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EE Connections
What do we do?

- **We transfer renewable energy technology between Europe and the US**

a. We find highly advanced renewable energy companies in Europe

b. We find manufacturers and/or distributers in the US that are looking for new product technology to be manufactured here in the US.

c. We create data bases in both countries

d. We match appropriate technologies to like kind businesses to provide distribution and/or future manufacturing

e. We create foundation documents for the development of a working agreement to create a draft Letter of Intent

f. We work with each company to develop legal contracts for licensing agreements and ongoing royalties or contract sale of the technology

g. We monitor the product sales and customer satisfaction for the technology sales company and assure the selling company receives its royalties

Why do we do this?

We believe the future is in New and Evolving Bioenergy technologies and Systems

- We believe in US Manufacturing
- We believe in the US distribution infrastructure
- We believe it is very important the products are built in the USA
  a. our measurement systems are different
  b. our testing standards and requirements are different
- We believe in the development of rural communities
- We believe that rural communities have the ability to develop this new industry
- *We know that the boimass resources can't be shipped off shore to be manufactured and be cost effective*
- *We know that every year we import over $10 billion of energy into Minnesota*
- *We know that too often than not our dollars are going to hostile dictators in the Middle East or South America*
- *We know we have the resources here at home*
- ***We know that if we in SW MN are going to be at the table and lead again, we will have to educate our rural communities***

What is a Bioenergy Fuels?

Stored Solar Energy

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Bioenergy raw material is plant material, such as…

Corn Stalks or Cobs

Sunflower Hulls

Wood-waste

Soybean Stover

How can Rural Communities Benefit from Ag and Woody resources?

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- **Baled Soybean straw (Harvested every other year)**

Renville County

Additional Revenue For Farmers

Soybean Straw - low levels of nutrients

- **- removes only $2.73 of P@$510 and K @$490/ton per-acre valve**
- **No additional input costs**
- **300,000 tons annually within 30 mile radius**
- **One ton of Straw = 176 gallons of LP gas**
- **Equals 52,800,000 gal. of LP gas annually**

Salix (Highbred Willow)

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Ag School uses several forms of Energy

Pellet Fuel Boiler

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Small Hydro Power

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Direct drive Wind Turbine Sweden

New technology is here

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”Stirling-Motor/Boiler”

1 kW electricity
30,000 BTU heat

Automated Swedish boiler

1.2 Million BTU with fuel bins

Household Waste

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Odorless and Transportable

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Bio-Gas Fuel Station

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Car fueling hose

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Bio-Gas Ford Focus

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City Waste Treatment

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Bio-gas filtering

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Compressed Bio-Gas

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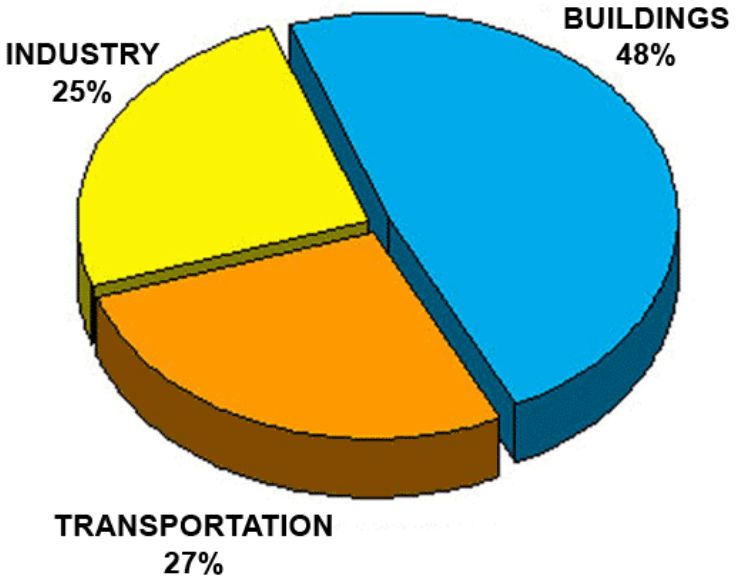
US Renewable Energy Sectors

- Transportation
  - Ethanol & Bio-diesel
- Industrial
  - Wind & Geo-thermal
- Residential & Commercial (thermal heat & AC)
  – Primary sector that can use biomass energy



US ENERGY CONSUMPTION

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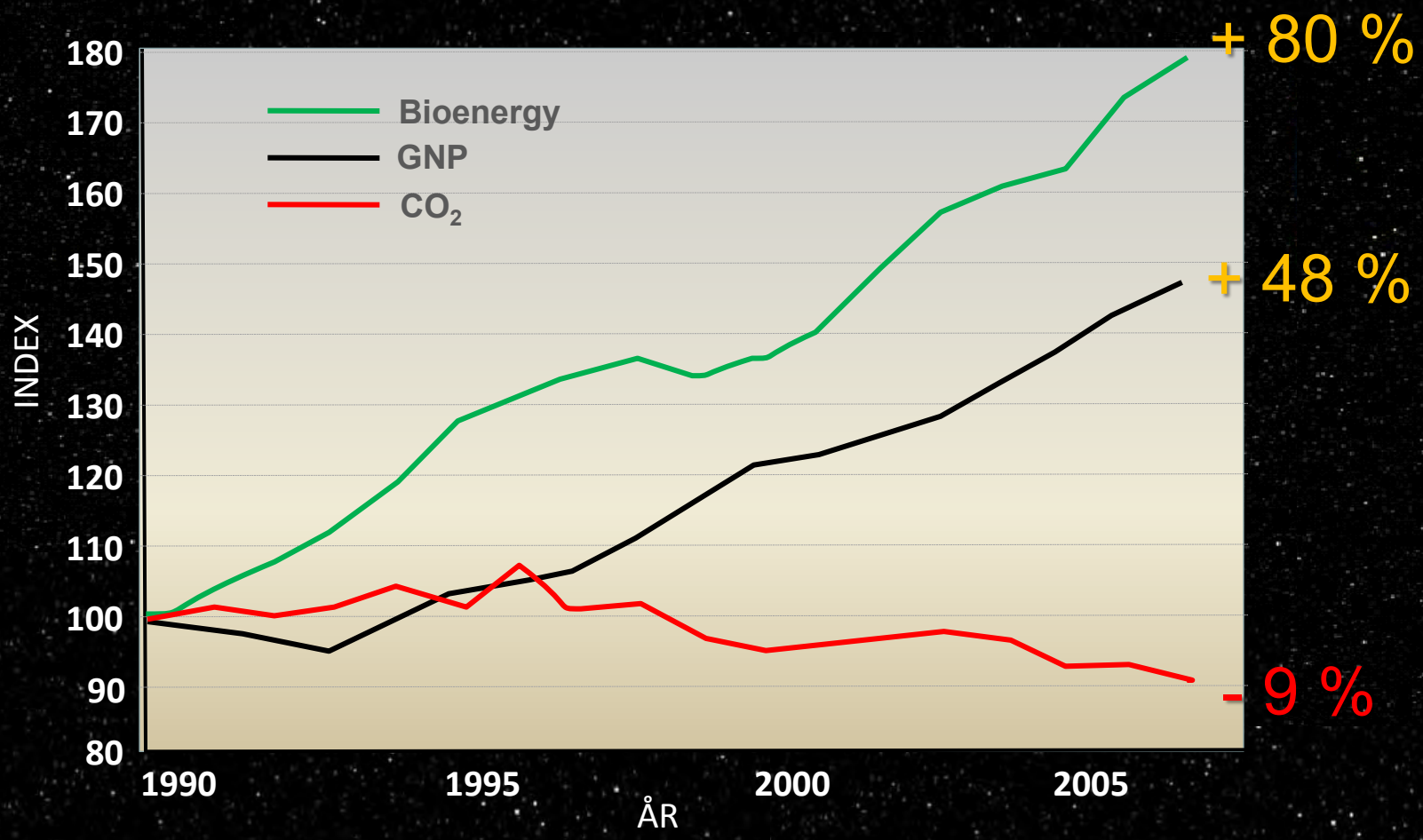
Swedish GNP increase when CO_2 emission go down



Marketing Strategy for Southwest Minnesota?

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The towns without Natural gas and with larger buildings will be the target communities

The communities without Natural gas and without larger buildings

Large Farms without Natural gas and with large buildings

Rural Manufacturers without Natural gas and with large buildings

livestock Industry; Turkeys and Hogs

Rural Energy Concepts

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Developing the community road map to <u>Rural Energy Planning Strategies</u>

1 Find an appropriate means of Funding for community planning: Public/ Private and highbred

2 Our Logic Model starts with energy conservation, moves forward with the implementation of new technologies, and expands to community study of alternative fuel sources, ends with the whole community being involved and true ownership in this energy master plan.

3 Rural Energy Concepts promotes private investment in the underlying levels of thought and process with the goal of community acceptance and investment as the projects become operational.

4 Communities are guided through the available technologies without market place pressures and benefit from competitive pricing because developers, manufacturers, distributors and installers of renewable energy systems are solicited during the design and construction stages.

Communities are guided through the available technologies

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- 1. **Project Feasibility and Community Planning**
  - Research and find communities without Natural Gas supply
  - Research renewable energy fuel supply
- **2. Provide Community with five step Logic model**
  - Map the community's Assets
  - Build community relationships
  - Mobilize for Economic Development and information sharing
  - Convene the Community to develop the information in the logic model
  - Leverage outside resources to support local driven project development
- **3. Invite the regulators to the table**
  - Develop project model together
  - Evaluation of potential zoning issues
  - Address environmental concerns agencies or citizens have before moving on
- **4. Economic audit**
  - Community benefits analysis
  - Carbon credit analysis (or what ever insensitive shakes out of the Federal Energy Bill)
  - Research all possible methods

Communities are guided through the available technologies

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- **5. Funding Strategies**
  - Always evaluate all possibilities of hybrids
  - Aggressive implementation

- **6. Implementation of community approved Technology**
  - Decide on Construction Management or General Contractor
  - Design team to have strong community participation
  - Finalize Budget
  - Lock in final funding sources

- **7.Construction of Clean-technology plant or plants**
  - Training staff
  - Monitor system
  - Evaluate performance
  - Recalibrate plant or plants for peak efficiency

Potential funding

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- USDA
- DEED
- AURI
- McKnight Foundations
- Blandin Foundations
- Regional Development Commissions
- Highbred of combinations of all kinds Public and Private funds

So what am I looking for?

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Help from this board to:

- 1 Tell me if you think. I'm on the right track
- 2 Give us input as to what you see in your communities culture and readiness for change
- 3 Support the concept with the funders that can make this happen in SW. Minnesota
- 4 Identify appropriate communities that we should be talking to
- 5 Tell your colleagues what you have learned here today
- 6 if you like what you hear, consider this concept as a project for this group.

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