August 25, 2014

energy Nrg CROPS CO-OP

GROWING ENERGY TOGETHER

• Production • Marketing • Research • Education • Profits •

THE CONCEPT, THE PLAN

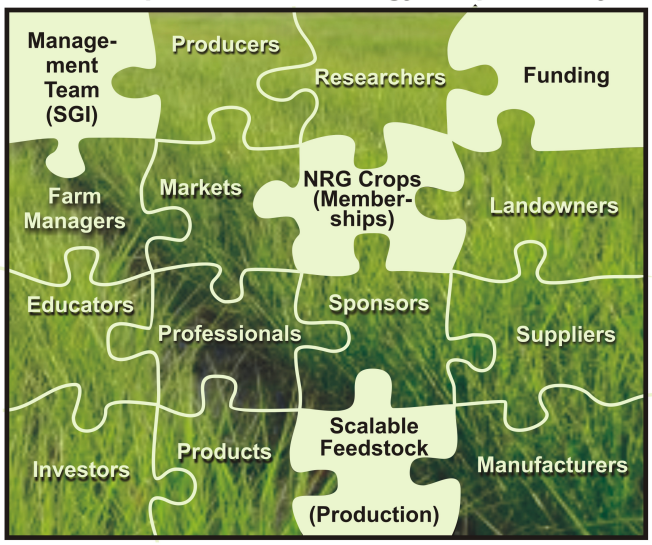
This plan focuses on the following primary initiatives: 1) The formation and operation of a farm cooperative called, *Pennsylvania NRG Crops Co-operative*, 2) the establishment of 1,000 acres of energy crops (energy grass) to jump-start the energy crop industry in Pennsylvania to more than 100,000 acres within seven years, and 3) conducting related research and educational initiatives.

What is a cooperative? A cooperative is an organization owned by and operated for the benefit of those using its services. Profits and earnings generated by the cooperative are distributed among the members. An elected board of directors and officers run the cooperative, while regular members have voting power to control the direction of the cooperative. To become part of a cooperative, members purchase shares.

BENEFITS OF A FARM COOPERATIVE

- Assures Sources of Supply
- Better Funding Opportunities
- Collaboration of Industry Segments
- Cost Savings on Purchases
- Democratic Control—Owned by Members
- Expands Domestic, International Markets
- Improved Quality of Products
- Increased Cooperative Income/Dividends
- Increased Farm Income and Less Taxation
- Membership Benefits
- New Products to Market
- Promotes Competition – Lowers Costs
- Promotes Family Farms
- Scalability to Larger Production
- Low Risk and Unified Effort

Development of the Energy Crop Industry



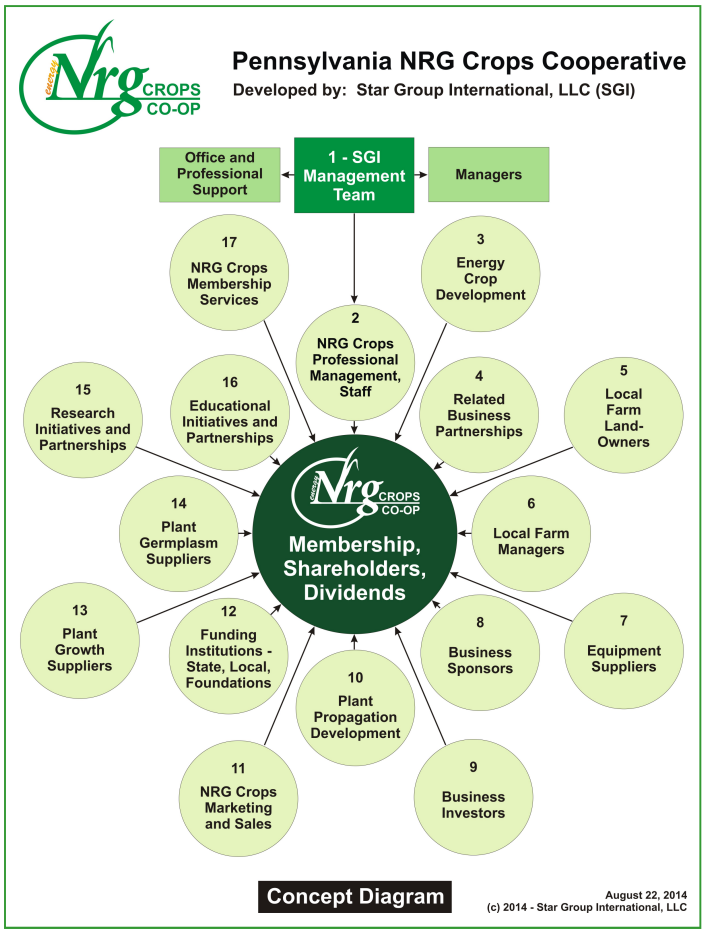
Missing Pieces

GOALS AND OBJECTIVES

- Establish the Pennsylvania NRG Crops Cooperative as Pennsylvania's leader in energy crop production, marketing, and business development.
- Complete the organizational and operational aspects of NRG Crops within one year and implement the business, marketing, production, research, and educational plans of NRG Crops.
- Establish a plantation (approximately 1,000 acres) of select energy grasses in Pennsylvania within one year. Future goals: 10,000 acres within three years, and 100,000 acres within seven years.
- Conduct new research on the applied practices for energy grass production.
- Conduct focused educational programs on energy grass production, marketing, and business through seminars, symposiums, field days, and conferences as well as career preparation programs.

GOALS AND OBJECTIVES, continued

- Prove that energy crops can become a ***viable source of biomass*** feedstock to sustain and provide a profitable business in Pennsylvania.
- To demonstrate that landowners can utilize their ***marginal quality land*** for a profitable crop.
- To learn how to ***apply the vast technology*** and information made available for the development and production of energy crops in Pennsylvania.
- To ***collaborate*** with biomass organizations, universities, and private sector companies to promote NRG Crop Cooperative's initiatives.
- To ***identify and research marketable types and species*** of energy crops that maximizes production and quality for potential markets.
- ***Document*** (by clinical research) ***the effects*** of energy crop production ***on the environment*** (e.g., soil, air, water, and our agricultural culture), ***the effects*** of growing energy crops ***as an alternative energy source***, and the ***economic impact*** on the economy, work force, job creation, and related business growth potential.
- To identify potential ***new products and manufacturing strategies*** for use of energy crop feedstocks.
- ***Attract investors*** in participating in NRG Crops Cooperative's business operations.



Pennsylvania NRG Crops Cooperative BUSINESS PLAN

1—Star Group International (SGI) Management Team. The mission of Star Group International (SGI) is to provide domestic and international management, operational, and resource development services for agricultural and humanitarian projects as it relates to agricultural education and enterprises, economic development, historical property preservation, and missions.

The principals at Star Group International represent many years of business experience in concept development and carry through - from the seed of an idea, to project evaluation and feasibility studies, to business plan development, to funding acquisition, and to operations.

SGI is responsible for the development of the NRG Crops Cooperative organization, business plan, and the establishment of 1,000 acres of energy crops initially to be developed. SGI will provide the professional management team, office facilities, IT services, and communication services. In addition, SGI will provide, through leasehold agreements, approximately 1,000 acres of Pennsylvania farmland for the purpose of establishing the primary energy grasses to be marketed as a biomass product.

2—NRG Crops Professional Management and Staff. After the initial funding is provided to SGI, and the NRG Crops Cooperative is legally established (including all operational documents), a search for qualified management personnel will be initiated. Positions to be filled in the first year include the Executive Director and directors of marketing, farm production, production technology, research and development, education, and member services.

3—Energy Crop Development. Although potential biomass feedstock can come from many sources, the emphasis under this initiative will be to establish primary energy grasses such as miscanthus, switch grass, and arundo donax. Ultimately, all sources of biomass will be made part of the long-term plan for the NRG Crops Cooperative program. The results of our research and development program will further define the most profitable and viable of energy crops to be included in the NRG Crops Cooperative program.

4—Related Business Partnerships. It is clear that the potential for commercial energy crop production and manufacturing can now become a major agricultural industry in Pennsylvania. The technology exists, and numerous businesses have been established to test this concept and to create a new agricultural opportunity for farmland owners, farm managers, suppliers, manufacturers, and investors.

5—Local Farm Landowners. Pennsylvania has been blessed with thousands of acres of prime agricultural land; however, the acres of land considered to be marginal fertility far exceed the prime land group in number of acres. One of the exciting aspects of this new energy crop industry is that these crops can grow on marginal land with little or no adverse impact on the soil or environment. Farmers

and landowners, in general, are searching for a better, more profitable use of their marginal land. When this energy crop industry is well established and proper business leadership techniques are applied, these Pennsylvania landowners will have a new opportunity to utilize their property for better business returns. In addition, unique land areas (e.g., strip mine and landfills) can also be utilized for energy crops.

6—Local Farm Managers. People who love agriculture love to see plants grow and desire to be part of the farm culture that makes it happen. The potential for employment of local farm managers is significant as we implement the initial 1,000-acre plantation of energy crops. Those employed to manage this and future plantations will come from active farm operations as well as part-time farmers. It is expected, during the first year and through the NRG Crops Cooperative and energy crop plantation, that more than 40 new jobs will be created. As this program grows to include more land in production, research, educational programs, and related businesses, this number could exceed in excess of 100 new jobs (full- and part-time) within three (3) years. If this new and budding industry grows over the next five (5) years, as anticipated, it could create more than 1,000 direct and indirect new jobs.

7—Equipment Suppliers. The equipment needed to establish energy crop plantations will be provided by local farmers who invest in NRG Crops Cooperative, or through fair custom rental rates. It is also anticipated that, over time, NRG Crops Cooperative will be purchasing some of its own equipment needed to establish energy crop plantations. Some corporations already in energy crop production have offered to assist NRG Crops Cooperative in establishing its initial plantations by offering the use of their equipment (through donation or by custom rental rates).

8—Business Sponsors. The potential for business sponsors and advertising contracts with NRG Crops Cooperative is considerable. Related businesses have indicated an interest in becoming a sponsor of NRG Crops Cooperative through both small and large aspects of the business. Most of the needed sponsorships will be advertised through the NRG Crops Cooperative website, literature, and social network systems.

9—Business Investors. After the NRG Crops Cooperative has been legally organized and approximately 1,000 acres of energy crops have been established, investors will be ready to put money into the project. Investors can invest by becoming a shareholder, lender, and/or the source of a donation or grant. These investors will see considerable potential income over and above any services they may, individually, provide to NRG Crops Cooperative.

10—Plant Propagation Development. Pennsylvania has one of the country's largest sources of germplasm seeds; however, not all energy grasses reproduce by seed. Miscanthus reproduces by root rhizomes. However, recent studies at Penn State-Harrisburg's Biotech Center have proven that miscanthus can be reproduced by tissue culture procedures. Penn State-Harrisburg is also studying genetic mapping needed to improve grass species yields for our area. Since there will be a tremendous need for plant material in all forms, there is need for NRG Crops Cooperative to develop its own plant propagation systems in cooperation with existing businesses and institutions.

11—NRG Crops Cooperative Marketing and Sales. The key to the long-term success of NRG Crops Cooperative and its related parties is to find and establish a comprehensive market for the various energy crops produced by and through NRG Crops Cooperative. Although the emphasis of this initial plan is on energy grasses, the market includes all aspects of wood biomass products. The typical market will be the 12 pellet manufacturing plants in Pennsylvania; however, there are numerous other potential markets for energy crops, both domestically and internationally. Through good management, sizable production and yields, research, and education, the vast market potential of energy crops can be realized.

12—Funding Institutions—State, Local, Foundations. After NRG Crops Cooperative is in operation and the first 1,000-acre plantation is growing, we believe that NRG Crops Cooperative will be eligible for grants related to alternative energy from other federal, state, and business foundations. We plan to leverage the initial success of NRG Crops Cooperative to secure other funding sources so that the second and third-year energy crop production will be doubled and tripled.

13—Plant Growth Suppliers. The typical plant growth suppliers include companies that will provide fertilizer, growth chemicals, insecticides, herbicides, and other supplies needed to grow energy crops.

14—Plant Germplasm Suppliers. The largest source of energy grass seeds in Pennsylvania is Ernst Seeds. One of the largest sources of miscanthus root rhizomes and arundo donax seeds is New Energy Farms. NRG Crops Cooperative will continue its research to identify all sources of plant germplasm to be used in its field production; however, the preference will be for Pennsylvania companies. Kunj Biotech has agreed to produce large quantities of miscanthus plants through tissue cultures.

15—Research Initiatives and Partnerships. The idea and concept of providing alternative energy in the United States has been a major initiative for the past 10 years. Research completed by universities and private sector companies has resulted in a wealth of information about the technical aspects of growing various energy crops. The technology, for the most part, is in place; however, the application of this technology to potential farmers, businesses, and manufacturers has not yet been fully developed. The issue is how to establish the scalable transition from small test plots and operations to the vast new Pennsylvania energy crop industry. The missing link is NRG Crops Cooperative. To accomplish this, there needs to be additional applied research at the farm production level as well as bringing together the market, the research, the education, and the funds needed to establish the enterprise.

16—Educational Initiatives and Partnerships. A critical part of this new industry must be the educational component, both at the technology level and at the applied practice level. Penn State University, as well as other institutions and private sector companies, are now offering courses to start filling this need. To accelerate this educational requirement, SGI/NRG Crops will be contracting with the Institute of Applied Agriculture to collaborate with other resources and institutions and publish *Energy Crop Management Guides*, and to conduct seminars, symposiums, and conferences to raise awareness and build confidence in the viability and profitability of this new industry.

17—NRG Crops Membership Services. The heart of any cooperative is its membership. Membership consists of farmers, managers, suppliers, researchers, as well as many other professionals working to make NRG Crops Cooperative successful. Membership has certain benefits and requires appropriate services to the members including shareholder information, business projections, and dividends.

ESTIMATED PRODUCTION

The average yield used in this business model is from six (6) to 18 tons of dry matter per acre, depending on the crop and the trial plot variables. A good estimate would be an average of 10 tons of dry matter per acre, per year, beginning the second year following the establishment year. The estimated price for dry matter sold at the farm is between $65 and $125 per ton, depending on the market and quality of the dry matter.

- Average cost to establish a 15-year energy grass crop: $550 to $700/acre, depending on the species.
- Average cost to produce a one-year energy grass crop: $20/ton, per year.
- Average cost to market a one-year energy grass crop: $10/ton, per year.

Projected gross profit per year (before taxes, management, trucking, marketing, farm overhead): $45/ton.

MARKET POTENTIAL

The need for this segment of the biomass industry to be put on a large commercial scale is well documented and has been discussed throughout the United States as having the potential of meeting the 25% energy reduction requirement from the fossil fuel footprint by 2025.

We believe that Pennsylvania could become one of the nation's leading producers of energy grass and the fulfillment of energy pellets for home and commercial bulk consumption. Star Group International, LLC has been informed that there are numerous investors waiting to see this budding industry establish itself as a viable investment. These investors are interested in funding new, large-scale pellet plants, medium-sized mobile plants, and homeowner units.

In addition to the emphasis on energy pellets, there are many other potential products that can be used by consumers. Following are primary uses of biomass products:

- Bioethanol fuel
- Biodiesel fuel
- Biomethane
- Biogas cogeneration
- Automobile industry
- Packaging products
- Energy pellets – heat, electricity
- Animal feed
- Animal bedding
- Mushroom compost
- Plastics
- Bioproducts

Benefits of Growing Energy Crops:

- Can be grown on marginal soil qualities.
- Better soil erosion control – runoff, stability, and the Chesapeake Bay.
- Perennial grasses (established) grow 10 to 20 years.
- Minimum tillage required.
- Little or no fertilizer required.
- Little or no pesticides required.
- Little/no weed control required (establishment year only).
- Grows well in wet to dry soils.
- Low soil compaction.
- Adapts well to soil conservation plan.
- Reduces local temperatures.
- Increases groundwater storage.
- Reduces escape of nitrogen into the environment.
- Promotes wildlife habitat.
- Reduces air pollution through carbon neutrality.

CONTACT INFORMATION

Additional information is available, via email, upon request.

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