

# Quil Ceda Power Bio-Gas Project



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**Daryl Williams**



# Introduction

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- ⌘ Background
- ⌘ Description of Project
- ⌘ Partnership
- ⌘ Feasibility Study/Business Plan
- ⌘ Creation of Quil Ceda Power
- ⌘ Funding
- ⌘ Creation of Qualco Energy
- ⌘ Closing



# Background

- ⌘ Land-Use Changes from Agriculture to Other Types of Development
- ⌘ Skykomish River WQ Problems
  - ☑ Bacteria
  - ☑ Nutrient Loading
- ⌘ Relationship Between Tribes and Dairies
- ⌘ Poor Economy for Dairy Operations



# Project Description

## ⌘ Sewage Treatment for Cow Manure

- ☑ Collect Cow Manure from Dairies
- ☑ Flow into Anaerobic Digester
- ☑ Capture Methane Gas
- ☑ Burn Gas to Produce Electricity



# Associated Products

- ⌘ Methane and/or Electricity
- ⌘ Bio-Solids for Compost and/or Fertilizers
- ⌘ Treated Effluent Water for Farm Irrigation
- ⌘ Native Plant Nursery
  - ☑ Habitat Restoration Projects
  - ☑ Landscaping



# Partnership

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## ⌘ Snohomish Basin Biogas Partnership

Formed April 2, 2003

- ☑ Lower Skykomish River Habitat Conservation Group
- ☑ Northwest Chinook Recovery
- ☑ Tulalip Tribes
- ☑ Washington State Dairy Federation











# Feasibility Study/Business Plan

⌘ Initiated Study June 13, 2003

- ☑ Environmental and Tribal Benefit Analysis
- ☑ Biomass Resource Assessment
- ☑ Technical Evaluation and Economic Analysis
- ☑ Preliminary Design & Support Plan
- ☑ Marketing Plan
- ☑ Funding Plan/Investors
- ☑ Management Structure
- ☑ Funding towards Salmon Recovery



# Quil Ceda Power

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- ⌘ Incorporated as an extension of Tribal Government
- ⌘ Board of Trustees
  - ☑ Tulalip Board of Directors
  - ☑ Chair of the Sno/Sky Agricultural Alliance



# Funding

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- ⌘ Department of Energy Grant for Feasibility Study and Business Plan
- ⌘ Department of Agriculture Grant and CREB Bonds for Construction
- ⌘ Tulalip Tribal Funds



# Qualco Energy

- ⌘ Formed as a non-profit organization to manage the Biogas project
- ⌘ Three-way partnership between the Tulalip Tribes, Sno/Sky Agricultural Alliance and Northwest Chinook Recovery



# Closing

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- ⌘ Dairies and Tribes working together
- ⌘ Improved WQ for Fish and People
- ⌘ Salmon Habitat Restoration
- ⌘ Renewable Energy Supply



