



Lessons Learned



Permitting Obstacles in Waste-Based Energy Projects

“Are we waste processors, energy producers, or research and development laboratories?”



Overview

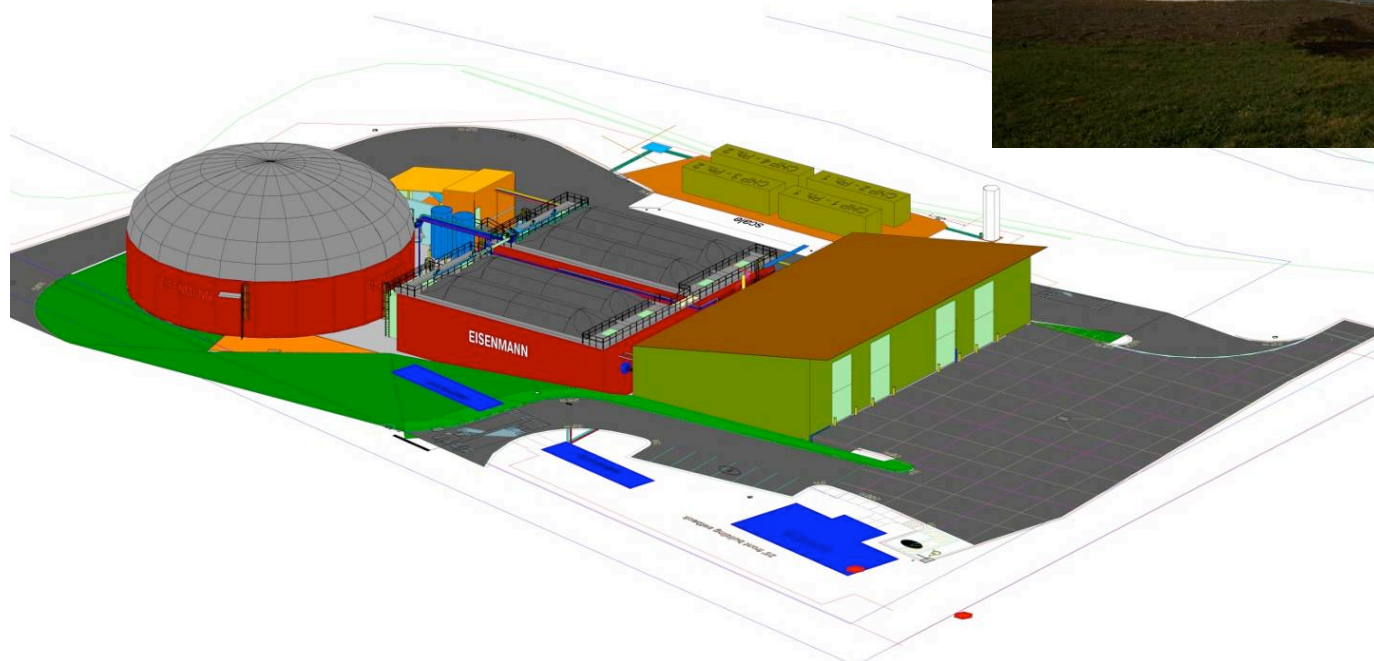


- Anaerobic Digestion Primer
- What Are We?
- Waste Permitting
- Site Permitting
- Utilities and Regulatory Challenges

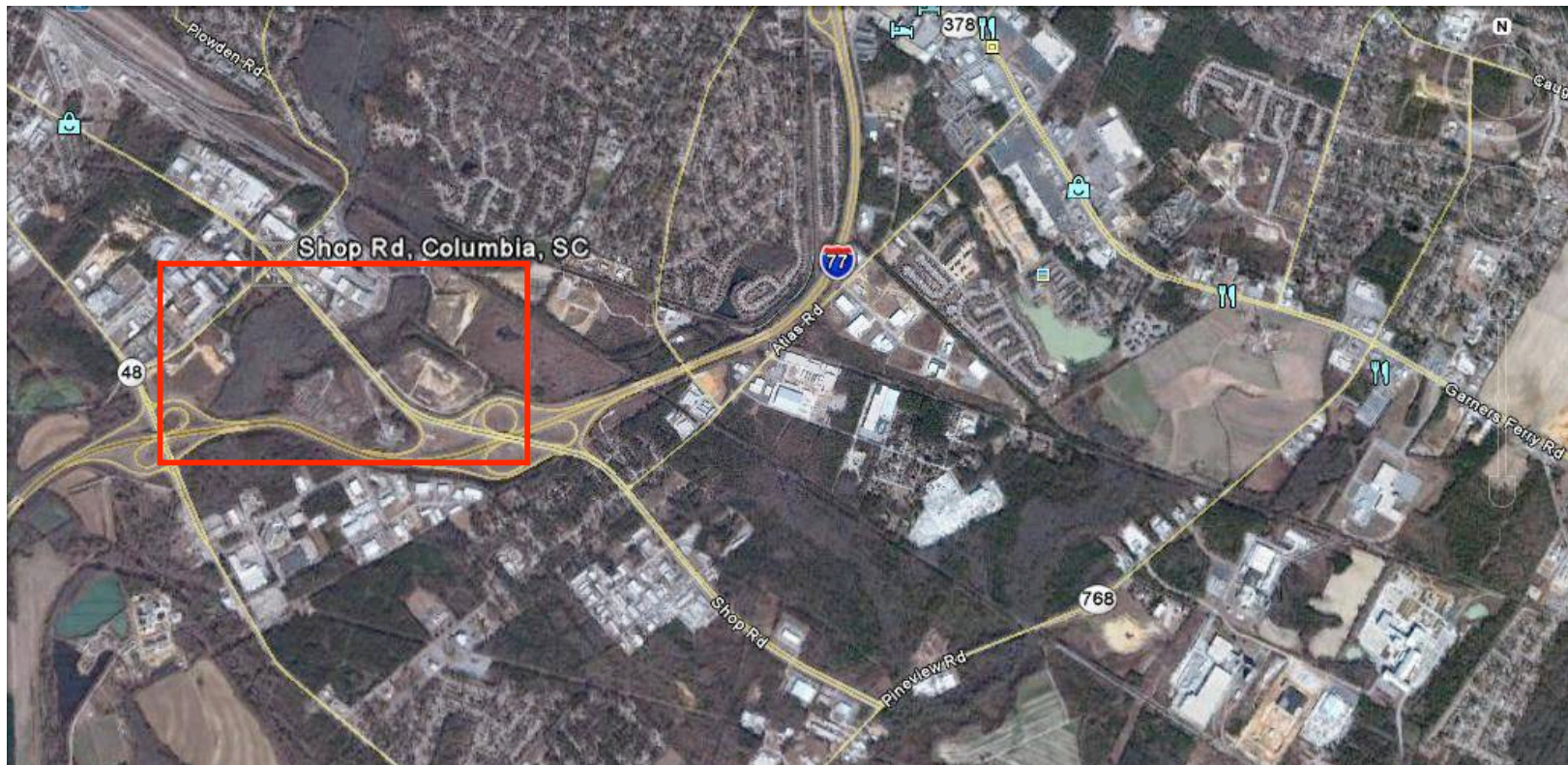
W2E Columbia



24/48KTPY HSAD BIOGAS-GW



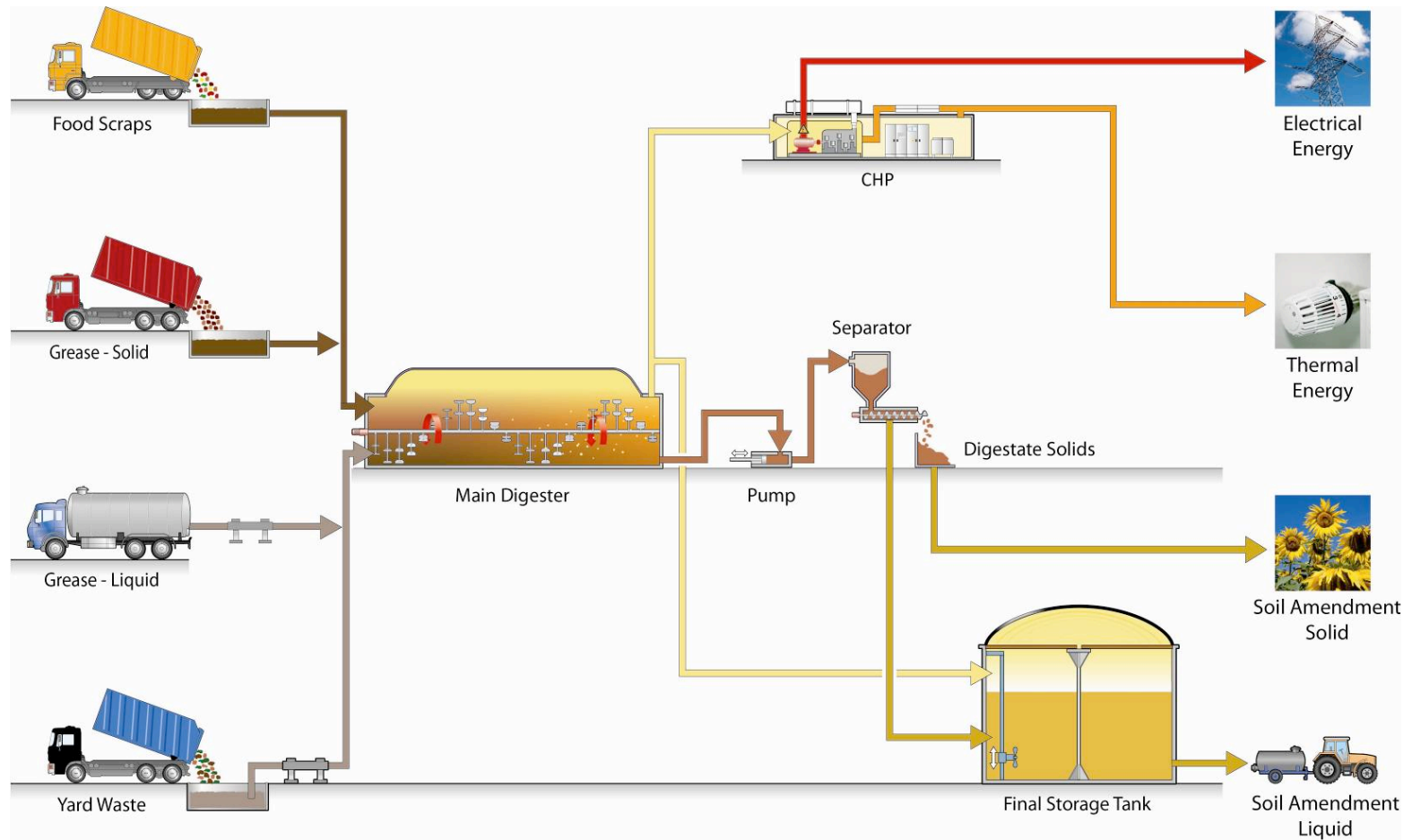
Columbia Facility Location



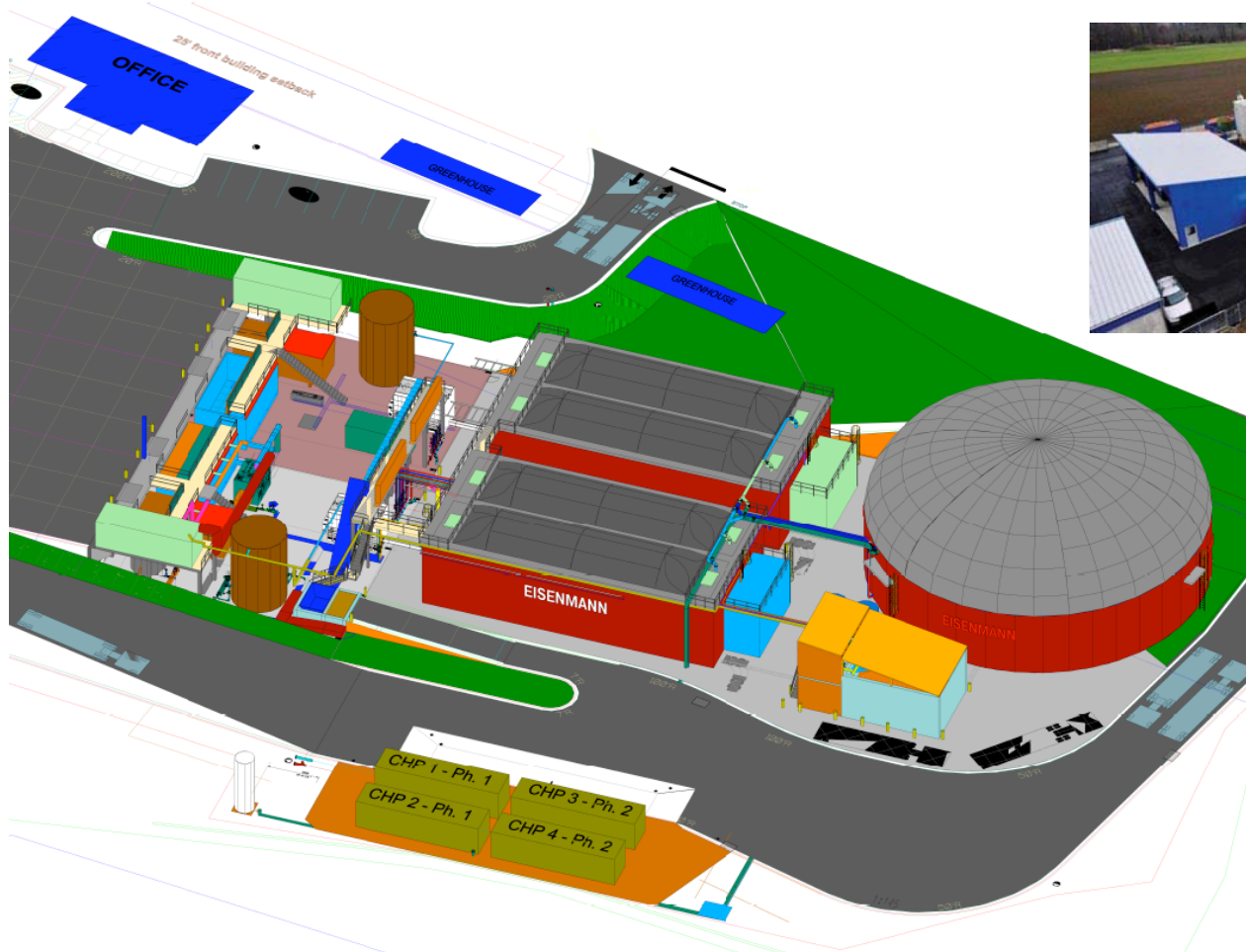
Columbia Facility Location



The Process



Columbia Cutaway View



W2E Project Definition



- What Are We?
 - We Are a Waste Handling Facility
 - We Are a Small Power Generator
 - We Art a Research Facility
- The Key to Permitting is Knowing What You Are to the Permitting Agency
 - Local and State Regulators Need to Put you in a Box→ Make it Easy→ Don't Try to Change the Rules
 - Utilities Need to See You as a Fit→ Capacity and Reliability = PPA Price
 - THERE ARE NO SHORT CUTS
- Hire the Pros→ Listen to Them→ Hands-On with Permitting Agencies Critical→ Lobby Effort Focus

Waste Permitting



- Solid Waste Handling Permit
 - W2E Biggest Enabler
 - Most Difficult in Community
 - Community/Public Relations Key
- Air Quality Permit
 - We're a Green Energy Producer
 - Unfortunately, Our Generators Can Be Problem



Site Permitting



- Transportation of Waste a Factor
- Air Quality Permit Dependent on Equipment Placement
- Grading and Storm Water
- Waste Water Concerns



Utility Regulations



- Chicken and Egg→ Utilities Need Other Permits to Know You're Serious
- Power Purchase Agreements→ Lifeblood for Utility and Generator
- Know What Type Utility You're Dealing With→ Regulation Dictates What They Pay
- The Great REC (Renewable Energy Credit) Debate
- Interconnect Agreement and Capital Costs
- Location and Site Selection→ Begin with Substation or Gas Pipeline Information



Lessons Learned



1. There Are No Short Cuts
2. Allow Plenty of Time to Resolve Issues
3. You Cannot Over-Plan
4. You Must Develop Personal Relationship with Regulators
5. Beware of Agents (See #4)
6. Don't Change the Rules→ Find Out Where You Fit
7. Site Selection is Paramount to Permitting, Logistics and Profitability



Some Project Stories



- What type of generator do you use?
- Texas utilities and permitting
- Louisiana permitting and definitions
- Power bases in political permitting situations
- Regulated versus Non-Regulated Utilities and the PPA Dance
- Tax-Based Incentives versus Permitting and PPA Revenue

Questions?



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