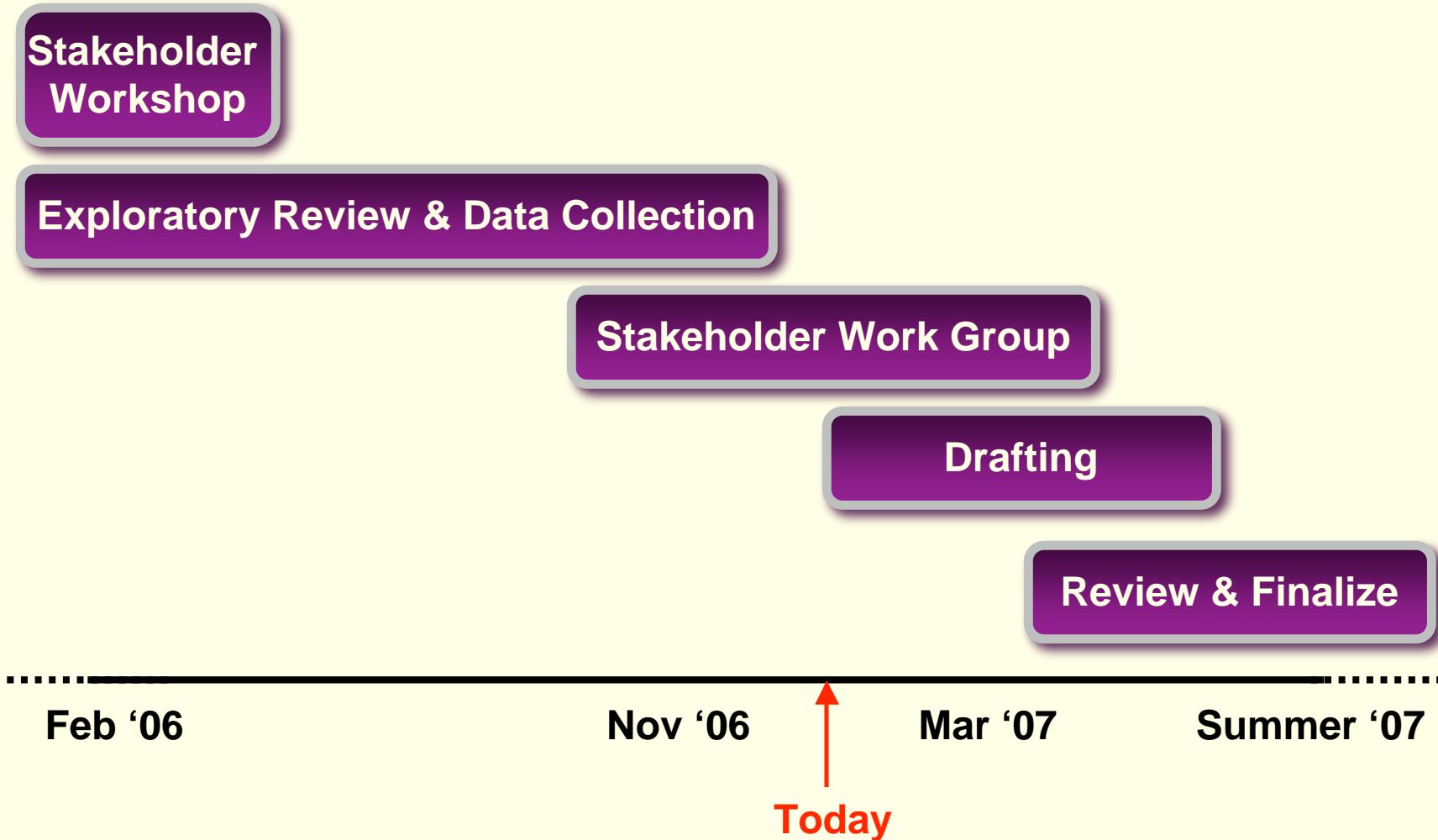


Introduction



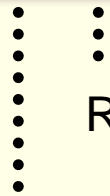
- The Registry is developing a GHG Project Protocol for Livestock Manure Management
 - covers the installation of an anaerobic digester
 - includes direct emissions from manure management
 - applies to livestock operations in California and the U.S.

Protocol Development Timeline



Protocol Development Timeline

Exploratory Review & Data Collection



Review of existing protocols (e.g., WRI, 1605b, CDM, CCX, ERT...)

Review of data on manure management practices & regulations in CA

Feb '06

Nov '06

↑
Today

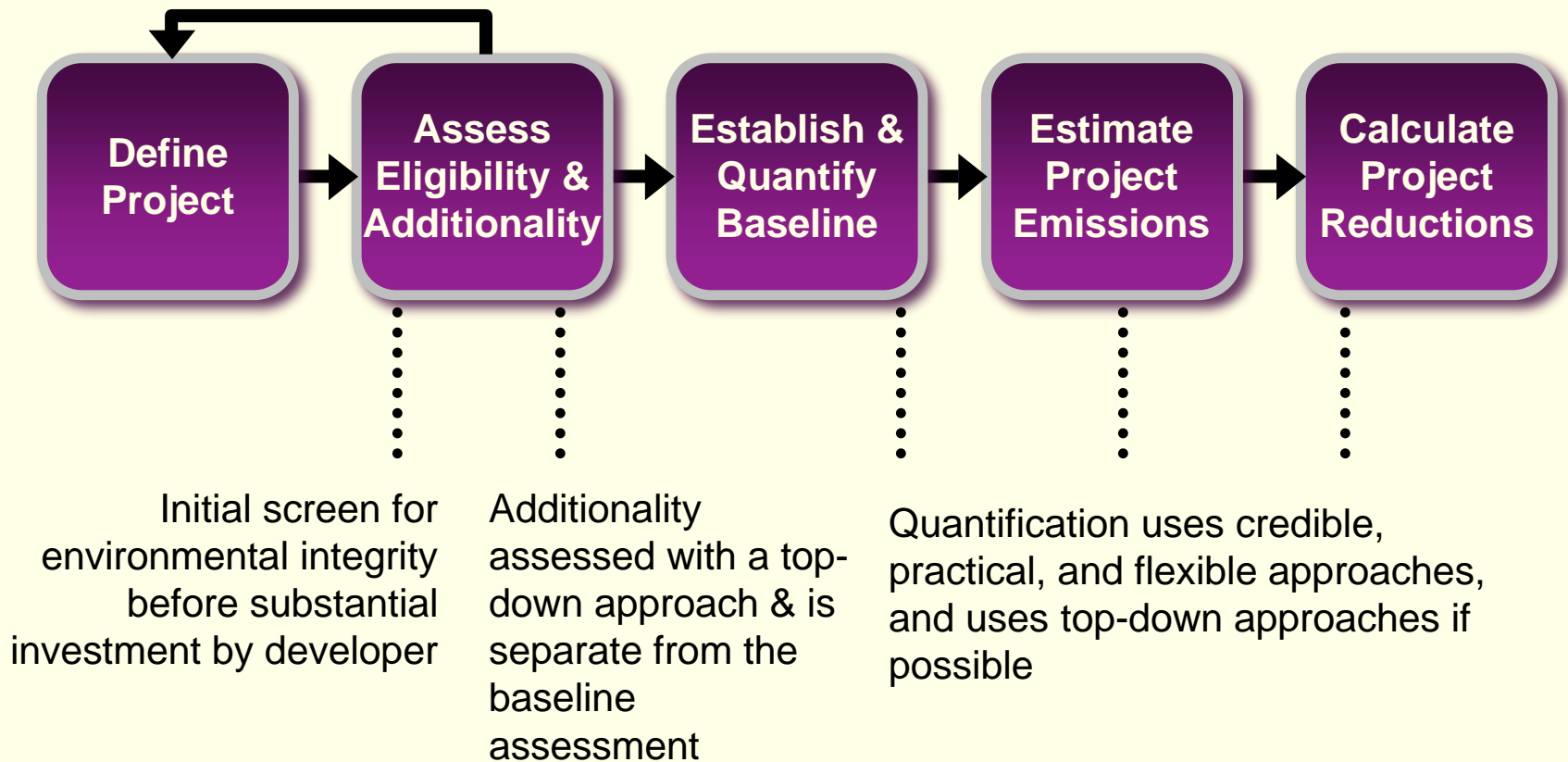
Mar '07

Summer '07

General Protocol Steps



General Protocol Steps





- Project activity = anaerobic digester
- Scope = direct emissions from manure management
- Boundaries = manure management system



■ Regulatory Screen

- Is it required by law?

■ Additionality Assessment

- Would the activity happen anyway, without a GHG incentive?



■ Regulatory Screen

- Is it required by law?

■ Additionality Assessment

- Would the activity happen anyway, without a GHG incentive?
 - Performance standard approach (top-down)
 - Better than average is additional
 - Based on “Common Practice”

Options for Implementation



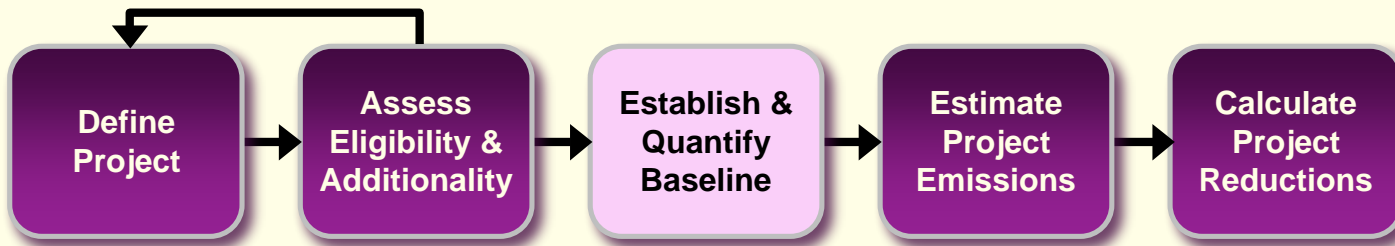
- Low up-front costs to developers: top-down
- Efficient review and approval: top-down
- Transparency and consistency: top-down
- Applicable to multiple projects: top-down
- Low initial investment to program: bottom-up
- Site-specific quantification: bottom-up



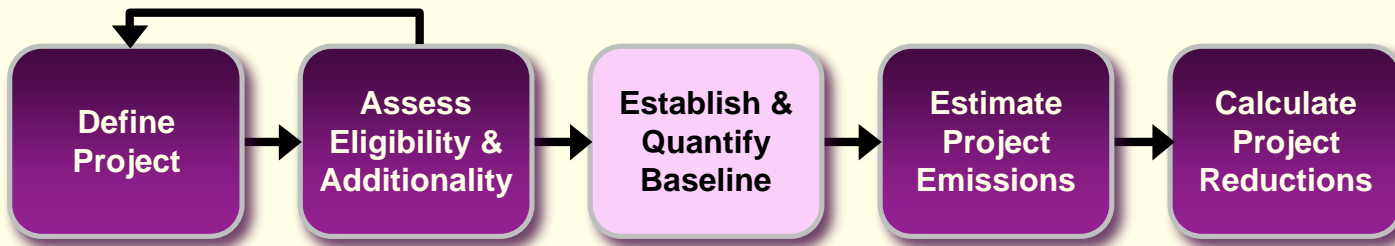
- **Digesters are not required by law in CA**
 - Current air permit rule require all “Large Confined Animal Facilities” to adopt practices that reduce VOC, ammonia, and hydrogen sulfide emissions
 - Unlikely that anaerobic digesters will be installed to meet permit requirements
 - Some rare circumstances may result in requiring a digester be installed



- Anaerobic digesters are not common practice in California or the US
 - ~20 digesters in CA, most on dairies
 - ~1% of dairy operations in CA
 - EPA reports 80 digesters nationally (62 dairy, 18 swine)
 - 30% of US digesters are on dairies in CA
 - 17% of US dairies are in CA



- Use standardized baselines developed by the program
 - Program develops generalized estimates of baseline emissions
- Use project-specific baseline following an approved methodology
 - Use site-specific data to establish a baseline



- Identified three common types of dairies
 - Drylot
 - Freestall-flush
 - Freestall-scrape
- Prevalence varies geographically
- General association between type of dairy and GHG emissions



- Quantification methodologies
 - Emission factors (baseline)
 - Process models (may be a role)
 - Direct measurement (project emissions)
- Reductions = baseline - project

Summary



- Protocol covers installation of anaerobic digester
- Projects that install a digester will likely be eligible & additional
 - Anaerobic digesters are not common practice and not mandated under current regulations.
- Protocol is still under development
- Anticipate final protocol this spring

Resources



- EPA Climate Leaders Manure Management Protocol

- <http://www.epa.gov/climateleaders/resources/optional.html>

- CCAR Background Reports

- Mike McCormick: mike@climateretry.org

- Katie Bickel: kbickel@gmail.com