



Biorealis Systems, Inc

P.O. Box 77-2773
Eagle River, Alaska 99577
(907) 694-6370
email: info@biorealis.com

Subsistence in the 21st Century: The Four Season Community Greenhouse

Summary:

It is possible for many rural Alaskan villages to supplement their traditional subsistence foods with superior-quality, locally grown fresh produce all year-around, *using locally available resources*. This presentation will describe plans for a prototype village-scale high-yield controlled environment food production facility powered by alternative energy sources (including solid waste) readily available in much of Alaska.

Features/Components:

- An energy-efficient building, designed to be community-built from locally available materials (log, cordwood, strawbale, etc.) in so far as possible.
- A high-yield, efficient indoor food production system (aquaponics: recirculating aquaculture combined with hydroponics), powered by...
- Alternative energy sources (biodiesel and/or wood gas produced from local waste).
- A design and method for integrating all of the above into a single high-efficiency whole system.

Benefits:

- **Improved health:** Improved *physical* health from improved diet: fresh vegetables, organically grown without pesticides, not only taste better, but are more nutritious. An increased sense of local self-autonomy, of being able to provide for oneself, also feeds the *spirit*.
- **Reduced food and fuel imports:** Every Btu generated from local non-fossil sources is a Btu that does not need to be brought in on a fuel barge, stored in a local tank farm, hauled or piped to end users, or bought from large a corporate fuel supplier. Every *avoided* gallon of transported fuel is one less gallon that can be spilled in an accident or destroy the natural environment.
- **Reduced CO₂ Emissions:** Most industrially produced agricultural products are heavily dependent on fossil fuels—used for everything from fertilizer to tractor fuel, to energy for transportation, packaging, advertisement and distribution energy. The proposed system can greatly reduce or completely eliminate such dependence. Energy derived from biomass is CO₂ neutral.
- **Reduced dependence on dwindling global energy supply:** There is almost universal agreement among oil company analysts and economists, that global oil production either has, or soon will, peak. As reserves dwindle and costs (and world populations) rise, those who still depend for their survival on these finite resources will face increasingly desperate choices.
- **Economic development, creation of local jobs:** Every dollar spent on locally grown produce is a dollar that continues to circulate within the local economy, supporting local jobs. Each circuit around the loop is functionally equivalent to a *new* dollar entering and leaving the local economy.

Details:

Further details and discussion are available at <http://biorealis.com/ANHBconference>