

Agricultural Opportunities & Challenges

2nd Annual Methane to Markets Partnership Meeting

Buenos Aires, Argentina November 2005



AgCert produces greenhouse gas ("GHG") emission reductions ("Offsets")

from Agriculture

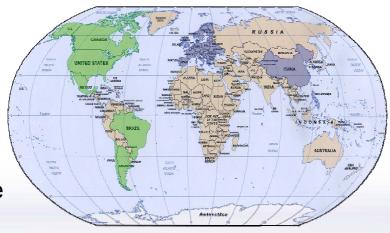
for sale to industrial emitters, governments, funds and energy traders

AgCert Overview



AgCert: an expert at worldwide GHG dynamics

- Established 2001 150 employees worldwide
- Operations established in Ireland, Canada, USA, Brazil, Mexico
- Operations pending in Argentina, Chile, and EU
- ASEAN market definition underway in conjunction with IFC
- ~450 CDM projects in Latin America
- >1,000 contracted sites in USA / Canada
- AgCert offers a standardized process to produce uniform offsets in agriculture - independent of sourcing location or methodology
- Globally applicable UNFCCC-approved GHG emission reduction methodology (AM0016)
- Science partnerships:
 - USDA CRADA #58-3K95-2-949
 - BNL CRADA #BNL-C-04-08
- Global (emitter) customer base

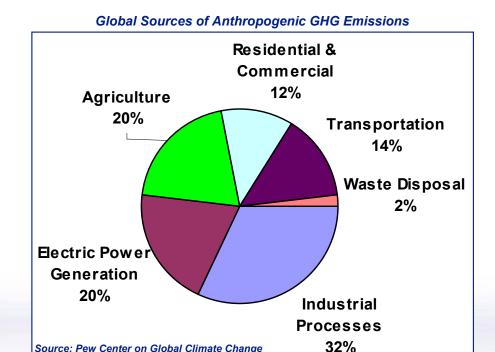


Agriculture – A Rich Potential Source of Offsets!



Agricultural GHG offsets can be derived from MANY sources!

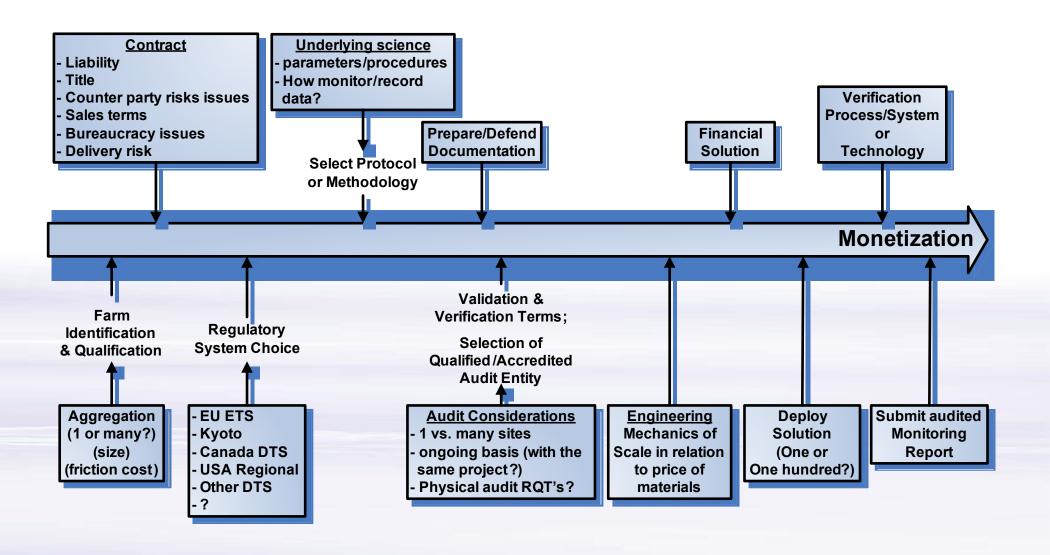
- AWMS principally CH4; some N2O possible
- 2. <u>Land Application</u> of nutrients: N2O
- 3. <u>Land Management</u> Changes (ex: tillage): carbon sequestration
- 4. <u>Buffer strips</u>; Riparian strips; shelterbelts
- Alternative fuel use (gas/diesel → methanol; biogas use, etc.)
- 6. Biomass management



BUT, few farms can produce > 5,000 tonnes of CO₂e / year!

Many Steps to a Successful Transaction





Contract Issues



An agricultural producer has to consider

- Core competency issues (to farm or become a project specialist?)
- Enter into an ER contract or "go it alone"
- Who finances practice change (particularly if technology dependent)

Considerations

- Emitter issues:
 - Friction costs contract costs similar whether 5,000 or 5 million tonnes
 - Quality Assurance/Control are all offsets "the same"?
 - Counterparty Risk publicly listed companies may not be able to purchase direct from small producer
- Delivery liability who bears it; what penalties?
- Title what is being delivered? (data?; offset?) Who owns it? (proof?)
- When is payment made? What form? Transaction costs?

Thought

- Individual farms rarely have means to fulfill technical or administrative requirements
- Contract collateralization requires guarantees.
 Project finance can become a serious consideration...



Regulatory System Choice



Sets the stage for most other choices!

Administrative requirements

- Process (well defined? Too rigid or flexible?)
- Baseline / Additionality issues?
- Qualifying locations for offset production?
- Registration fees / Timeline
- Is regional/federal government approval required (prerequisite?)

Documentation requirements

- Project documentation
 - Engineering documentation
 - Production data
- Licenses / Permits

Protocol/Methodology choice

"Proprietary" factors vs. world "recognized" (IPCC; EPA; USDA) science

Verification criteria

- Audit firm accreditation process and associated costs
- Disclosure issues
- Audit requirements
 - Site Audit?
 - Additional documentation?
 - Compliance risk?
 - Frequency?

What gets delivered? Who <u>owns</u> the ER? (sovereignty issues) Who determines acceptability? Who arbitrates?

"Solution"







Engineering Considerations

- Production data/practices (# of animals, feed issues, etc.)
- Site layout / Soil type / Drainage
- Climate (does digester require heating or not?)
- Hydraulic retention time (digester "capacity") & internal design (shape)
- Material/Equipment choices? For instance,
 "plastic" type & flare capacity/type?
- Control & monitoring hardware

<u>Cost / Financing Considerations</u>

- Contracting / engineering firm or "off the shelf" design (how optimize?)
- Who provides ongoing O&M expertise?
 Cost?
- Material/Equipment warranty issues.
 Impact on Offset or biogas production?
- "Up front" cost vs. long term support expenses
- Does Offset or biogas output justify digester expense?
- Self financed vs. project finance

Verification Process & Results Reporting



Regulatory System Choice typically defines the process

- Accredited audit organizations
- Process for Periodic audits/verifications
 - Site audit?
 - Necessary records?
- Public notification requirements

Administrative requirements?

- Self reporting?
- Independent Audit report? How often?
 - Who pays?
 - What if there's a problem?
- Local government approval required?
- Project qualification: duration?

Who reviews/approves Report?

- Timeline? (What if there are delays?)
- When do results qualify for payment?

Is it Worth it?



- GHG projects bring significant potential value to a producer
 - Environmental co-benefits with no negative environmental consequences
 - Possible Offset revenue stream
 - Possible source of fuel (that is, biogas from digester projects)
 - Heating / hot water
 - Cogeneration
 - Creates better relationship with regional/federal environmental authorities
- Administrative/Legal/Engineering/Financing challenges not insignificant
- Individual farms often lack the "capacity" to appeal to large emitters
- Aggregation can help create "consistent supply" between multiple sources
- Regulatory system standards & Government 'signaling' critical to market development

Typical Installations



The Baseline: Open Lagoon





Excavation





Combustion Options:







Co-generation

Finished Projects









THANK YOU FOR YOUR TIME!

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The AgCert Process

Overview

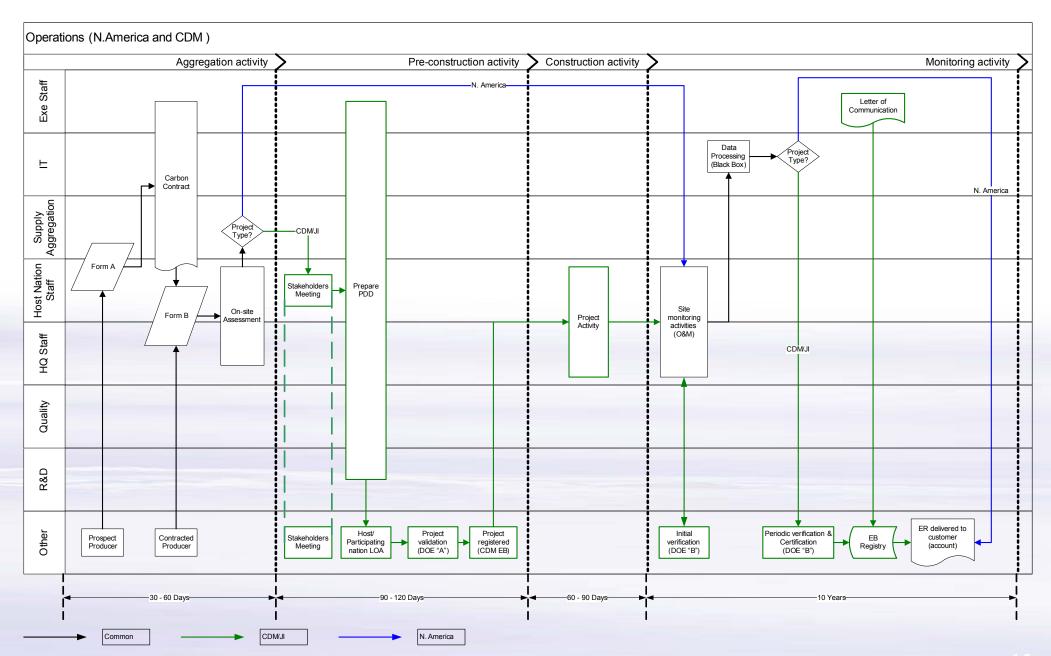


While administratively complex, AgCert's CDM Process can be likened to a production line:

- 1. Raw material (farm) is inspected / qualified for use
 - Protocol / factors chosen pursuant to animal vertical, conditions, etc.
 - 10-year contract (with farmer) for "production" of CERs
- 2. Administrative notifications are made to satisfy regulatory issues
- 3. Inputs / outputs are measured / characterized to define components
 - Suppliers are chosen to satisfy specific component / pricing needs
- 4. Qualified vendors perform work under direct supervision
- 5. Rigorous quality / inspection standards are applied
 - Data records retained for future review & historical records
- 6. Data / results are Certified via Independent Audit (via DOE in Kyoto countries)
 - Administrative transmittal of Certified data
- 7. CER final "manufacturing" from Certified data (by Executive Board or other verifier)
- 8. CERs final product sold to emitters, typically via long term contract

Operation Flow





Process

IN-COUNTRY GROUP ACTIVITIES

CDM PROJECT PROCESS

AGCERT INTERNATIONAL

###AgCert

30 - 60 Days

90 - 120 Days

60 - 120 Days

participants

10 Years

depending on PDD

>630 farms; >400 qualify as "Prompt Start"

BR: 250 contracts (+70 pending); MX: 89 LOIs

BR: Scaled to 9 states; MX: Scaled to 3 states

Exclusive contracts where possible

BR: 11 meetings held; MX: 3 meetings held

BR: 9 PDDs complete; MX: 11 PDDs complete 160 farms 116 farms

BR: 1 LoA in process MX: 1 LoA received

BR: 51 visits 46 scheduled MX: 6 visits 40 scheduled

Granja Becker Registration will occur after BR LoA

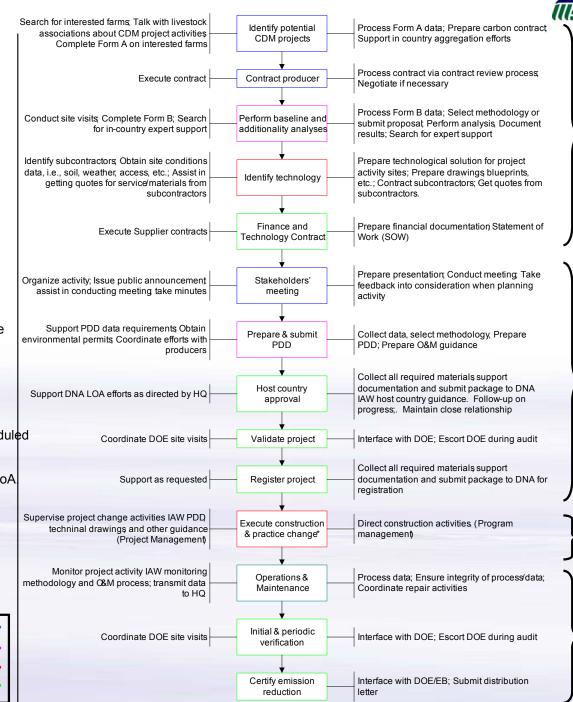
Aggregation:

Assessment: Execution:

Admin:

BR: 149 sites under construction MX: 64 sites under construction

BR: 15 sites being monitored



The AgCert Solution



The AgCert process provides:

- Scalable CER production several million tonnes of CERs annually
- Global production science can be applied across nearly all geographies
- Multiple animal verticals (swine, dairy cattle, poultry, buffalo, etc.)
- Geo-referenced, time/date stamped data; transparent access
- ISO processes
- Aggregated supply: simplicity and dependability for buyers and sellers
- Opportunity to produce co-generated electricity (for farm or grid) or compressed natural gas (CNG)
- Opportunity to mitigate risk on delivery of CERs
- Potential to drive sustainable GHG change through an entire agricultural sector(s)

The AgCert process can be utilized in the US to create Verified Emission Reductions (VER's) compliant with ROW processes.

Process Summary



AgCert's processes produce EU ETS / Kyoto / CERs and will be used to create Domestic compliant VERs

Agriculture – with a 20% annual worldwide GHG budget - is huge potential candidate for AgCert's processes

Risk mitigation: AgCert's processes can be applied in multiple countries, verticals, and practices with Pooling

Projects produce

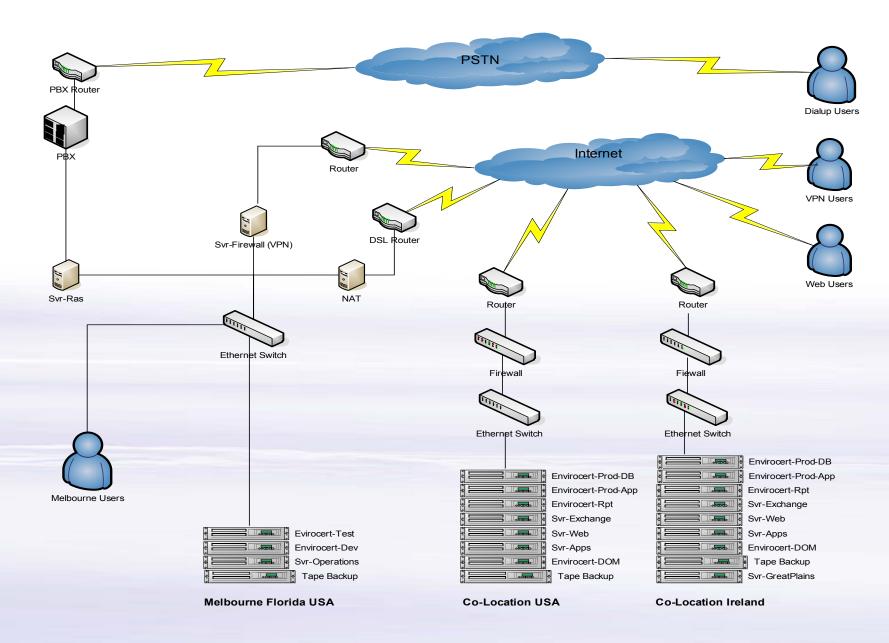
- Millions of tonnes of annually renewable CERs (in aggregate)
- Renewable energy for on farm use or for sale to rural surrounds
- Abundant heat energy from cogeneration cold climate access
- Savings/Revenue for farmers
- Environmental co-benefits
 - Cleaner air
 - Cleaner water
 - Reduced odors
 - Reduced deforestation
 - Lower fly population



Information Technology and Data Management

Infrastructure





EnviroCert



Benefits

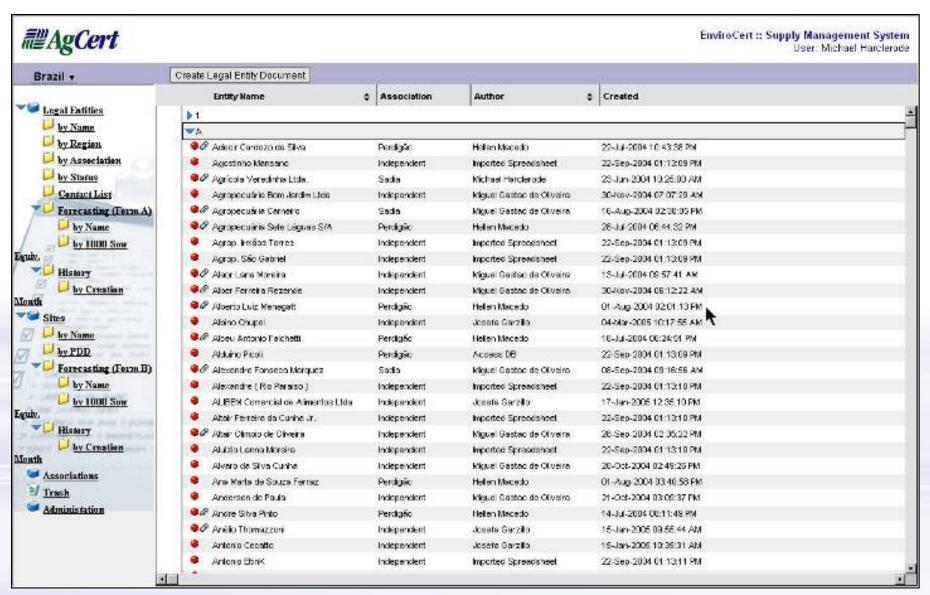
- Scalable
- Secure
- Streamlines our Process
- Enforces Quality Controls
- Promotes Standardization
- Provides Real-Time Status
- Establishes One System of Record
- Reduces Cost of Operations



Functionality:

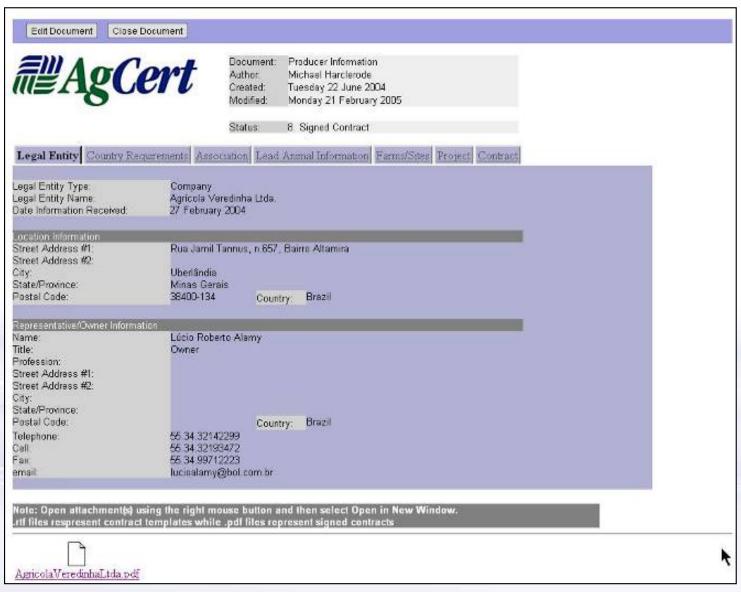
- Captures Supplier Lead Information
- Automates Contract Creation
- Implements a Contract Approval Cycle
- Tracks Contract Status
- Stores Imaged Contracts
- Provides Supply Forecasts
- Captures Site Baseline Production Data
- Provides Automated Quality Control Tools
- Provides Portal and Report Access





Data View of Producers by Name





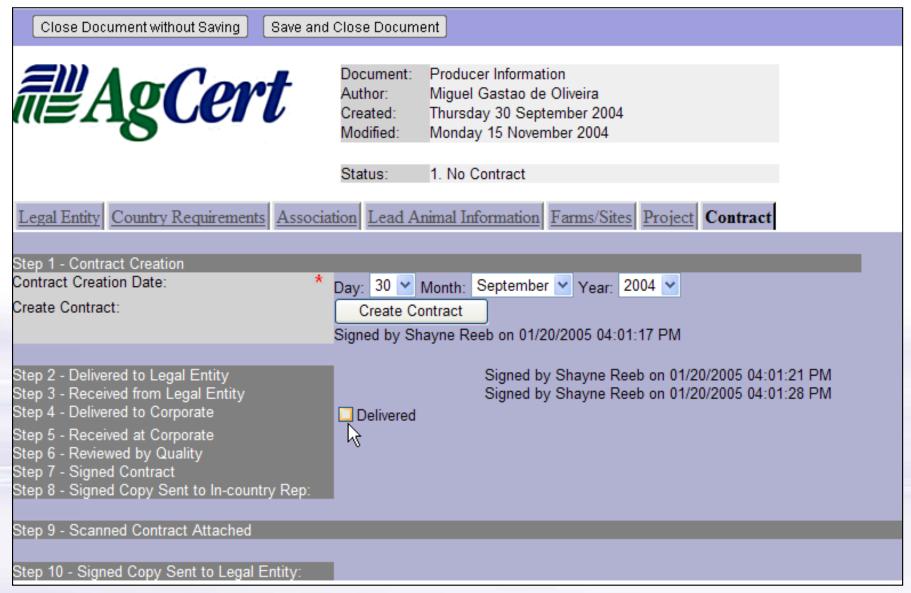
Legal Entity Information





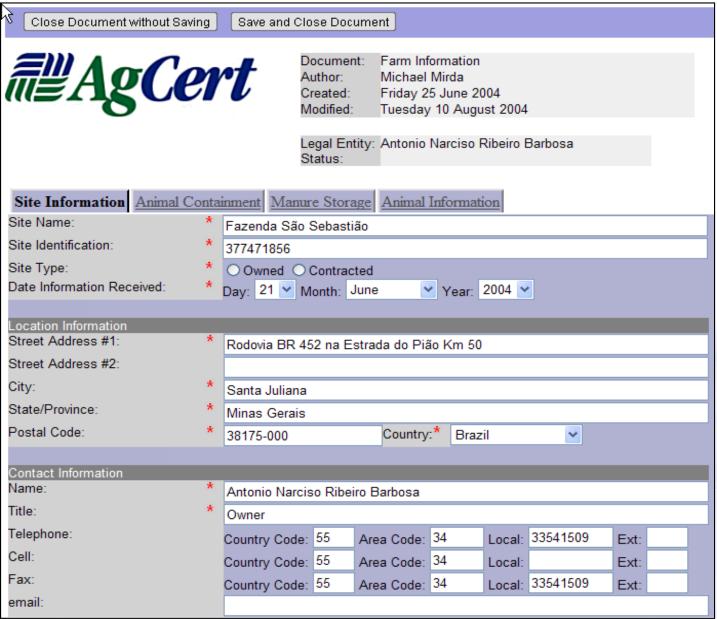
Lead Animal Information





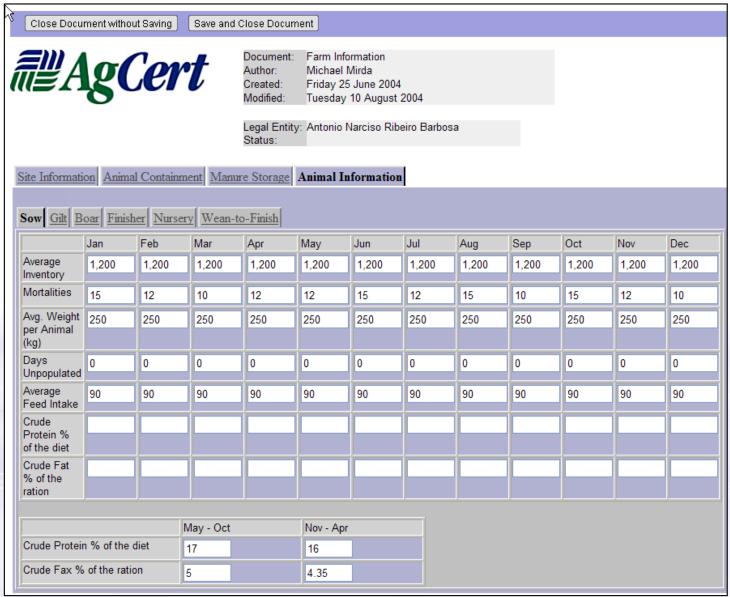
Contract Information and Creation





Site Information





Site Animal Information

EnviroCert: Assessment Management System

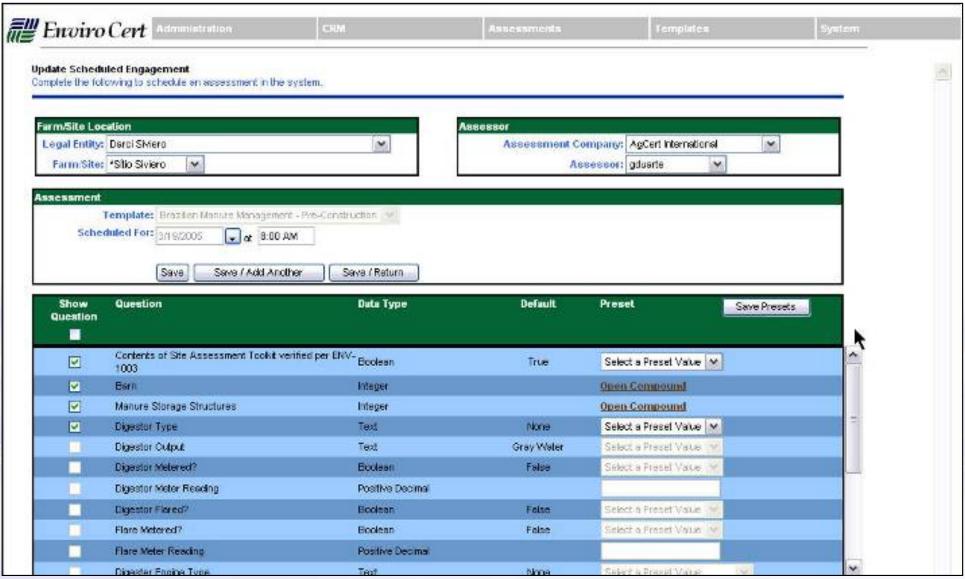


Functionality

- Fully Integrated Security Controls Access to Specific AMS Functions
- Manages All Assessment Templates Utilized Around the Globe
- Manages Assessment Companies and Site Assessors
- Provides Scheduling Functionality for Site Assessments
- Assessment Review Capabilities

EnviroCert: Assessment Management System





View of a Scheduled Assessment

EnviroCert: Field Assessment System ##AgCert



Functionality

- Two Way Data Synchronization
- Simple Step-By-Step Execution of Assessments
- Full GPS Integration
- Photo Capture and Assignment
- **Electronically Captured Signatures**

EnviroCert: Field Assessment System ##AgCert





Inspection Section Listing

EnviroCert: Field Assessment System ##AgCert

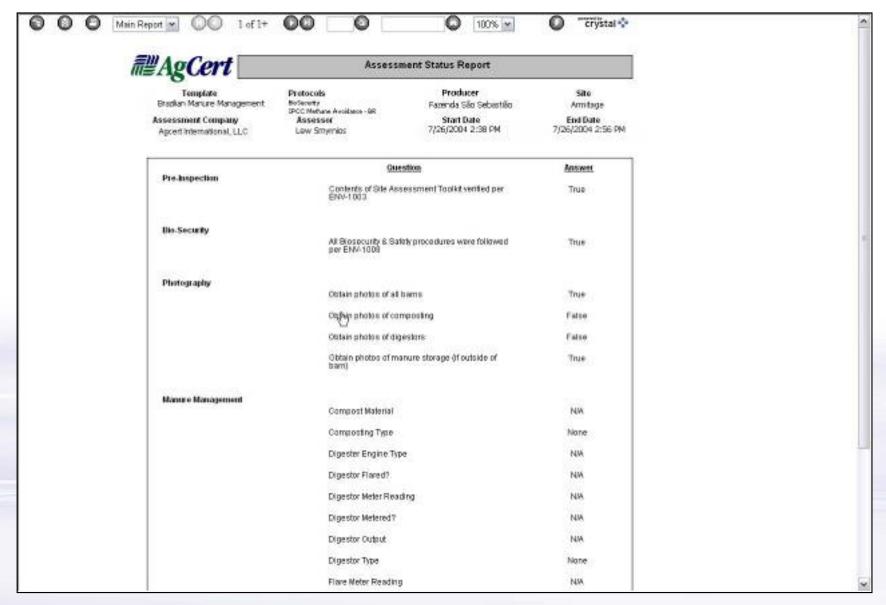




Signature Capture

EnviroCert: Assessment Report





Detailed Inspection Report

EnviroCert: Project Management System



Functionality:

- Web-based and Off-line Application with the following functionality:
- Track Project Information
- Assign Project Participants
- Calculate Cost Projections
- Track Stakeholder Activities
- Automate PDD/PIN Document Content Creation
- Track PDD/PIN Approval

EnviroCert: Operations and Maintenance Replacert System

Functionality:

- Organize and Manage Site Projects, Assets, and Equipment
- Manage Assessors and Recurring Post-Construction Site Check Ups
- On-going Post-Construction Data Collection
- Integrated Reporting
- Stand Alone System with Seamless Remote Synchronization

EnviroCert: Result Processing System

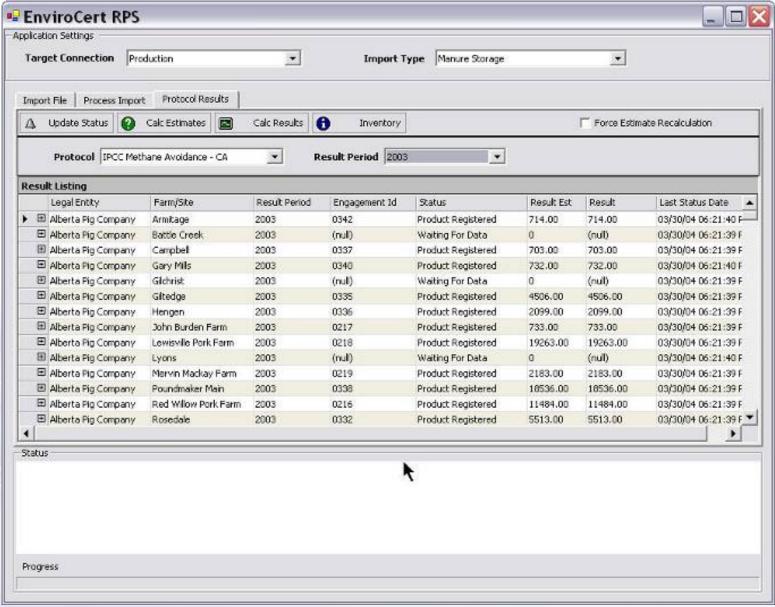


Functionality:

- Manages Credit Processing For All Protocols
- Real Time Product Status Information
- Detailed Logging of All Calculations
- Serialization of Product Results
- Integrates to Inventory Management System

EnviroCert: Result Processing System





Result Listing View



Intellectual Property Overview

Intellectual Property Overview



AGCERT PATENT FILINGS ¹			
Patent Cooperation Treaty (PCT) Number	U.S. Patent Number	Subject	
PCT/US03/37428	10/720,797	System and method of creating, aggregating, and transferring environmental emission reductions	
PCT/US03/37429	10/720,777	System and method for tracking environmental emission reductions	
<pending Conversion></pending 	60/545.PR	Integrated emission reduction data management system and method (Provisional Filing)	

AGCERT TRADEMARKS				
AgCert™	CarbonCert™	EnviroCert™		



Operations & Maintenance

Handoff From Construction



- Verifies Project Construction complies with the criteria specified in the Project Design Document & all necessary equipment is installed
- Verifies installed equipment is properly identified and documented for configuration management
- Designs project specific monitoring plan
- Establishes data monitoring requirements pursuant to the AWMS practice changes specified by the project activity
- Confirm project equipment is operating properly and designate that project has transitioned from construction to operation

Maintenance



- Train farm personnel in operation of project equipment
- Establish central point of contact for reporting of maintenance issues
- Farm personnel call a toll free number to report maintenance issues
- Dispatcher records pertinent information into call reporting database
- Dispatcher contacts appropriate Agcert or vendor personnel
- After maintenance issue is resolved, resolution and any equipment change data are entered into database
- Document and manage call resolution escalation procedures
- Establish logistics and part sparing guidelines
- Schedule and or perform preventative maintenance on project equipment
- Assist farm personnel in planning and resolution of issues not under Agcert control but pertaining to the project operations and compliance





Sales

Philosophy, Risk Management & Pricing Trends



Sales and Marketing Philosophy

- Build deep and broad customer relationships
- Aggressively develop a brand based on thought leadership, integrity and customer responsiveness
- Product diversification:
 - Certified Emission Reductions (CERs), created by CDM projects verified by the Kyoto process
 - Emission Reduction Units (ERUs), created by JI projects verified by the Kyoto process
 - Verified Emission Reductions (VERs) created by the AgCert Process verified by independent verification

Philosophy, Risk Management & Pricing AgCert Trends

Pricing Trends

- European Union Allowances (EUAs) (2005): Low of Euro 6.30 (mid-January), high of Euro 16.10 (mid-March)
 - Primary drivers: Weather, oil and gas prices, market perception, availability of substitute offsets (CERs, ERUs, etc.)
- CERs (2004 2005): Low of Euro 3.50 (early 2004), currently in the Euro 5.10 to Euro 6.25 range
 - Primary drivers: Counter-party credit, methodology approval,
 volume capacity, risk balance (trade-offs)
- ERUs (2005): Limited information available, however, government funds have purchased 2008 – 2012 ERUs for Euro 6.50

Price Expectations

 General: Due to CER bankability we expect the CER price to converge with the EUA and eventually overtake it

Philosophy, Risk Management & Pricing AgCert Trends

Price Expectations (continued)

- General: AgCert does not expect sweeping CER price increases due to:
 - The uncertainty of how Russia and the former Eastern Bloc will treat its "hot air" surplus of reductions
 - Seemingly loose allocations approved by the European Commission for Phase I of the EU ETS
 - The impact the Joint Implementation reductions will have to available volume
 - Potential CER volume exceeding 1 billion for the period 2008 to 2012
 - The Canadian Price Adjustment Mechanism of \$15 (CDN) expected to be implemented in 2008
 - Market liquidity and transparency increasing
- AgCert: We will be able to garner a price premium versus the market because of the validation and verification we provide

Sales Considerations



Counter-party credit

- Binary
- Walk away allows us to qualify buyers
- Creative there are imaginative ways to work around this "hard and fast rule"

Project financing

- Requirement who provides financing buyer or seller?
- Condition precedent balance between timing and practical time to receive

Pool vs. project considerations

- Benefit diversification and scale
- Consideration backstop for performance

Failure to deliver – penalties

- Trend becoming more balanced between buyers and sellers
- Trade off how to balance with price

Sales Considerations



Delivery – registry account set-up

- FOB what "port" will the seller deliver
- Counter Party

 – should the creation of an Emission Reduction (ER)
 Registry be considered?

ER title transfer – delivery or payment

- Trend time between delivery and payment shortening
- Consideration buyer's credit, letter of credit, other backstop mechanisms

Failure to deliver – drivers

- Trend getting away from absolute responsibility
- Consideration best efforts vs. gross negligence
- Balance strong correlation between delivery failure drivers and price

Delivery – early delivery

- Trend becoming standardized
- Consideration seller's or buyer's discretion or mutual
- Timing any time, calendar year, 12 months, etc.
- Volume above the scheduled delivery