

The background of the slide is a vibrant, abstract composition. It features a central, stylized globe of the Earth in shades of green, blue, and white, set against a warm, orange-to-red gradient. To the left, there are faint, purple, hand-drawn outlines of what appear to be agricultural structures or fields. The overall style is artistic and thematic, focusing on climate and agriculture.

Regional Climate Change Investment Conference

Szentendre, Hungary

Hans Jörg Kaltenbrunner

November 24-25, 2003

Why Worry About Climate Change?

15,000 people	Number of deaths in France due to heat wave in Europe (2003)
1990s & 2000s	1990 was the hottest decade on record. 11 hottest years on record have all occurred in the past 13 years. September 2003 was the warmest September on record.
1.2 million sq. kilometers	Between 1978 and 2000, 1.2 million square kilometers of apparently permanent polar ice melted away. That is an area five times the size of Britain and represents a loss of 9% per decade (resulting in rising oceans).
415 million tons CO ₂	End use CO ₂ emissions by ChevronTexaco customers in 2002 (~ 1.7% of global emissions from fossil fuels). 60 M additional tons due to production (~ Austria or Singapore)
\$18,000,000,000,000,000 (\$18 Quadrillion! USD)	IPCC worst case estimate of global warming solution costs

GHG Market Dynamics

- Public Relations
 - Innovest’s Carbon Disclosure Project concludes:
 - “Companies acting sooner to secure emissions reductions via the GHG trading markets can expect to pay less for emissions reductions, and will gain competitive advantage in terms of cost and market risk management.
 - Sectoral risks from regulations & climate change itself are much wider than is generally recognized.

- Litigation
 - **“The potential compensation for climate change impacts would make the tobacco pay-outs look like peanuts”** *Financial Times, July 14, 2003 – Peter Roderick, Climate Justice Programme Lawyer*

GHG Market Dynamics

- Kyoto
 - EU target emissions reduction by 8% over 1990 levels by 2008-12.
 - U.S. signed (not ratified) 1998, Bush withdraws US in 2001.
 - Canada ratified December 2002
 - Russia expected to ratify (will cause Kyoto to “enter into force”)
 - Many countries acknowledge a “major shortfall” in their ability to meet the Kyoto requirements
 - Germany
 - Austria
 - Canada
 - Netherlands
 - Japan

This shortfall is driving extreme interest in CDM/JI capacity

- National Policy
 - EU Trading Scheme 2005
 - Canadian Trading Scheme 2005
 - Clear Skies Initiative (USA)

GHG Market Dynamics (cont.)

- European Union
 - Over the last 100 years, average temperatures in Europe have increased by about 0.8°C.
 - Average temperatures in Europe will probably continue to rise by between 1°C and 6°C by 2100.
 - 5% of the world's population, 15% of global GHG generation
 - Global Objective – reduce GHG emissions further by approx. 20-40% on 1990 levels by 2020.

GHG Market Dynamics (cont.)

- The EU Greenhouse Gas Emissions Trading Scheme covers GHG emissions from a number of industries, which are specified in the EU Emissions Trading Directive.
 - First Phase is 2005-2007.
 - Initially, the scheme will cover only emissions of carbon dioxide.
 - Will be expanded in the future to other gases.
 - Limits on the amount of carbon dioxide that permitted installations can emit are set for each phase.
 - All installations within the scope required to have a permit by 31 March 2004.
 - Operators of installations covered by the scheme are then free to trade in allowances.
 - For every excess ton of CO₂ emitted they will be fined € 40. Spare certificates can be banked into the next phase - 2008-2012 -or sold on the market. In phase two the fine is raised to € 100/excess ton.

Emissions Trading

WHAT ?

Emissions trading is a key policy instrument in the drive to reduce greenhouse gas emissions. It gives companies the flexibility to meet emissions targets according to their own strategy. Overall emissions reductions are achieved in the most cost effective way possible.

WHY ?

A metric ton of GHG has the same global warming impact – whether emitted in Canada, Mexico, or Hungary. By the same token, an emissions reduction (ER) has the same positive environmental impact no matter where it is produced


DOES IT WORK ?

U.S. SO_x/NO_x Cap & Trade program = an excellent example:

- > 70% reduction in acid rain production since program inception
- incentive based
- economically sustainable...offsets trading at small % of modeled price

Emissions trading facilitates fast, inexpensive, incentive-based compliance...

CDM & JI

- **Joint Implementation (JI)** - refers to emission reduction projects jointly implemented by entities within different industrial nations
- **Clean Development Mechanism (CDM)** - a mechanism established by Article 12 of the Kyoto Protocol for project-based emission reduction activities in developing countries. The CDM is designed to meet two main objectives: to address the sustainable development needs of the host country and to increase the opportunities available to Parties to meet their reduction commitments.
- **CDM Executive Board** - The CDM Executive Board is authorized to approve methodologies for baselines, monitoring plans and project boundaries; accredit operational entities; and develop and maintain the CDM registry.
-  has submitted a project for approval to the CDM Executive Board.

<http://www.agcert.com/pdf/pdd-granjabecker8sept03.pdf>



How Does AgCert Aggregate Emission Reductions?



Open Lagoon – Manure stored in lagoon, as air crosses the surface nitrous oxide is produced. While on the bottom of the lagoon under anaerobic conditions methane is produced.

Deep Pit – Manure stored in deep, narrow, underground pit. Less air crosses means less nitrous oxide produced. Manure is removed more often, reducing the amount of methane produced.

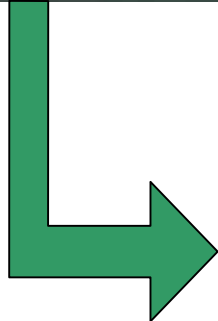


Less N_2O and CH_4

↓
Less CO_2e

↓
Credit

1 pig \approx 1.13 ERs annually



AgCert's Value Proposition - Creating the “Gold Standard”

Industry needs to secure a reliable, economical long term solution addressing Kyoto, national, and sub-national GHG emission reduction requirements.

AgCert's GOLD STANDARD system:

- Measurable; science based
- Rigorous quality assurance (QA)
- Government derived/approved protocols & baselines
- Third party verification using government protocols & qualified certifiers
- Aggregation of supply:
 - ER “blocks” large enough to be of interest to commercial buyers
 - Renewable, reliable supply; sell-forward capacity
 - Standardized terms
 - Enhanced statistical accuracy (through reduced variance)
- Sustainable economics
 - Hassle free to agricultural producers – New revenue stream – no administrative or insurance load; no up-front costs

What are Worldwide Buyers Asking For?

Credits that meet all global “credibility” tests...

Credits that enable emitters to meet their compliance requirements...

In short, credits with these characteristics:

- Government Approved
- 3rd Party Verification
- Science based
- Audited
- Clear Title
- Data Transparency
- Permanence
- Additionality
- Long term contracts/relationships
- Sustainable Economics
- Guaranteed delivery (escrow)
- Co-Benefits

Prior to AgCert, no single solution addressed all these needs...

Created Pursuant to USDA CRADA NO. 58-3K95-2-949

Serial Number:

MAH01-2003-EKJROID-100000

*******CERTIFICATE*******

One Hundred Thousand Metric Tonnes

Carbon Dioxide Equivalent Emission Reduction



For the benefit of _____

CO₂e Source(s):
Methane & Nitrous Oxide Avoidance

AgCert Canada, Inc.

Alan Tank
CEO
August 15, 2003

----- Transfer Restrictions on Reverse Side of Certificate -----

SPECIMEN

Q: Why Agriculture?

A: Scale

Agriculture Has ENORMOUS Potential to Help Solve the Worldwide GHG Problem...

- One of world's largest potential supplies of GHG reductions
 - Concentrated biomass, Concentrated Animal Feeding Operations (CAFOs)
 - Large arable landmass
 - Potential to realize GHG improvement from multiple practices within a system
 - Capable of generating a large, consistent, renewable supply – reduces errors; minimizes risks
- GHG driven production practice changes will have profound positive impact on environment (numerous co-benefits)
 - Measurable, verifiable data
 - Reliable, government approved algorithms & protocols
 - Cleaner air & water (few other ER sources have environmental co-benefits)
 - No unintended consequences (compare to geologic sequestration)
 - Reduced producer liability

AgCert Corporate Highlights

- For past 2 years kept a low public profile, using this time to develop methodology, intellectual property, government relationships, etc.
- USDA/ARS CRADA executed 8/2002
 - Defines the qualitative & quantitative standards for Agriculture, all verticals (includes baselines)
 - Two Phases:
 - Phase I - Algorithms/protocols (executed 8/2002)
 - Phase II - Whole Farm Environmental Management Compliance Plan (executed 7/2003)
 - Exclusive to AgCert
- Intellectual Property
 - Multiple comprehensive process/methods filings; applicable to US, Canada, Mexico, and ROW
 - CRADA IP available to AgCert under exclusive license

AgCert Corporate Highlights (cont.)

- Governments:
 - USA: numerous interactions - USDA, DOE, EPA & Interagency + technology labs
 - Canada: strong relationships at Provincial & Federal level - both policy level + technology labs
 - UK: relationships with DEFRA and DTI
 - Building relationships with Austria, EU (EATS)
- IETA member
 - Membership is necessary to be considered by most buyers
 - First supplier, all other members are emitters
- Working with Swiss Re, Marsh, and ERM to develop range of GHG ER insurance products
- ISO Certification
 - Required by both CRADA and Kyoto
 - ISO 9001 and 14001 in process

What is Global Warming?

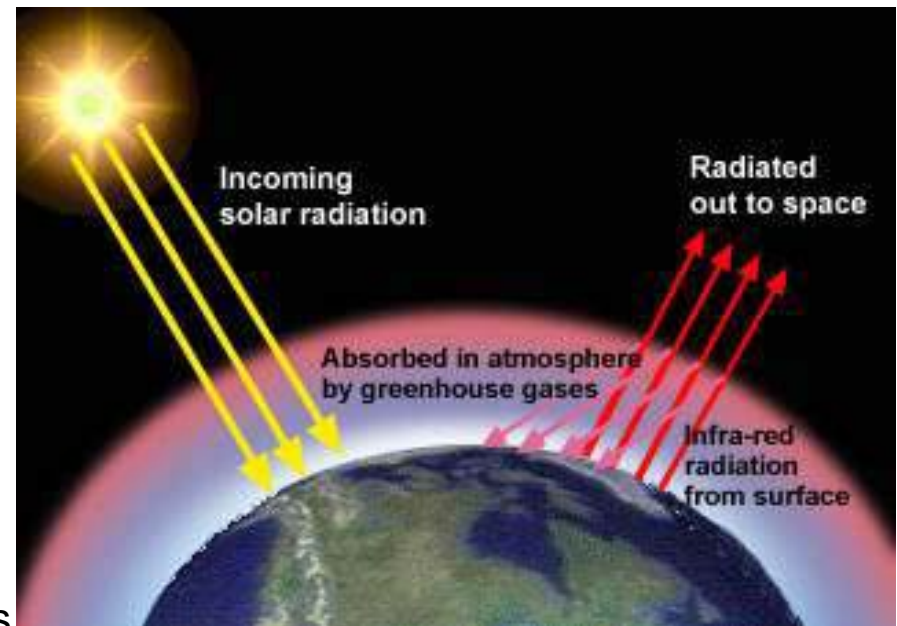
The global climate system:

ELEMENTS:

- Atmosphere
- Oceans
- Ice sheets (cryosphere)
- Soils/sediments/rocks (geosphere)
- Living organisms (biosphere)

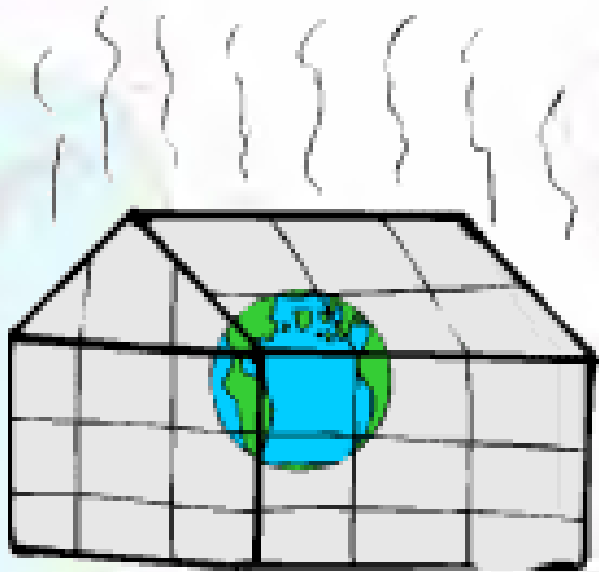
DRIVERS:

- Driving functions (solar gain, radiative effects, etc.)
- Energy flows between the elements



When solar gain & re-radiation are balanced, there is no net warming...

What are Greenhouse Gases?



These gases – plus water vapor - trap Infra Red (heat) energy that is released from the Earth's surface.

GHG stays in the atmosphere for decades or centuries...

Greenhouse Gas	Man-made Causes	Natural Causes
Carbon dioxide (CO ₂) GWP= 1	Combustion of coal and natural gas for the generation of electricity; petroleum products such as vehicle fuels	Volcanoes, trees, forest fires, vegetation, oceans
Methane (CH ₄) GWP≈ 21	Production, transportation of coal and natural gas; decomposition of waste in landfills	Decomposition, animal waste, wetlands, natural gas
Nitrous oxide (N ₂ O) GWP≈ 310	Fertilizers; industrial combustion of fossil fuel	Moist soils
Hydrofluorocarbons (HFCs) GWP≈ 1,000s	Aerosol additives	
Perfluorocarbons (PFCs) GWP≈ 1,000s	Aluminum production	
Sulfur Hexafluoride (SF ₆) GWP≈ 16,900	Semiconductor manufacturing processes	

GHG is measured in metric tonnes of CO₂e (where e=equivalents)... based upon a consideration of GWPs...

[RETURN](#)