Business Ownership Models:

Analysis of four models for the development of renewable energy from Annual Ryegrass

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The authors have used their combined experience, industry contacts and knowledge with research to prepare this study. They have reached their conclusions in an objective and unbiased manner. There is no assurance given, nor should any be inferred by the reader, that any projections or forecasts made or implied will in fact be realized.

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1. Introduction and Overview

This report has several intended audiences. First off, this document is to supplement the on-going research funded by Oregon Department of Agriculture (ODA) under the Alternatives to Field Burning Research Financial Assistance Program. There are four components examining the technical and financial feasibility of various technologies utilizing Annual Ryegrass in anaerobic digestion, pelletization, cellulosic ethanol and pyrolysis/gasification. The primary audience is the Oregon Seed Council, ODA and the rest of the project team, i.e. the Willamette Valley Biomass Working Group. Second off, this documents is intended to standalone and be accessible to interested agricultural producers, the lay public, policy makers, and project developers, etc.

The purpose of this report is to bridge a rarely addressed gap between the government, universities and private industry: *the transfer of basic research and development into a functioning and successful business project*. Transitioning the findings of a report into a business venture is quite difficult and quite challenging. This report compares a various business ownership models with the goal of fostering a more locally-owned and locally-benefiting industry.

Unfortunately, too many reports are generated analyzing potential solutions to agriculture and woody biomass issues in Oregon are dutifully published and then forgotten. While this report may similarly find itself buried upon its release, it is the hope of the authors it will be used to guide entrepreneurs, policy makers and communities as we, as a nation and region, redefine our coming century of energy production.

The hope is to create a roadmap from the research element findings of an ongoing Annual Ryegrass study that will lead to the construction and operation of renewable energy facilities that are, at least, owned in part by the local population.

Local Economic Rewards Can Be Huge

The collapse of oil prices from July 2008 to December 2008 has shown the challenges of trying to predict the volatile price of oil. Below are some simple "back of the envelope" calculations for Oregonians' projected fuel costs.

- We annually consume approximately:
  - 1.7 billion gallons of gasoline
  - .7 billion gallons of diesel
- If you think Oregonians will pay:
  - $4.00 per gallon for gas
  - $4.25 per gallon for diesel
- This collective liquid fuel costs are over **$9.7 billion!**
- If you think Oregonians will pay:
  - $2.00 per gallon for gas
  - $2.25 per gallon for diesel
- This collective liquid fuel costs are over **$4.9 billion.**

The one certainty is that most of these funds spent on liquid fuels will leave the state.

The authors of this guide are intimately involved with helping individuals, companies and/or cooperatives establish as a business. It is a stark reality that in any industry, business start-up statistics demonstrate many efforts will fail within the first couple of years. Many small business owners frequently lack the necessary capital and/or technical and management skills to successfully launch the business. There are few Americans who have the skill sets to become

knowledgeable entrepreneurs to establish innovative businesses that will be able to navigate the many minefields of renewable energy. The hope is this report can be part of a body of work seeking to mitigate this reality.

Additionally, if a venture firm was interested in funding research and development (R&D), advancements would stay proprietary and private. To maintain a dynamic and competitive marketplace, public investment will be required to be made and safeguarded.

Utilization of agricultural and woody biomass for large energy projects, such as the nascent cellulosic ethanol industry, promises to be:

- the largest opportunities for developing equity in rural America in generations
- a critical component for national security
- a significant aspect of our domestic fuel and overall energy portfolio
- a low-carbon alternative to fossil fuels

Oregon has ample natural resources, including abundant amounts of agriculture and woody biomass that can be converted into biofuels or bio-energy. We could potentially be producing much of our own renewable biofuels and bio-energy with the intelligent development of a business infra-structure that encourages the use of locally produced goods.

An estimated 100,000 tons of Annual Ryegrass will be available in the Southern Willamette for conversion into renewable energy each year. A preliminary estimate of cellulosic ethanol extraction is 70 gallons per ton. Annual Ryegrass straw projects could represent an annual retail market value of $32 million dollars. A similar estimate based upon the energy content of Annual Ryegrass straw projects $28 million for renewable bio-energy. The southern Willamette Valley has a tremendous potential to generate significant numbers of rural jobs and generate significant amounts of income by utilizing our natural resources.

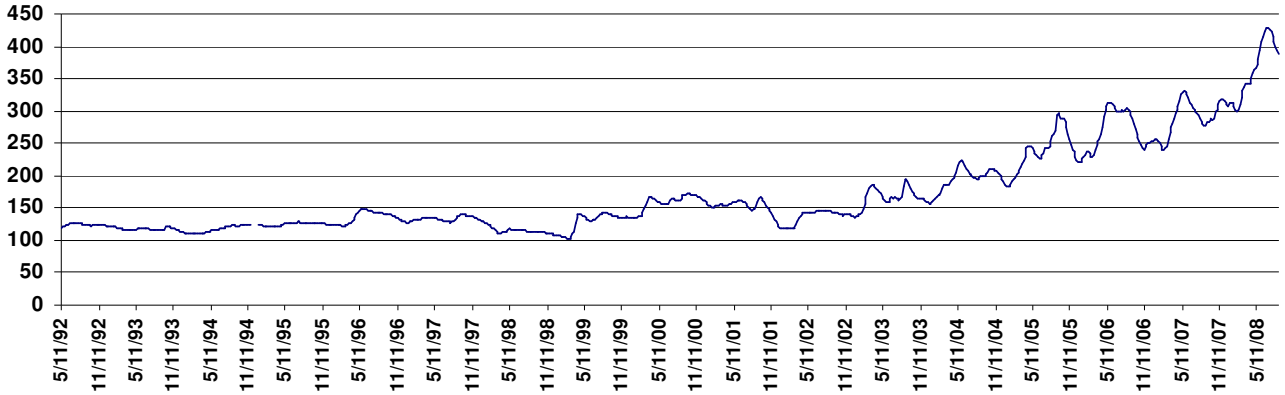
Importance of Local Ownership

A report by the Institute for Local Self-Reliance entitled "*Ownership Matters: Three Steps to Ensure a Biofuels Industry That Truly Benefits Rural America*," looked at the farmer-owned biorefineries in Minnesota.

The report found that three times more of the dollar spent on transportation fuel remained in the local economy if spent on locally produced ethanol.

As the below chart indicates, two trends are painfully apparent in today's fuel energy economy: the increasing price of oil from 2002 forward and general volatility with the collapse of oil prices in the second half of 2008.[1]

Weekly West Coast Regular Conventional Retail Gasoline Prices
(Cents per Gallon)



The American public is receiving fast and unwelcome lesson in our new energy reality. As we watch oil supply shocks, economic inflation and a weakening dollar all municipalities are grappling with how to respond. For those in policy and business, this is the issue of the day. The conversion of Annual Ryegrass is one such strategy based on regional resources.

1.1. Types of business ownership models

One of the first decisions the organizers of a new business enterprise must consider is the choice of a business entity through which to conduct the business. Multiple objectives are often applicable in this context. The optimum choice of entity will vary depending on many different considerations, e.g. whether the business is being organized primarily for profit, the number of participants, ease of governance, ability to finance, income tax considerations, etc. Perhaps the first thing organizers of a new business should do is to discuss their business objectives and to develop a plan that identifies how the business will operate and what will be needed to operate the business successfully, e.g. what financing is needed, what rate of return is necessary, how and who will manage the business, what facilities are needed to operate the business and all of the other considerations that are part of a business plan. Once the organizers have developed a business plan, they should employ professionals, primarily a business attorney and an accountant, to advise concerning which type of entity will work best to achieve the business objectives of the organizers.

[1] Energy Information Administration. http://eia.doe.gov/ Retrieved April 2006 from: http://tonto.eia.doe.gov/oog/ftparea/wogirs/xls/pswrgvwrwc.xls at www.eia.doe.gov/oil_gas/petroleum/data_publications/wrgp/mogas_history.html

This paper analyzes four possible business entities that appear to meet the needs of the renewable energy industry in Oregon. There are other types of entities, e.g. a sole-proprietorship, a partnership, a standard for-profit corporation (C-corp.), an S-corporation (a C-corp that has made an election to be treated as a "pass through" entity for federal tax purposes) and others.

Each of the business ownership models examined has certain strengths as well as certain weaknesses. The renewable energy industry in Oregon will require a variety of different approaches for different levels of scalability. What may be an appropriate form of ownership for a small operation may be woefully inadequate for a much larger scale of operation.

The following sections analyze four business ownership models to explore the possibility to create an emerging renewable energy industry:

1) Limited liability companies (LLC)
2) Hybrid co-op/LLC
3) Cooperatives
4) Public benefit corporations

The authors anticipate that renewable energy projects' capitalization can range from a small backyard still costing a couple thousand dollars to an integrated $100 million dollars bio-refinery.

Our aim with this report is to create a path from the findings of the other project group members to the next business steps needed to get a specific project built. The other Working Group projects include the technical exploration of the following tracks for Annual Ryegrass:

1) Cellulosic ethanol
2) Anaerobic digester
3) Pyrolyzers
4) Pellets
5) Gasification

The success of any of these business models will ultimately depend upon highly motivated individuals working together to solve the challenges of start-up and business development.

Pacific Northwest cities and communities have the potential to develop scalable renewable biofuels and bioenergy project to create energy independence; lower overall energy costs; create jobs; and create and keep the wealth in the Pacific Northwest. We will need to encourage entrepreneurs to step forward and develop these businesses. The task of building renewable energy projects in the Pacific Northwest will be difficult, but the task is very critical for the future of the region.

The authors realize reading about the advantages and disadvantages of the structure of these different business models can make for tedious reading. Nevertheless, properly designed local

business entities will be generating tens, if not hundreds of millions of dollars that can be captured by the local residents of the southern Willamette Valley.

1.2. Choice of Entity Decision

The purpose of this paper is to identify the key considerations developers should be considered within the context of the choice of business model entity decision. That is to say, at some specific point a group of people exploring the development of an energy project will be sitting around the proverbial table and ask themselves, "how are we going to do this?"

Project initiators, developers, stakeholder, investors, etc. will need to ask themselves a series of questions all relating to a specific project, in a specific location with specific inputs. For example:

- Who exactly are we? (i.e. consumers, investors, farmers, etc.)
- Where are we located in relation to the project?
- How flexible does this entity need to be versus how inflexible do we want it to be?
- What are our capital needs? How much "other peoples money" do we need?
- What exactly are we trying to accomplish? For example, do we want to make a lot of fast money and leave the industry or do we seek to increase the value of our straw for the long-term?

As the answers to their vision, mission and business concept are articulated, they will organically move towards one type of ownership structure over another. Therefore, these models are not apples-to-apples, but as much as possible that type of comparison is attempted.

1.3. Limitations

This report is not a/an:

- Promotion of a specific technology or product
- Promotion of a specific business model
- Analysis of technology costs, as this information is being assembled by other parties

This report does not examine:

- Every single possible locally-owned model; sole proprietorships and C-corporations were not explored
- More complex variations of joint ventures, (e.g. Minnesota flip)
- Private industry opportunity; such as industry expansion into biomass or joint venture of existing businesses
- "New Generation Co-ops" where members are required to make up-front investment in order to obtain delivery rights, and supply is controlled through marketing agreements

2. Limited Liability Company

The Limited Liability Company (LLC) has emerged as an extremely common model to form a renewable energy business. Most likely this is the case because of the LLC model's flexibility to take on various members and their capital. For example, in the Ethanol Producer Magazine's monthly list of facilities includes the type of corporate structure of the facility and, except for a very small and declining number of co-ops, most of the new corn ethanol facilities are being built by LLCs.

An LLC combines the tax flexibility of a partnership with the limited liability of a corporation. LLC's may elect to be taxed as a partnership (i.e. to pass through of income to the owners to avoid taxation of profits at the corporate level and dividends at the shareholder level) or as a corporation. Also, the governing document of an LLC, the Operating Agreement, is a contract and as such provides greater flexibility, e.g. in governance and distribution of gains and losses, while not requiring some of the formalities that are required under the corporate statute. Individuals form LLCs more often than corporations, typically to protect their personal assets and avoid the "double taxation" of a corporation on shareholder dividends.

2.1. Advantages

One of the primary advantages of an LLC is protection from personal liability for business debts. This protection of personal assets from the LLC is very important, particularly in situations where the LLC is much larger than the individual. Any failure on the part of the LLC would trigger a personal economic crisis. Like shareholders of a C-Corporation, a member's liability to repay the LLC's obligations is limited to his or her capital contribution. However, if the LLC lacks equity, banks, lenders, suppliers, vendors, etc. may well require a personal guarantee by the owners of an LLC or a pledge of personal property, thus, negating limited liability.

A second advantage of an LLC allows for its perpetual existence so the entity continues even if an owner dies or leaves the business;

As previously noted, a third significant advantage is pass-through taxation, which allows owners to report profit and loss on their individual tax returns rather than the business income taxed at the corporate level. The individual tax level may be less than the corporate tax level.

LLCs operating in the biofuels industry include:

- Seattle Biodiesel, LLC: wholly-owned subsidiary of Imperium Renewables, Inc
- Pacific Ethanol: Has launched individual projects as LLCs including:
  - Kinergy Marketing, LLC (OR)
  - Pacific Ag. Products, LLC (CA)
  - Pacific Ethanol Madera LLC (DE)
  - Pacific Ethanol Holding Co. (DE)
  - Pacific Ethanol Imperial, LLC (DE)
  - Pacific Ethanol Stockton (DE)
  - Pacific Ethanol Columbia, LLC (DE)
  - Pacific Ethanol Magic Valley, LLC (DE)
  - Pacific Ethanol Plymouth, LLC (DE)
  - Stockton Ethanol Receiving Company, LLC (DE)
- Cascade Grain Products LLC: Parent company Berggruen Holdings

A fourth advantage allows an LLC to include both persons, other LLCs, S-Corporations, as part of its member base. Unlike an S-Corporation which is restricted by law to American citizens and permanent residents, an LLC may include persons who are not either U.S. citizens or permanent residents.

A fifth advantage, which results from the fact that an Operating Agreement can be a less formal governance structure, is the ability for an LLC to make quick decisions to respond to market pressures.

A sixth advantage for an LLC is the ability to distinguish between two major classes of participants in the LLC – member managers and investors. The operating agreement may be written to stipulate the difference between the member managers and the investors. The net profit received by the member managers (who are working for the company) are subject to self-employment taxes as well as federal and state withholding taxes while the investor owners would only be subject to the federal and state withholding taxes.

2.2. Disadvantages

Shareholders may disagree about the direction of the company. The LLC may make erratic decisions since power may be concentrated in the hands of a few members, CEO, or board members

Oregon law does allow single member LLCs and provides limited liability, however, some states do not fully treat LLCs in the same manner as corporations for liability purposes, instead treating them more as a disregarded entity, meaning an individual operating a business as an LLC may in such a case be treated as operating it as a sole proprietorship, or a group operating as an LLC may be treated as a general partnership, which defeats the purpose of establishing an LLC in the first place, to have limited liability. A sole proprietor has unlimited liability for the business; in the case of a partnership. For example, the IRS treats a one-person LLC as a sole proprietorship and the entire amount of the LLC's profit is subject to self-employment. Although there is no statutory requirement for an operating agreement in most states, members who operate without one may run into problems taxed at 15.3%. In addition, any of the member managers who are working for the LLC will also be subject to the self-employment taxes.

Some people, such as new business people, may not be familiar with the governance of LLCs. Unlike corporations, they are not required to have a board of directors or officers.

As noted above, many creditors will require owners of up-and-starting LLCs to cosign for the LLC's loans, thus making the owners equally liable for the debt as the LLC is, and effectively removing the very purpose of forming an LLC: Limited Liability.

2.3. Tax implications

LLC owners can elect for the IRS to tax the LLC as a sole proprietorship, partnership, C Corporation, or S Corporation. Owners make this election through the IRS after the company forms with the state. The IRS has the following to say about the tax status of an LLC:

> ***1. Single member LLCs.***
> *Generally, when an LLC has only one member, the fact that it is an LLC is ignored or "disregarded" for the purpose of filing a federal tax return. Remember, this is only a mechanism for tax purposes. It doesn't change the fact that the business is legally a Limited Liability Company. If the only member of the LLC is an* ***individual****, the LLC income and expenses are reported on Form 1040, Schedule C, E, or F. If the only member of the LLC is a* ***corporation,*** *the LLC income and expenses are reported on the corporation's return, usually Form 1120 or Form 1120S.*
>
> ***2. Multiple Member LLCs***
> *Most LLCs with more than one member file a partnership return, Form 1065. If you would rather file as a corporation, Form 8832 must be submitted.1 You don't need to file a Form 8832 if you want to file as a partnership.*

Individuals tend to be taxed at a lower rate than a corporation.

If the LLC shareholders elect to be treated as a pass-through entity such as a partnership or S-Corporation, the net profit or net loss is distributed to all of the shareholders based upon a percentage of the ownership in the LLC by each of the individual. For example, generally if an individual owned 25% of the shares of a company and the LLC generated $100,000 in net profit that year, the LLC would report that particular owner's income as $25,000. Similarly, shareholders can also take losses on their investment and report those losses on their personal income tax statements. However, an LLC's Operating Agreement may provide for a different distribution of earnings.

2.4. Raising capital, loans and equity

Raising capital for a start up facility utilizing a non-proven technology can be quite hair-raising and difficult. LLCs may apply for a variety of loan guarantee programs such as the US Department of Energy's Loan Program, which has set aside $10.0 billion for emerging technology renewable energy projects. This particular loan guarantee program may be particularly useful for an LLC in which its members may want to limit their personal exposure by not wanting to personally guarantee loans.

LLCs are eligible to apply for the USDA's Business and Industry loan fund. LLCs are also eligible for the Business Enterprise Tax Credit or (BETC) program in Oregon (50% tax credit on eligible capital construction). The BETC can be a deal maker for renewable energy projects in Oregon.

With recent volatility of the overall credit environment, most large-scale projects are now required to provide over 50% equity funding.

2.5. Management

LLCs may be either member-managed or manager-managed. A member-managed LLC may be governed by a single class of members (in which case it approximates a partnership) or multiple classes of members (in which case it approximates a limited partnership). Choosing manager management creates a two-tiered management structure that approximates corporate governance with the managers typically holding powers similar to corporate officers and directors.

2.6. Local ownership

An LLC is potentially less likely to maintain local ownership although the LLC could focus on raising capital primarily from local residents. There may be little incentive for a locally-owned LLC to stay locally-owned. For example, a few Minnesota farmer-owned corn ethanol facilities have been purchased by large out-of-state corporations; this is a trend which promises to consolidate a potentially decentralized industry.

One intriguing concept is called a "flip" model in which an LLC is created – say with 90% outside investor funds and 10% local owner funds. The operating agreement is set up so that the outside investor can capture the 50% Business Energy Tax Credit (BETC) and the accelerated depreciation in the first five years or so.[2] After the tax credits have been captured, the ownership model flips to a 90% local ownership and 10% outside investors.

2.7. Roadmap

Articles of Organization: An Oregon LLC is formed by submitting articles of organization to the Oregon Corporate Division. All LLCs may have one or more members. LLC members are the owners of the LLC much as shareholders are the owners of a corporation or the partners of a partnership. The Articles of Organization serve this purpose and are the LLC version of a corporation's articles of incorporation.

Operating Agreement: The Operating Agreement of an LLC is the document most important to its success because it determines, defines, and apportions the rights of the members. Because the various LLC statutes offer so much flexibility and the default statutory rules do not fit most LLC's needs, Operating Agreements must be drafted carefully and with much discussion and agreement between the prospective members.

[2] For more information on Oregon Dept of Energy's BETC: www.oregon.gov/ENERGY/CONS/BUS/BETC.shtml

2.8. Relevant types of bio-fuels and bio-energy business activities

LLC's are a good financial model for a wide range of businesses by providing lots of flexibility in their structure. An LLC is flexible enough to handle a small business operation such as having a mobile fast pyrolyzer up to a large integrated biorefinery facility.

There is a difference in how large capital and small capital projects are developed. For example, a group of grass seed growers may agree and share a mobile fast pyrolyzer unit to help share the capitalization and utilization costs through an LLC partnership. Or, a group of growers or individual investors could decide to build an anaerobic digester..

As noted in the first paragraph, LLC's are the business ownership model that has been used to build most of the large corn ethanol facilities in the past several years. The key is to secure the equity and loan base. In fact, a publicly traded company such as Pacific Ethanol will create LLC's to build a specific facility such as the one at Boardman.

3. Agricultural Cooperative

3.1. Description

Farmer-owned cooperatives have traditionally played a vital role in the production and distribution of agricultural products. Cooperatives' important position in agriculture continues undiminished, although many changes have taken place in farm commodity production, processing, marketing, and distribution over the years. According to USDA data, in 2002, 3,140 farmer cooperatives provided marketing, farm supplies and services to farmers.

There is no standard definition of a cooperative. A cooperative is a membership entity that operates according to a "cooperative plan." Cooperatives are generally organized as corporations. Operating on the cooperative plan generally involves furnishing the members with an economic service under a plan that eliminates entrepreneur profit ("net margins" are redistributed to members based on patronage) and that provides for substantial equality in ownership and control.

The general principle of cooperative income taxation is that money flows through the cooperative and on to patrons, leaving no margins to be retained as profit by the cooperative. Thus margins are taxed only once. The tax is ultimately paid by the final recipient (the cooperative patron), although under some circumstances the cooperative pays tax on a temporary basis, then receives a deduction when the money is finally passed on to the patron.

For example, a co-op of agricultural commodity producers, e.g. potato producers, is a business designed exclusively to serve and pass on benefits to the member-owners. The members would own, control and utilize the business. For the sake of discussion, if Annual Ryegrass growers enter into business "to add value to their straw" then the benefits conferred to members would be measured in quantities of both increased monetary value returned to farmer and quantity of straw utilized rather than burned.

Co-op business models typically involve aggregation of similar producers with goals of maximizing their mutual interests. Through growing an economy of scale, co-ops achieve increased purchasing or bargaining power or integrated supply-chain processes, such as transportation and processing. This model could be implemented in at least a couple different ways, from a group of farmers forming a co-op to start-up a single project (i.e. dairy farmers launching a digester) or as bargaining association (i.e. Perennial Ryegrass Bargain Assn.).

Farmer co-ops seek to organize farmers to collaborate on a variety of fronts as the following examples will illustrate. Co-ops, as a business model, seek to leverage control and value to producers, i.e. straw growers.

3.2. Why Co-op?

An agricultural co-op of straw growers makes sense for the following reasons:

- Straw is a low-value and undistinguishable commodity; no single producer controls enough volume to command a market influence
- The farm economy runs on thin margins and a strategic way to increase farm income is through adding value or accessing value through an energy project
- The capital costs to harvest, transport and store straw are enormous and beyond the means any single producer

An agricultural co-op that processed straw supplied by farmer members would enable producers to gain more control over their straw after it leaves the "farm gate."

3.3. Advantages

The key advantage for a co-op is that control is kept with those who utilize it and the business exists for their benefit. Profits are returned to members in proportion of use. Like LLCs, co-ops are not subject to double taxation as long as net margins ("profits") are paid to members as patronage dividends. The co-ops mentioned above provide innovative solutions to a host of economic problems for farmers, landowners and consumers. They keep economic surplus local by returning and realizing more value to the producer.

Producer co-ops seek to transform the role

Examples of successful agricultural co-ops in the PNW

The Northwest has a variety of high profile and successful agricultural co-ops. That said, few if any are currently engaged in energy and/or fuel production outside of CHS; CHS is the nation's largest co-op and owner of US BioEnergy and Provista.

A few examples of Oregon's regional agricultural co-op business models are:

- *Pendleton Grain Growers*

  Vertically integrated grain aggregator offering agronomy, marketing, transport and storage; recently purchased a biodiesel processor and may utilize it to brew biodiesel

- *Hazelnut Growers Bargaining Assn*.

  Negotiates an annual minimum grower field price and receives payment based on member tonnage

- *Tillamook Co Creamery Assn*.

  Markets and processes dairy products for 130 farmers

- *Wilco*

  Farm supply co-op providing agronomy, petroleum, and specialty retail farm stores

of input suppliers from being passive “price takers” to active “price setters.” Obviously, it is not in the interests of an absentee investor to play this role. In other words, if the Annual Ryegrass producers do not design such a business, most likely nobody else will. Conversely, if investors do build it, then they will have their economic interests, not the producers, at heart. The forest owners have a compelling economic stake in the development of a biomass industry.

Additionally, under the Capper-Volstead Act some agricultural co-ops and associations are provided limited anti-trust protection if certain criteria are met (i.e. regarding no proportional voting, etc.).

3.4. Disadvantages

Co-ops, by their nature, can present some challenges as far as access to private capital. Cooperatives obtain equity capital from members in three basic ways:

1. direct investment
2. retained portion of net income
3. retained portion of proceeds from the sale of members’ farm products as per-unit capital retains

Democratic decision-making can be a slower process. There are increased costs for member communications in a co-op. The business is there to primarily serve member owners (i.e. farmers) who also have a say in governance.

Annual Ryegrass seed growers produce grass seed and the residue is a side effect. Their preferred management technique is currently field burning. By removing the straw there is an increase in the inputs required from fertilizer to pesticide. Farmers with Annual Ryegrass may not rationally be drawn into a business that seeks to increase value to the waste material.

3.5. Types of bio-fuels and bio-energy activities that might be most relevant

A few options which could be developed are:

- Bargaining association to control majority of low value straw and identify highest value for Annual Ryegrass straw be it export, pellets or in-field fast pyrolysis
- Group of willing farmers seek to capitalize a specific project for their respective aggregate Annual Ryegrass straw; or a co-op to pool producers for a joint venture

3.6. Issues for regional and local biofuels development

Demographics and Potential Members leading to lack of skilled entrepreneurs

A sufficient number of Annual Ryegrass producers would be required to gain an adequate economy of scale to hire in a manager or participate in a capital project. A large, active and involved membership is critical to the success of any co-op and this could not be truer for a co-op of farmers. Like most farmers, Oregon seed growers are maxed out on time and my not seek to expand their current operations.

Without an economy of scale, not only are economics marginal but any business with deficient internal infrastructure will fail. Agricultural co-ops, because of under-capitalization or lack of involvement, can succumb to this pit fall as well.

Another aspect of working against participation in agricultural co-ops in the West are attitudes. American "rugged individualism" can be found in its most extreme form in the Northwest; landowners from the southern Willamette Valley may immediately be suspicious of a business which they perceive may require them to subordinate their individual interests, i.e. lessening of property rights. This can be addressed through effective and strategic communication of the benefits versus costs.

Capital access

Co-ops are a proven way to economically organize producers to participate in a project but not as attractive for taking in large sums of costly, quick-in and quick-out venture capital. This is the trade off for co-ops being inherently more local and democratic than an absentee-owned project.

Direct Investment of equity is usually obtained through purchase of common or preferred stock. Common stock is an important source of initial member investment and normally carries voting rights. Preferred stock is a second source of initial equity capital. It is called preferred stock because it has preference over common stock during liquidation. It may be purchased by members or nonmembers, often pays a dividend, but is generally nonvoting. Equity acquired through direct investment is always allocated.

Other types of direct investment are membership fees, membership certificates, and capital certificates. These represent forms of direct investments by members in nonstock types of cooperatives.

Retained Net income represents proceeds from net earnings (net margins) retained in the business to provide equity capital. Part of a cooperative's net income, usually at least 20 percent, is customarily paid to members in cash, with the remainder held as retained patronage refunds. These refunds are accumulated until sufficient capital is available to finance facilities and operations. When that level is reached, the cooperative's board of directors may decide to redeem or repay a portion of equity capital to members. Some cooperatives retain a portion of their income as unallocated reserves to serve as a cushion for allocated equity if there is an operating loss. Unallocated equity is usually paid to members only in cases where the cooperative is being dissolved.

Cooperatives may, of course, borrow capital, however, collateralizing loans would be a challenge (as it would for any start up business without substantial assets/equity).

Under the federal tax laws, when co-ops sell nonvoting preferred stock, there is typically a limitation of 8% ROI. This limitation will discourage the more demanding venture capital

investors. To combat this, dynamic, newer models have been designed; these range from the LLC, the LLC/co-op hybrid to a joint venture between a co-op and an LLC.

Conversely, these capital restrictions may have an upside. If the goal of the business is service, i.e. utilizing waste biomass at a higher value, and not rapid and dramatic return on investment then a co-op can operate "at cost." Furthermore, a co-op's intimate engagement of feedstock can lay tracks for an otherwise marginal project. Co-ops can operate "at cost" because their primary benefit is their existence and the benefit they confer to members which may or may not be a large patronage dividend depending on the business model.

This factor may potentially limit, probably for good reason, landowners from capitalizing a large project, i.e. digester, pelletizer, pyrolyzer, etc.

Opposition from surprise quarters

There is an "institutional memory" in the Southern Willamette of Agripac, formerly the Oregon's second largest co-op. When Agripac went bankrupt in the late 1990's, it took tens of millions of dollars of equity from hundreds of farms in the Willamette. No matter the variety of reasons or overall agriculture industry condition, many continue to blame the fact Agripac was a co-op for its failure. This perception has influenced the desire for many farmers to engage in another co-op project.

Location of facility

Proximity is key. If a co-op's project sought "bricks and mortar" construction (i.e. infrastructure etc.), it would most likely be located close to feedstock. Raw biomass is not concentrated, or not yet densified, therefore it is much more expensive to transport. For most biomass energy projects, proximity to feedstock is key to the economics. Additionally, co-op members are community members and usually envision a local project that will employ and benefit their community.

Marketplace response

The primary disadvantages of being intimately linked to input feedstocks are the risk that the business would exist primarily to "off-take" a specific product, i.e. waste straw biomass. This model doesn't lend itself to a rapid processing equipment retrofit and importation of a potentially cheaper, new and different feedstock down the road.

Energy Costs

As power and fuel increase in price, biomass could potentially increase in both cost and worth to the rural landowner. Additionally, the downturn in housing has led to a decline in mill output, which has limited the supply of sawdust and hog fuel in general.

Keeping the dollars in the local region

Co-ops both increase the value retained by the producer and retain more value and dollars circulating locally with its business activities. Typically net profits can be distributed in cash (i.e. patronage dividend) and/or reinvested in the business. Locally-owned projects tend to source administration, debt and supplies locally therefore having a greater impact on the local economy than an absentee-investor built-owned-operated facility.

Implications: tax, security, legal and accounting

Subchapter T is the default Federal taxation for farmer co-ops. The National Society of Accountants for Cooperatives can provide a connection to a CPA who is familiar with the specifics of maximizing patronage dividends and retained member earning.

Roadmap - What will it take to organize the business

At the most basic level a co-op is going to need one thing: *a committed and motivated core group of people to move the project forward and eventually mobilize the membership.* Almost exclusively this exploration of mutual benefit will result from a compelling economic need; such as the marginal economics and changing politics of dealing with forest biomass.

The group of potential members will explore business the concept/plan and research the viability of the business.

Co-ops incorporate under Chapter 62 of the Oregon Revised Statutes (ORS).

4. Hybrid-cooperative LLC model

In 2001, Wyoming enacted the Wyoming Processing Cooperative Statute. This law, first of its kind in the USA, enabled there to be a new class of members in agricultural processing cooperatives – investor members. The rationale behind the new law is to provide access to capital necessary for processing raw materials when traditional cooperative member capitalization was maxed out. Similar laws have not been adopted in Oregon, however, they have been adopted in four other States:

- Minnesota Cooperative Associations Act (2003)
- Iowa Cooperative Associations Act
- Tennessee Processing Cooperative Law (2005)
- Wisconsin Cooperative Association Act (2006)

It may be possible to incorporate in one of these states to take advantage of this type of entity and obtain a

New Hybrid Co-ops

USDA/Rural Development/Cooperative Business Services research identified 22 new "cooperatives" formed under these statutes through the end of 2005:

- Wyoming 4
- Minnesota 17
- Tennessee 1

The four registered in Wyoming are out-of-State (sometimes termed "alien" or "foreign") co-ops that filed papers to do business in Wyoming. Several of the co-ops registered in Minnesota under the new statute are also alien in that State.

certificate of authority to operate in Oregon. These new statutes are often referred to as "LLC-Cooperative" statutes or "hybrid cooperative-LLC" statutes. For this paper, the Minnesota Cooperative Association Act 308B is used as the example because of its applicability to any type of cooperative.[3]

Each of these statutes provides for a new cooperative business model allowing two classes of voting stock--patron member and investor member. Entities formed under these laws are unincorporated associations and, like LLC's, are eligible under the IRS check-the-box regulations to be taxed as a partnership under Subchapter K of the Internal Revenue Code (IRC). As a comparison, agricultural cooperatives are taxed under Subchapter T of the IRC.

Each law sets slightly varying limits in the areas of patron governance and financial rights. Most of the associations formed to date are patron-based and have not taken advantage of the opportunity to include investor members.

Each of the State's statutes is slightly different. The scope of the Wyoming law is limited to agricultural purposes. The Minnesota law can be used by firms in any line of business. Information technology firms and innovative agriculturally-based marketers have been its primary users. The Wisconsin law is for agricultural cooperatives only.

4.1. Ownership Issues

The classic cooperative definition of a patron is one who has a business interest in the co-op other than the return on investment. Each patron-member has a common business relationship with the cooperative, and as such, each patron-member has at least one relationship with each other, in this case as business partners in the cooperative. The patrons may be customers, employees, vendors or others. The co-op is organized around patrons and developed to provide services, products or other needs that cannot be easily accessed by individuals. By Federal law, 8% is the maximum interest on preferred stock in a cooperative. This was established to uphold the traditional patron member relationship with the cooperative and to keep the business in the hands of those who need the goods and services.

In a hybrid co-op, another membership class, investor members, is permitted. Generally, these members are non-patron and are interested in the return on capital, which does not have the limitation imposed on patron member shares. Investor members may be community members, people interested in finding the best place to invest money, or may even be patron members purchasing investment opportunities. In a hybrid cooperative, the cooperative is still developed around its patron member needs, not around investment needs. Investor members provide capital for the cooperative to succeed.

[3] Minnesota Statutes 2007, Chapter 308B. Cooperative Associations Act. Retrieved August, 2008 from: www.revisor.leg.state.mn.us/bin/getpub.php?pubtype=STAT_CHAP&year=current&chapter=308b

A hybrid co-op offers more flexibility in governance and financial rights than a traditional cooperative. A hybrid co-op has the ability to craft its bylaws to meet the needs of both classes of members, while preserving the patron member control. In the Minnesota Statute 308B, patron members collectively shall have not less than 60% of the cooperative's financial rights to profit allocation and distributions. As prescribed in the bylaws, distributions shall be allocated on the basis of the value of contributions to capital made according to member patrons collectively and investor members individually.

4.2. Legal and Administrative Costs

Oregon does not have a specific hybrid cooperative statute. The OR Cooperative Statute 62 does not provide for investor members. An Oregon cooperative may issue shares of preferred stock, which generate capital, but does have the 8% dividend limit imposed. An Oregon entity wishing to utilize the hybrid cooperative structure would need to register in Oregon and in one of the five states with the hybrid statute (MN, IA, WY, TN or WI). This implies a double registration fee. In the case of Minnesota, it also requires bi-annual registration.

Due to the flexibility inherent in the hybrid cooperative laws, new entities should invest in legal counsel familiar with the laws. The Articles of Incorporation and bylaws must be very thoroughly thought-out and written. In Oregon, there is one Portland-based legal firm that has attorneys licensed in states that have adopted hybrid coop laws. The firm charges $450/hour and requires a minimum retainer. This legal expense must be factored into the capitalization plan.

4.3. Capitalization

Any business with high fixed asset start-up costs must consider how to package stock to attract investors. A hybrid cooperative is no different and will need to develop a capitalization plan that attracts both classes of members: patron and investor. Part of the plan must show the control and planned distribution of profits (loss) provided to investor members as part of their risk sharing in the cooperative.

A specific cooperative financial system, which includes CoBank, the Farm Credit System, and the Cooperative Finance Corporation, is a dependable source of credit for existing and new cooperative businesses ventures such as ethanol. Fortunately, these cooperatively-owned financial institutions have cooperatives, rural utilities and agriculture lending as their mission. The borrowers must still prove financial solvency, which can be achieved through a strong and vital cooperative community (i.e. patron members and investor members).

Equity Availability

In Wisconsin, farmers were finding it difficult to accumulate the minimum 40% member equity required by lenders before they would lend money to build such things as ethanol plants. It is hardly a coincidence that much of the Wisconsin ethanol industry development has been through the LLC form rather than the co-op form. With a 40 million gallon ethanol plant costing upwards of $100 million to build, area farmers needed to accumulate $40 million before they could borrow the rest of the construction cost. This amount is a very high hurdle even today.

4.4. Decision Making and Management

A board of directors governs a hybrid cooperative. The board is at least five members unless total membership is less than 50, in which case the board may be at least three members. Outside directors are permitted. Management and staff are hired. The board oversees the general manager, who oversees daily operations. In a tech-heavy business, such as biofuels, having outside directors familiar with the industry, processing and investors' requirements can be extremely helpful.

In Wisconsin, the new hybrid cooperative law makes it the first state in the nation to require annual director training in finance and fiduciary responsibilities. This is intended to ensure directors have a minimum level of competency to serve on the boards of increasingly complex cooperative businesses. This is not required for any other type of corporate entity anywhere in the United States. Second, the new law requires the board of directors to create an audit committee to ensure patron directors review critical financial details of the cooperative. This audit committee is required by Minnesota law also. Third, the new law clarifies and increases member access to cooperative records. These items are similar to what has been included in the federal Sarbanes Oxley law for publicly traded corporations, but not actually required of cooperatives.

The bylaws for a hybrid cooperative must be very carefully crafted as the state laws allow for varying degrees of flexibility in voting rights, ability to seat outside directors, financial rights and restrictions. The bylaws must indicate each class of member interest, rights to share profits and distributions, member voting power and limitations or restrictions on voting power. The time and expense of writing the bylaws is critical to the success of attracting both patron and investor members to the cooperative.

The bylaws must specify the number of directors to be elected by patron members and investor members. At least one-half of the voting power on general matters of the cooperative shall be allocated to directors elected by patron members. The Minnesota Statute specifically states that patron members shall not have a minority voting interest. This guarantees that the cooperative continue to perform around patron member interests.

Patron members get one vote per member, unless the bylaws permit proportional voting (greater than one vote based on the amount of business or patronage done with the cooperative). Patron members can have proxy votes. Patron members are also permitted to vote as a block. If a patron member is also an investor member, that individual may have more than one vote.

Investor members have voting rights in accordance to the investment interests as granted in the bylaws. They may have proxy votes if the bylaws permit it.

Non-patron or investor members have voting rights in accordance to the investor membership interests as granted in the bylaws.

4.5. Distributions

Patron members have the financial right to no less than 60% of the Minnesota 308B cooperatives' profit allocations and distributions unless patron members vote to reduce their financial rights. If patron members vote for a change that reduces their financial rights to less than 60%, the patron members must still receive at least 15% of the profits even if investor members own more than 85% of the equity. Patron members can set significantly higher levels of patron member financial rights in the bylaws.

4.6. Taxation[4]

Agricultural cooperatives generally qualify for single tax treatment under Subchapter T of the IRC. A business need not be a farmer cooperative to qualify for subchapter T tax status. Any business "operating on a cooperative basis" uses subchapter T when computing its tax liability. Often farmer cooperatives are considered "exempt" under Section 521, meaning the cooperative is entitled to additional deductions for dividends on capital stock and patronage-based distributions of non-patronage income (business done with non-members). To quality for Section 521, organizations must be farmer cooperatives operated for the purpose of marketing farm products and returning margins (profits) back to patrons, or for purchasing supplies and equipment to farmers at cost plus expenses. While Section 521 cooperatives may have capital stock, substantially all voting stock must be in the hands of farmers who use the cooperative. Dividends on capital stock are limited (to 8%). These cooperatives must conduct a majority of their business with members and supply sales to persons who are not members or producers may not exceed 15% of total sales.

A hybrid cooperative has the option of filing under IRC Subchapter T or Subchapter K, similar to LLCs, which is the pass-through tax treatment. The cooperative files taxes, and passes all earnings and losses to membership. Under Minnesota Chapter 308B, two cooperatives and an outside investor can form a new Chapter 308B cooperative, be taxed like an LLC, and still potentially qualify for Capper-Volstead Act antitrust immunity protection. Allowing non-patron investor members into the cooperative may place this immunity at risk, however, and should be carefully considered by the cooperative's legal and tax experts. Most new investor/cooperative hybrids do not appear to qualify under the narrow definitions of a cooperative under the Capper Volstead Act and would, therefore, not have exemption from antitrust regulations. Capper-Volstead protection is generally authorized only for cooperatives marketing agricultural products and many existing cooperatives already do not enjoy the act's protections.

Securities Issues

Hybrid entities would likely not qualify for exemption of registration under the Securities and Exchange Commission and could face an expensive and time-consuming registration process

[4] Income Tax Treatment of Cooperatives, CIR 44, Part 1, 2005 Edition. USDA/Rural Business/Cooperative Business Services, Donald A. Frederick.

(Hanson, 2004). The board would need to determine if the expense is worth the effort to raise outside the needed capital through a public or private securities offering.

4.7. Adjusting to Change

Hybrid cooperatives are better positioned to handle changes in the business environment than traditional cooperatives given the flexibility granted to them in the law. For example, traditional corporate cooperatives can only merge with other corporate cooperatives. A merger with a non-cooperative business would require dissolving the two merging entities and both would incur heavy tax treatment. Hybrid cooperatives are permitted to merge with non-cooperatives, thus avoiding the dissolution and tax issue.

Minnesota Chapter 308B provides significant flexibility for joint ventures. For example, two electric cooperatives can join with a non-cooperative business in a Chapter 308B cooperative for the purpose of conducting joint right-of-way maintenance, security services, etc.

4.8. Creating Value

While maintaining the patron relationship with patron members, hybrid cooperatives create value for all members. Patron-members have a local processing facility and can have marketing contracts with the co-op for the raw material produced. Investor members share in the creation of a local facility that generates employment, local taxes and earn income on their investment.

Impact of Locally Owned
Economic impact studies clearly demonstrate that for every dollar of business conducted with locally owned businesses, approximately $3 is circulated within the community.

4.9. How would it work in Oregon?

A cooperative could incorporate in one of the states providing the legal incorporation rights, such as Minnesota, Wyoming, Tennessee, Iowa or Wisconsin. The cooperative would register as an “alien” business in that state. It must file taxes in Oregon and the state of registry, but only pays taxes in Oregon.

Minnesota has stringent incorporation rules that must be upheld. This includes filing a periodic registration in odd-years with the Secretary of State with the initial Articles of Incorporation and any amended bylaws. Failure will result in the dissolution of the cooperative. Reinstatement is possible with a $25 single annual registration form. Foreign cooperatives must obtain a certification of authenticity (certificate of status in the home state of organization) and pay a required fee of $185 ($150 for initial license and $35 filing fee).

Another implication of the evolving hybrid cooperative business structures is the need for Farm Credit lenders to understand and be in a position to evaluate a much broader set of organizational structures and resulting property rights issues. Lenders providing funds directly to hybrid cooperative entities, traditional cooperatives involved in joint ventures and strategic alliances, or producers investing in new business as either patron or investor members, will

have to understand the profit distribution systems and residual claimant structure of new business structures.

Kenkel reports that the evolution of producer-owned business models highlights a need for venture capital for producer-owned and/or rural-based business projects.[5] Even after adopting business structures that make equity investment more attractive to producer members and/or allowing participation by investor members, many value-added projects are unable to meet the equity levels required by potential lenders. The mixed success rate of new value-added efforts that include the failures of Spring Wheat Bakers, Prairie Farmers Cooperative pork processing plant, and Iowa Quality Beef Supply Cooperative suggests that lender caution is warranted.

In the same paper, Kenkel found that venture capital for rural-based and agricultural related projects is scarce. He goes on to say:

> *Typical venture capital firm are looking for emerging markets and industry segments poised for rapid growth, and extraordinary profits with sufficient size ($100 million in total equity) to facilitate a public sale at a latter date (National Venture Capital Association). Information technology and health care account for over two-thirds of venture capital dollars in 2004 (NVCA). The typical agricultural value-added project does not have the size or growth potential to interest venture capital providers. Producer groups attempting to attract venture capital often struggle to understand and evaluate proposed structures and terms. Venture capitalist are interested in designing an exit strategy for the venture capital participants within a 3-7 year time period. This often involves preferred classes of equity with provisions for cumulative dividends and conversion to common equity. Exit provisions allow the developers to repurchase the venture capital equity at predetermined price formulas, often a multiple of the firm's profits. A venture capitalist typically requires representation on the governing board and/or participation in management.*

Hanson shared that producer groups eliciting interest from multiple venture capitalists can find themselves (or their consultants) analyzing a confusing array of structures, contractual obligations and governance provisions.[6] The resulting business structure is often quite different from the developers' initial concept. Business plans require very special attention to account for these differences from convention.

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[5] Kenkel, Phil. "Evolving Credit Needs of Cooperatives and Producer-Owned Businesses…" *Department of Agricultural Economics Oklahoma State University*, *February 11, 2005.* Retrieved June 2008 from: www.fchorizons.com/uploads/kenkelSummary.pdf

[6] Hanson, Mark. "Challenges Arising from Legal Restrictions on Cooperatives" presentation for Agriculture and Food Cooperatives in Rural Development, Washington D.C. June 17, 2004.

4.10. How would it work for the Rye Grass Producers?

Annual Ryegrass producers would first need to agree that organizing a biofuels production and marketing business is the appropriate business structure. Due diligence and a financial feasibility analysis would be the second step; note this step alone can be a multiyear process. Typically, a larger group would appoint a steering committee to work with consultants in conducting the two aforementioned steps. The steering committee reviews assumptions, verifies data (prices, expenses, timing/scheduling, etc.) and helps develop several scenarios to be examined.

Feasibility analysis is the precursor to moving ahead and it should not be started if the producers cannot earn income through the co-op. Co-ops are often and mistakenly thought to be a non-profit business. In reality, a cooperative functions best when operated as any other for-profit business with the intent of returning income to patron members, and in this case investor members.

Having tested various scenarios, and showing that returns on investment are possible, the steering committee recommends to the entire group that it should move forward with incorporation. At this point, specialized legal counsel is recommended, especially if the producers desire a hybrid cooperative business. Good cooperative legal counsel will work closely with the group to develop the Articles of Incorporation, and more importantly, the bylaws.

When this stage is completed, the group should have an idea of initial capital required and a plan on how to raise it. A membership equity drive comes next. To attract capital in a hybrid cooperative, the business organizers (patron members) will need to prepare and be fluent in good answers regarding this novel approach to financing a cooperative business.

One aspect that will differ somewhat from traditional cooperative organization is the financial record keeping aspect. Patron member accounts must be established and be distinct from investor member accounts. In setting up the cooperative's accounting and record keeping systems, it may behoove the group to find a corporate accounting group with (a) branch offices in one of the states permitting hybrid cooperatives and (b) experience in setting up the books for a hybrid cooperative. This cost should be factored into the feasibility analysis.

As with any other start-up biofuels business, the organization phase is the most time-consuming. It can take upwards of 12 months to complete the due diligence and financial feasibility alone. Organizers should remain patient, while continuing to drive the process forward, to ensure that all costs are factored into the analysis.

With cooperative development, there are several points in the organizational continuum for GO or NO GO decisions. This is where the steering committee goes back to all prospective patron members with results generated thus far, and the group determines if the process should proceed. Since all prospective patron members will be making such heady decisions when the business incorporates (one member – one vote), this is a teaching opportunity.

USDA/Rural Development/Rural Business Cooperative Services published a Cooperative Feasibility Study Guide, Oct. 2000, which lays out a guideline for groups to follow. There are numerous other publications detailing feasibility steps. A very simplified version is included in Appendix A. This version is provided to give you an idea of basic concepts and the flow of the cooperative business development process. It is not specific for a hybrid cooperative.

4.11. How would it give access to financial resources? Can it be community owned?

Opening the cooperative to investor members can provide much needed capital. Having significant equity on the books at start-up is conducive to obtaining loans. Incorporating as a hybrid cooperative provides access to several commercial lenders that loan only to cooperatives, such as NCB and CoBank.

The bylaws can state who can become an investor member, just as it states who can become a patron member. The co-op can keep the facility community owned or even require residence within a certain distance from the plant. If this does not generate enough capital to meet construction and start-up needs, the board must seriously consider whether to attract and how to attract "outside" investor members.

4.12. What are the control advantages and disadvantages?

The control advantages are vested in patron members. While this maintains the true essence of a cooperative business, it may limit investor members by virtue of restricting control over their investments.

Savvy investor members accustomed to a fast paced decision-making process in S-Corps, C-Corps or partnerships may balk at the democratic process in a cooperative. Since patron members have one vote per member and patron members may not have the experience of running a tech-heavy industry, decision-making can be slower and more deliberate. This is not necessarily a negative, as a thoughtful and thorough review of issues may yield positive outcomes (measure twice; cut once).

5. Public Benefit Corporations

One of the big challenges for renewable energy development in Oregon is the need for scalability. Providing bio-energy and bio-fuels from Annual Ryegrass straw for hundreds of thousands of individuals living in the southern Willamette Valley will require scalable technologies. Furthermore, this could potentially require enormous financial investment ranging from hundreds of millions to billions.

Availability and price of liquid fuels
Americans paid slightly over a $1.00 for a gallon of gasoline in 2001. If Lane County residents consume between 150 – 170 million gallons of gasoline and 70 million gallons of diesel in 2008, they could pay close to $1 billion in liquid fuel transportation costs for 2008.

The private sector is one option to develop the renewable energy options possible from Annual Ryegrass. A second option is the development of a public benefit corporation (or referred to as a government-sponsored enterprise) to provide large scale funding and management for the bio-energy and/or biofuels facility.

While the concept of public entities providing electricity and water in competition with the private sector is a well-established pattern. That said, the authors know of no quasi public entity that provides and sells transportation fuel directly to the public. Public entities can possibly step in when the private sector is unwilling or unable to provide the critical service.

5.1. What is a public benefit corporation?

One definition of a public benefit corporation is a public corporation chartered by a state designed to perform some public service. A public authority is a type of public benefit corporation that typically takes on a more bureaucratic role, such as the maintenance of public infrastructure and sometimes has broad powers to regulate or maintain public property. Authorities borrow from both municipal corporations law (that is, the laws responsible for the creation of cities, towns, and other forms of local government) and private corporations law. Other public benefit corporations resemble private non-profit organizations, and take on roles that private corporations might otherwise perform.

The State of Oregon, however, more narrowly defines a public benefit corporation as a non-profit entity. Under the Oregon Nonprofit Corporation Act, there are three types of non-profit organizations: public benefit, mutual benefit, and religious corporations. Each of these types is mutually exclusive. A non-profit corporation must be benevolent, charitable or a scientific institution. Most non-profit corporations obtain 501(c)(3) status with the Internal Revenue Service to confirm their legal public benefit role.

Non-profit organizations typically operate for a particular cause or mission. 501(c)(3) non-profits are established for exclusively for "religious, charitable, scientific, testing for public safety, literary, or educational purposes."

5.2. Advantages

A public benefit corporation would operate in the open and be transparent to the public. A public corporation would carry more credibility than a private entity that may not wish to disclose its proposed activities.

A second major advantage is that a public benefit corporation could potentially get access to more public funds such as bonds and/or government grants.

A third major advantage of a public benefit corporation is its potentially better access to public forest lands. Outside of Tribal, BLM and land trusts, most agricultural lands are privately held, over one half of Oregon's forest lands are publicly held. In the southern Willamette Valley, the Forest Service manages the Siuslaw and Willamette National Forests while the Bureau of Land Management manages the Eugene and Salem BLM districts. A CROP study completed by Mater Engineering in July 2008 projected that there are 150,000 annual tons of woody biomass that is expected to be flowing off of these forestlands each year.

A non-profit could potentially operate in the open and be relatively transparent to the public. A non-profit would be able to plow its earning back into the entity without having to dilute its equity.

501(c)(3) non-profit corporations have many tax advantages over for-profit entities. The net profit (called "excess" for non-profit accounting) is not subject to taxation by either the federal or state governments. In addition, non-profits are exempt from certain types of employer payroll taxes such as federal and state unemployment and Lane Transit District taxes. In addition, non-profits can typically hire staff for less than the private or government sectors because of a perceived value by the employee of working for a non-profit.

501(c)(3) non-profit entities are eligible for foundation grants such as the Meyer Memorial Trust Fund and The Ford Family Foundation. In addition, the federal government offers a variety of solicitations that are only available to non-profits.

Some Examples of government-sponsored enterprises (GSEs)

GSEs may sound like an oxymoron, but there are a number of quasi-public entities successfully competing in the business sector to provide services to the public. For example, SAIF Corporation is a quasi-public corporation established by the Oregon State Legislature to provide workers compensation coverage. SAIF competes directly against other insurance carriers (e.g. Liberty NW).

Other examples of Oregonian public entities competing in the business sector include:

- Springfield Utility Board
- Eugene Water and Electric Board
- Emerald Public Utilities District

Oregon Revised Statutes include a number of chapters to cover the establishment of different services such as public utility districts (Chapter 261); rural fire departments (Chapter 478), electric cooperatives (Chapter 262), and special districts (Chapter 198) to name a few examples.

A Federally created, owned and operated GSEs examples:

- Amtrak
- the United States Postal Service
- the Corporation for Public Broadcasting

5.3. Disadvantages

A public benefit corporation would need legislative approval which would likely be very difficult to obtain in the upcoming 2009 State Legislative session. A public power initiative such as this would require colossal political will.

A second major disadvantage of a public benefit corporation established by the State Legislature would likely be the potential for onerous labor requirements prescribing certain

rates of pay for employees. For example, the Oregon State Legislature requires districts established under its ORS statutes pay prevailing rates of pay.

A third major disadvantage of a public benefit corporation is the likely inability to make quick decisions that are reflecting what is happening in the market. A public benefit corporation may have a very diffused power structure that does not provide for a sufficient concentration of power to be able to make decisions in a critical manner as is the case with a well-managed private sector business.

While a 501(c)(3) non profit entity may be relatively easily established after about a year, a 501(c)(3) organization is supposed to be focused on education, charitable, scientific, or religious rather than on producing goods. Non profits are allowed to produce goods for sale providing that the income produced is directly related towards its mission.

5.4. Roadmap

In addition to a public benefit corporation, similar entities are provided with broad authorities, for example, public utility districts, irrigation districts, rural electric cooperatives. Most likely, there would be a very strenuous political fight in the State Legislature. A significant amount of time, i.e. years, would be required to get the public benefit corporation chartered.

A public benefit corporation chartered under the umbrella of a 501(c)(3) could be easily established by a small group of individuals for less than $5,000. For example, Lane MicroBusiness was legally organized for less than $5,000.

5.5. Relevant types of bio-fuels and bio-energy activities

A public corporation might be most useful for serving rule-making or policy setting for the industry itself. For example, the Willamette BioFuels and Bio-Energy Research and Business Development Center would be a good candidate for a non-profit status as a 501(c)(3) status.[7] The Center would be seeking out grant or "program related investments" to help fund its educational and business development training operations.

Because of their relatively small-scale, a fast pyrolyzer unit or a small anaerobic digester would not really lend themselves to a public benefit corporation legal status. The capitalization costs for a pyrolyzer unit are likely less than $1 million dollars and those funds should be able to be raised in the private sector. Similarly, a bailing and harvesting equipment company could be developed as an LLC, co-op, S-Corporation, C Corporation, or other for-profit model.

The development of a pilot demonstration facility or pilot integrated biorefinery utilizing multiple feedstocks may lend itself to a public benefit corporation for a couple of different

[7] The Willamette Biofuels and BioEnergy Research and Business Development Center was created to encourage and foster entrepreneurs to start up renewable energy companies. It is located here: http://researchpark.uoregon.edu/html/tenants.html

reasons. Pilot demonstration projects are not designed to generate net profit, but rather to determine if a particular technology is feasible. Much of the funding will need to be R&D. Most venture capital firms stay away from R&D and focus more on the rapid roll out and scaling up of a proven commercial technology.

In addition, a very large integrated bio-refinery utilizing multiple feedstocks of agriculture and woody biomass would be a very capital-intensive project costing $50MM to $100 MM or even more. A public benefit corporation may have the necessary political capital to obtain access bonds, grants and loans that smaller private companies would not be able to obtain.

6. Conclusion

This report sought to provide a roadmap connecting the research elements of the broader Annual Ryegrass study to the execution of locally-owned renewable energy facilities. The Willamette Valley's communities have potential to develop scalable renewable biofuels and bioenergy projects which create and keep wealth in the Pacific Northwest.

Through outlining and describing the various models (LLC, co-op, co-op hybrid, GSE), hopefully local project developers have a better understanding of how to engage and involve the region's entrepreneurial human resources.

As venture capital and equity funds develop the majority of renewable project, generation of value risks being decupled from the multiple goals of renewable energy project development.

Absentee, investor-owned projects have many benefits. They will be rapidly and efficient deploying; bringing legitimizing, well-capitalized and politically connected firms into the landscape. Conversely, this has been our current trajectory for America's rural economy: that is farmers remain passive input providers, farms and communicates suffer a profitably crises of over-production leading to low prices and community out migration.

Cooperatively, and farmer-owned projects also have a host of benefits. Economically, locally owned projects provide deeper, lasting rural development. Co-ops, as a part of the local community, must consider multiple factors and are more accountability. Co-ops can't "cut and run" because they are more permanently connected to feedstocks and commodity streams. Conversely, these same benefits mean that they will be more risk-exposed and less flexible. Furthermore, as any team member can tell you that while a working in a group provides greater human assets and capital, any team risks the negative pitfalls of group dynamics.

Just this simplification of co-op versus investors, is not meant to confuse. Rather it has intended to highlight the variables to consider as we develop the foundation for our coming century's energy economy. The American economy in recent months has seen a credit crunch, an investment pull back and a boom and bust to many of these larger projects.

If there is a single "take home message" for this report, it that there are a variety of diverse options a business can take. It is important that any specific group seeking to develop a project

examine the specifics of a project moving forward. Then, they need to explore their legal and business options and, next, compare those with their individual aims and motivations. Then select the best fitting business model.

Like any complex issue, exploration risks obscuring more than illuminating. It is the explicit hopes of these authors that this paper can assist the reader to “think outside the box” for renewable energy project development, specifically the opportunities which Annual Ryegrass now present.

7. Appendix I - Matrix comparison of models

	Description	Advantages	Disadvantages	Implications: tax, security, legal, accounting	Roadmap	Industry examples
Limited Liability Company (LLC)	Combines tax flexibility of a partnership with the limited liability of a corporation. elects to be taxed as a partnership (i.e. to pass through of income to the owners to avoid taxation of profits at the corporate level and dividends at the shareholder level) or as a corporation.	1) Protection from personal liability for business debts 2) Perpetual existence, so the LLC continues even if an owner dies or leaves the business 3) Pass-thru taxation allows owners to report profit and loss individually	1) Shareholders may disagree about the direction of the company 2) May make erratic decisions since power may be concentrated in the hands of a few shareholders, CEO, or board members	LLC owners can elect to the IRS to tax the LLC as a sole proprietorship, partnership, C Corporation, or S Corporation. Owners make this election through the IRS after the company forms with the state.	formed by submitting articles of incorporation to the Oregon Corporate Division.	Seattle Biodiesel, LLC: subsidiary of Imperium Renewables, Inc. Pacific Ethanol launched projects as LLCs, e.g. Kinergy Marketing, LLC
Public Benefit Corporation	One definition of a public benefit corporation is a corporation chartered by a state designed to perform public service. Oregon more narrowly defines a public benefit corporation as a non-profit entity.	Would operate in the open and be transparent to the public. A public corporation would carry more credibility than a private entity that may not wish to disclose its proposed activities.	Need complicated legislative approval; difficult to obtain in 2009 State Legislative session. A non-profit takes about 1 ½ years to receive IRS 501(c)(3) designation	A public corporation would not be subject to taxation itself although it would be subject to typical employment and workers compensation costs	Chartered by the OR St. Legislature. A non-profit requires registration with the OR Dept of Justice and IRS.	Oregon examples: SAIF, EWEB, SUB Federal examples: US Postal Service, Center for Public Broadcasting and Amtrak
Hybrid Co-op/LLC	Registers in state which allow hybrid co-ops (i.e.MN, WI, WY or IA); producers must produce commodity for plant and purchase 1 membership share. Investors purchase a share and invest by purchasing additional shares. Still only 1 vote per member regardless of amount of stock	Net revenues are distributed locally, instead of equity capital leaving region (e.g. angel investors); declare subchapter K (partnership) or T (cooperative) when filing; single taxation	Bylaws must state if outside investors can serve as voting directors and who can become an investor-member; more cumbersome tax reporting	Report taxes in 2 states, only pay in 1; accounting records kept on producer- and investor-members	Register as a foreign/alien entity; file Articles of incorporation; producer-members determine costs of starting; raise equity and sell stock to investors; consider all other start-up issues	More applicable to capital intensive biofuel or bioenergy business
Producer Co-op	Aggregation of ag producers; exists primarily to service the member/owners	Control kept with those who utilize it; profits are returned to members in proportion of use; single taxation	Restricting access to capital; democratic decision-making can be slower; costs for member communication	Subchapter T is default Fed taxation for farmer co-ops	Group of potential members explore business concept/plan; co-ops incorporate under Chapter 62 of the ORS	

8. Appendix II – References

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9. Appendix II – Qualifications

About the Authors

Maura Schwartz has been a Domestic and International Co-op Development Specialist since 1990. Maura serves on the NWCDC Board; and several local Boards in Jefferson County, OR. She's assisted entrepreneurs determine the feasibility of starting-up, or improving over 20 co-op businesses, ranging from agricultural to artisan. Maura was the Managing Director of the Minnesota Association of Co-ops and helped usher in the hybrid co-op/LLC law. Maura managed cooperative and association development projects in Eastern Europe and continues to consult on international development projects. Maura designs and conducts a variety of training programs in leadership, business development, board operations, and entrepreneurship. Maura holds a MS in International Agricultural Development from UC - Davis.

Eric Bowman has been a Cooperative Development Specialist for the Northwest Cooperative Development Center since 2003. His work with the Center has primarily focused on co-op owned renewable energy/biofuels and cooperatively marketing value-added agriculture. He has managed workshop series, authored feasibility studies and provided technical assistance to Boards starting up co-ops. In addition, he volunteers as the Board Secretary with the Tulip Credit Union. Eric earned a BA from the Evergreen State College with a focus in nonprofit administration and economics. His background includes owning a small business and agriculture education and animal husbandry for an agro-tourism operation.

Martin Desmond has been working for the 501(c)(3) non-profit Entrepreneurial Development Services, dba Lane MicroBusiness, for four years teaching business development classes for individuals wanting to start businesses. He previously worked as the business manager for Skookum, a forestry contracting business, for seven years. He has a B.A., English, UC San Diego, and an M.A. Accounting, University of Oregon. His contact information is desmondm@lanecc.edu and 541-463-4616 or www.edev.org.

10. Appendix IV - Case Study; Agricultural Co-op, Pendleton Grain Growers Inc.

Pendleton Grain Growers (PGG) is a dynamic cooperatively owned company with 2,410 stockholders, 205 employees and a net worth of over $17.5 million. PGG offers grain, agronomy, retail, petroleum and irrigation services to its member-owners. The co-op's Grain Division, provides marketing, storage, and transportation of grain and other commodities. While their agronomy services offer state-of-the-art application equipment and trained operators who apply fertilizers and herbicides.

PGG's beginnings were humble and rooted in the economic realities of 1929. As the "Roaring Twenties" imploded, the speculators ran and commodity prices took a dive. Wheat prices had steadily slid to $1.20 a bushel in Portland.

> *The existing grain marketing structure was unstable. Some trade practices were questionable, and the farmer was at the mercy of the trade.*
> [PGG formed] *to protect the farmer against these* [daily price speculation] *surges and also raise the price of wheat.*
> - James Hill, Jr. in *PGG: The Growth of a Cooperative* (president and manager 1934-70)

In response to rapidly decreasing commodity prices, economic volatility and hardship, and the Agricultural Marketing Act of 1929, the Federal Farm Board introduced a system designed to empower farmers to own their own businesses and marketing facilities. A hierarchy of co-ops was created: The Farmers National Grain Corporation worked with the North Pacific Grain Growers (NPGG) as its regional arm and purchasing agent. The NPGG purchased wheat in turn from a network of 30 Oregon co-ops.

In December, 1929, 100 Umatilla County wheat farmers crowded into the Pendleton Chamber of Commerce office to talk about a new hope for wheat growers and Pendleton Grain Growers Inc. co-op was conceived.

New members committed 500,000 bushels of wheat for initial production and then purchased stock in PGG at $30 a share, with each share allowing for 1,000 bushels. Farmers put 10% of their stock purchase down in cash and signed a note for the balance. PGG used this money and notes to buy stock in NPGG. The new cooperative

incorporated in early 1930 with 71 members, who put up $2,248 in cash and another $20,416 pledged.

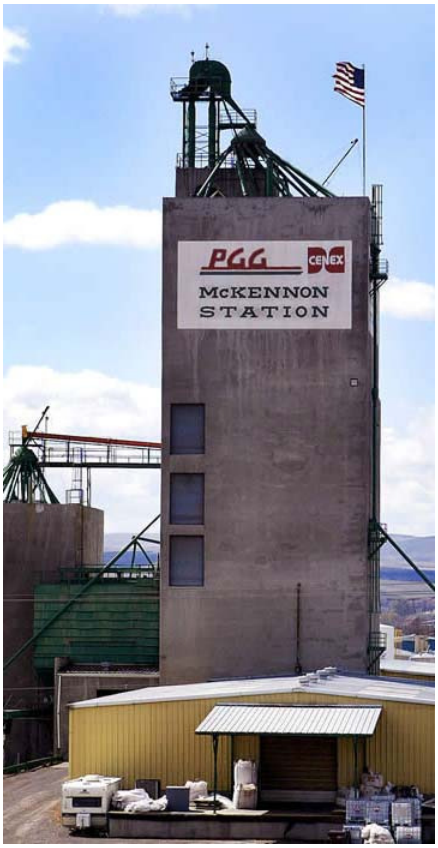
The farmers who made up PGG's board of directors during the early years may not have seen themselves as visionaries, but hindsight shows they were. The minutes of the board meetings show repeated comments about:

- bulk handling of grain
- developing a way to transport grain via the Columbia River
- bulk grain storage facilities
- possibilities offered by a feed mill

> *The obvious trend was to bulk facilities. ... As rapidly as our financial status would allow, we bought, built and acquired facilities with which to handle our growers' crops.*
> - PGG's 20th annual report

PGG put this vision into practice by:

- buying and selling grain
- acting as an agent for grain stabilization
- advances for farmers from federal funds
- making loans for seed and sacks
- providing a dependable, low-cost source of supplies



Through the 30's and 40's PGG engaged in acquisitions, new ventures, and mergers. Just to name a few:

- Acquired Helix Grain Growers Inc., another local co-op
- Merged with Athena Grain Growers
- Leased a warehouse and organized Pacific Supply Cooperative with other co-ops to pool petroleum purchases and lower prices
- Built its first grain elevator, 220,000-bushel bulk facility
- Purchase the International Harvester machinery franchise right as farmers sought to switch from horses and mules to diesel tractors

This is not to say it has been an entirely smooth ride. The 1980's are renowned in agriculture as a tough period due to high interest rates, competitive supply markets, and inflation of cost. In the last half century the co-op has weathered storms ranging from:

- drought and dry weather cycles
- elimination of governmental price supports
- declining profitability of entire agriculture economy
- decreasing oversea sales
- failed business ventures

> *In 1999 we did not know if the company was going to make it. All we had to rely on was each other. We started by creating a vision, values and mission statement, and we started to make big changes.*
> - Al Gosiak, CEO in an interview with Or*egon Business*

Innovation continues today. For example, in 1994 PGG and Harvest States formed a LLC to operate the PGG/HSC Feed Company. PGG recently acquired Scott Irrigation Company to better serve members' wide variance of climate and cropping.

PGG has continued to look to the future for its farmer-owner-members. For example, it recently was awarded a $300,000 grant to purchase a biodiesel processor pictured below. PGG will continue to serve its members thru its mission of being a "progressive, diversified company dedicated to providing superior service and quality products at a competitive price."

These units [left] crush canola which can be used to produce biodiesel in PGG's processor [right].

11. Appendix V - Case Study; LLC, White Creek Wind I, LLC

Many wind energy projects across the United States are organized as LLCs to take advantage of the federal tax pass-through attributes provided to LLCs. More particularly, an LLC's ability to pass –through the Production Tax Credits to its Members facilitates a structure where more than one investor in the wind energy project can utilize the Federal Production Tax Credits.

For example, the White Creek Wind is a 205 MW wind energy project in Klickitat County, WA about 4 miles northwest of Roosevelt, WA. The purpose is to provide renewable electricity to others in the region and the four public utilities that purchase power from this wind project:

- Lakeview Light & Power
- Tanner Electric Cooperative
- Public Utility District No. 1 of Klickitat County, WA
- Public Utility District No. 1 of Cowlitz County, WA

At completion of construction, affiliates of Prudential Capital Group and Lehman Brothers became owners of the LLC that owns the wind energy project (White Creek Wind I, LLC). Each investor's equity contributions into the LLC entitles them to receive allocations of the Federal Production Tax Credits as qualifying renewable energy is produced and sold from the project. HSH Nordbank AG, New York Branch provided construction financing for the Project. The four sponsoring utilities have long-term power purchase agreements with White Creek Wind I and hold an option to repurchase the Project after ten years.

The combination of Bonneville Power Administration allocation and Washington and Oregon's renewable portfolio standards (RPS) mean many public utilities look to wind as a new supply. This puts increased pressure on publicly owned utilities to search for quality renewable wind projects which can be economically developed. Unfortunately, the region's Public Power is already behind. The quality wind sites are being tied up, the initial RPS deadlines are quickly approaching and the costs and prices of everything (land, right, turbines, etc.) are going up.

None of these project initiators were enormous:
Cowlitz PUD:
Serving 47,000 customers in Cowlitz County, WA. Owns 70 MW project on the Lewis River.
Klickitat PUD:
Serves 11,000 electricity customers in Klickitat County, WA. KPUD also owns a 50% interest in a 10 MW hydro plant and a 10 MW landfill generation project.
Lakeview Light & Power:
Co-op serving 9,200 consumers, mostly in the City of Lakewood, WA.
Tanner Electric Cooperative:
Co-op serving 4,200 consumers in Pierce, Thurston and King Counties, WA

Sources:
www.harvestcleanenergy.org/conference/HCE8/Presentations/Skeahan.pdf
www.whitecreekwind.com/projectoverview.htm