

Qualco Energy
Corporation



Qualco Energy Corporation
A Case Study
April 14, 2010

Navigating The American Carbon World 2010

Thomas M. Hintz, SeaHold, 2351 Rose Quartz Drive, Perris, CA 92570

Phone: 951-943-9697 Cell: 949-500-8213

Welcome & Introduction



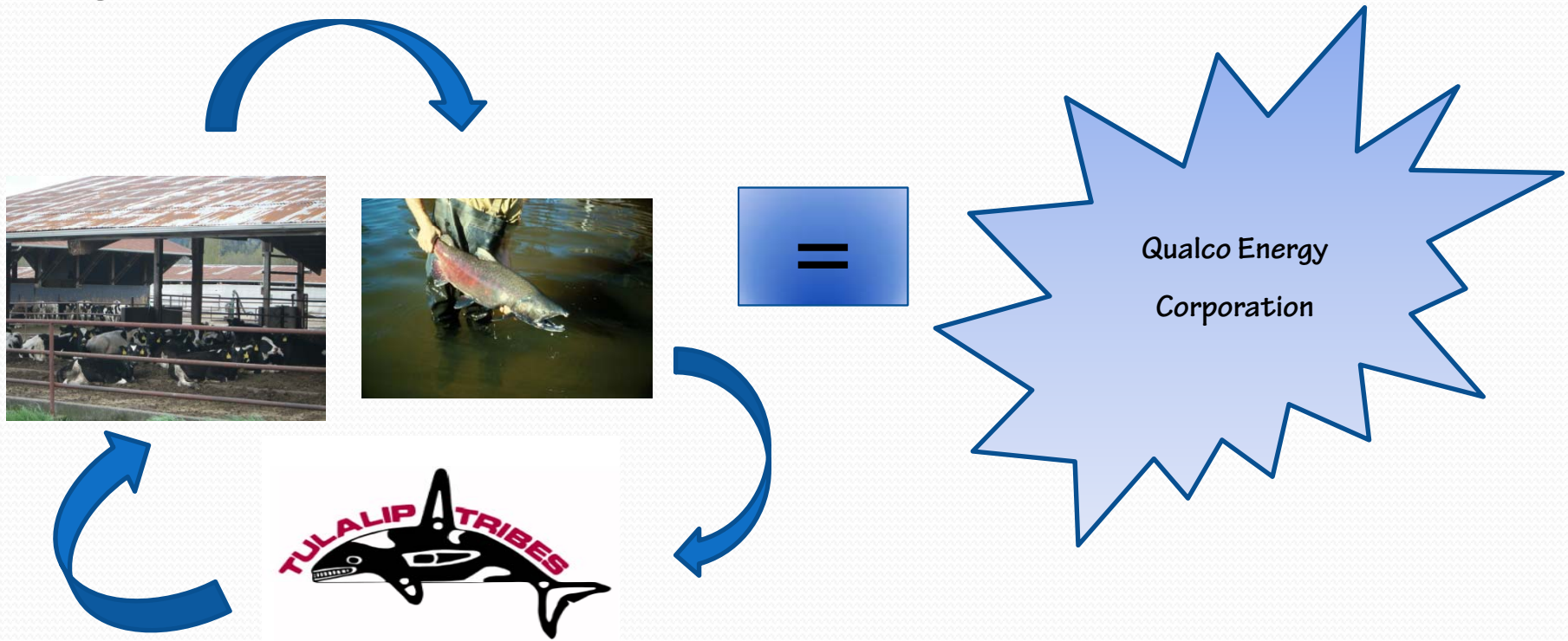
Qualco Energy Corporation

The Story

- *Three diverse groups choose to find their commonalities rather than their differences...*
 - Indian Tribes – The Tulalip Tribes
 - Farmers – Sno/Sky Agriculture Alliance
 - Wildlife Preservation – Northwest Chinook Recovery
- *The Goal – bring together these groups to restore and preserve fish and wildlife habitat in the Snohomish Watershed*

Qualco Energy Corporation

- QUALCO ENERGY: a non-profit partnership formed, promoting cleaner air, cleaner water and sustainable agriculture



Qualco Energy Corporation

The Digester

- *Located in Monroe, Washington – 277 acres former dairy farm (operated by state department of corrections)*
- *Type of digester: Modified Plug-Flow*
- *Feedstock: dairy manure, food waste (whey from local cheese plant and non-marketable eggs)*
 - *WA state permits co-digestion*
 - *Co-digestion of feedstock enhances methane production*
- *Digester capacity is for 2200 head*
- *Current energy output from 1200 cows = 300KW*
 - *The inclusion of the additional feedstock's pushes this from 300KW to over 450KW*



Qualco Energy Corporation

The Digester

- *Energy produced is sold to **Puget Sound Energy**, enough to power 280 homes*
 - *Estimated revenue stream = **\$300,000** per year*
- *Excess heat is recycled to heat the digester*
- *Remaining “digester effluent” is separated into solids and liquids; the solids are either used as bedding, or can be composted for application to fields, and the liquid remaining is “field application” ready*

Qualco Energy Corporation

The Digester



Qualco Energy Corporation Carbon Reduction

- *Project is registered with the Climate Action Reserve*
- *Project protocol: Livestock Project Protocol v2.1 (August 2008)*
- *Estimated carbon credits project will generate per year = 5400*
 - *Project has not yet been formally certified*
 - *CAR generally estimates each cow will produce 4.5 tons of "certifiable" CO2 reductions (per Syd Partridge/CAR)*
- *Estimated revenue stream from carbon credits = \$32,400 - \$48,600*



Qualco Energy Corporation

What We Have Learned

- *Co-digestion 'tipping fees' provides significant income*
- *Co-digestion increases energy output; at this point we are producing in excess of 450KW per day and flaring off the excess*
 - *The co-digestion process is being studied by Washington State University – Dr. Joe Harrison*
- *By utilizing blended/multiple feedstock's, we are again reducing the amount of waste material going into the landfill systems, being illegally dumped, and further contaminating the environment*



Qualco Energy Corporation

The Future

- Only limited by the opportunities available
 - Washington State
 - Number of dairies/number of cows
 - Watersheds
- Obstacles
 - Emissions
 - generators (law applies)
 - greenhouse gasses (no laws applied)
 - feedstock
 - lack of cooperation by local utilities



Qualco Energy Corporation

The Future

- Regulatory Issues
 - Communications by Federal administration (Secretary of Agriculture) 25% of 9,000,000 cows in US on digesters by 20xx
 - President's goals vs. bureaucrats
 - dairy industry goals
- other nutrients
 - swine
 - fowl
 - other livestock

QUESTIONS ???



SeaHold is a business development consulting firm seeking to bring together stakeholders on all levels, interested in developing biomass projects. Our interest lies in the rich California Dairy industry, and maintaining the unique and valuable resources of our state.

SeaHold has a wide range of project expertise, specializing in the realization of renewable energy processes – utilizing single and multiple feedstock's, with a special focus on the dairy industry within the Western USA. We identify funding alternatives including government grants, loans and incentive programs available to farmers and developers. SeaHold has visualized and strategized the development and creation of "renewable energy parks" as well as projects that help the local dairymen realize the potential of their "waste to energy options" as revenue producing entities in their own. SeaHold LLC works with not only the individual dairymen/farmer, as well as various investors, developers, energy/utility companies and technology firms to create viable projects.