

# San Luis Valley

**S** - Sustainable

**E** - Environmental and

**E** - Economic

**D** - Development

Park or **SEED** Park

**A presentation by**

**Global Scientific, Inc. and**

**Global Scientific of Colorado**

**Nick C. Parker, PhD**

# San Luis Valley SEED Park

## San Luis Valley Resources needed for SEED Park

- Land
- Water
- Air
- Energy
- Sunlight
- Human
- Capital

# **Land Resources**

- **5,000 to 10,000 acres**
- **50-yr growth**
- **Neighbor friendly**
- **Water recharge & stream discharge**
- **Suitable for wetland & wildlife**
- **Accessible utilities**
- **Prominent highway location**

# **Water Resources**

- **Geothermal**
- **Surface water**
- **Nutrient-rich water**

# Air Resources

- **Unpolluted**

- **Source of:**

**Oxygen**

**Nitrogen**

# **Energy Resources**

- **Geothermal**
- **Solar**
- **Biomass**
- **Wastewater**
- **Compost**
- **Ambient low temperature**

# **Sunlight Resources**

- **Solar heat**
- **Photo voltaics**
- **Plant production**

# Human Resources

- College
- Retirees
- Students
- Unemployed
- Farmers
- Businesses
- Government
- Community corrections
- Global Scientific



# **Capital Resources - 1**

## **Permanent investment**

- **enterprise zone credits**
- **conservation easements**

# **Capital Resources – 2**

## **Grants:**

- **Water Conservation**
- **Wildlife Conservation**
- **Energy Conservation**
- **Renewable Energy**
- **Rural Development**
- **Environmental**
- **Community Social Capital**

# **Capital Resources – 3**

## **Operational Capital**

- **Private business**
- **Lease Agreements**
- **Product Sales**
- **Service Fees**

# **A New Energy Policy**

by

**Sen. Ken Salazar and Timothy E. Wirth**

**published in Denver Post, 7 Jan. 2006**

**calls for:**

- **renewable energy**
- **energy conservation**
- **technology development**
- **job creation**
- **economic expansion**

“ new clean energy technologies present the same kind of transformative opportunity in the 21<sup>st</sup> century as the digital revolution provided in the second half of the 20<sup>th</sup>....”

**Sen. Ken Salazar and Timothy Wirth, Jan. 2006**



**First Quarter – 2006**

**49% of business leaders in Colorado identified energy costs as their top concern – second only to health care costs**

# **Wood chips – for heat –**

**\$31,000 worth of wood chips replaced heat provided by \$400,000 in electrical costs**

**Annual Operation Savings of**

$$\mathbf{\$400,000 - \$31,000 = \$369,000}$$

**Mount Wachusett Community College, MA**

**Global consumption of food**



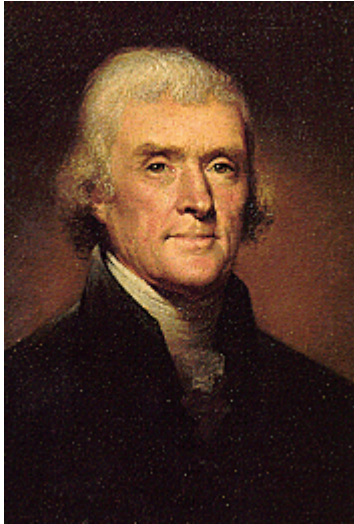
**380g/person/day**

**Global consumption of wood**



**1,800g/person/day**





**"The greatest service which can be rendered any country is to add a useful plant to its [agri]culture."**

**Thomas Jefferson**

**Bamboo & Giant Reed**

# Climate Change

**Growth of bamboo adds carbon to soil and into harvested plants –**

**CO<sub>2</sub> neutral or CO<sub>2</sub> reduction**

**Coal is**

**CO<sub>2</sub>**

**positive**

# **Bamboo Biomass**

## **Climatic Change or Global Warming**

**Enormous amounts of carbon dioxide were "saved up" long ago and stored in oil and coal. When burned, the CO<sub>2</sub> and CO are released into the air. These gases are not reabsorbed by other plants; hence, we have a build up of these gases until they are plentiful enough to cause climatic change.**

# Bamboo Ad from Target

Introducing eco-friendly bamboo basics

**Yes, that's right. Bamboo.**

When bamboo is made into fabric, it's naturally eco-friendly, antibacterial, durable and luxuriously soft. Bamboo. Who knew?

Yes, that's right. Bamboo.

When bamboo is made into fabric, it's naturally eco-friendly, antibacterial, durable and luxuriously soft.

Bamboo, Who knew?

**Sale, each full sheet set**  
**300 thread count bamboo/cotton sheet set** in full, queen and king sizes. Assorted colors.  
• All other sheet sizes and colors, and pillowcase pairs also on sale.

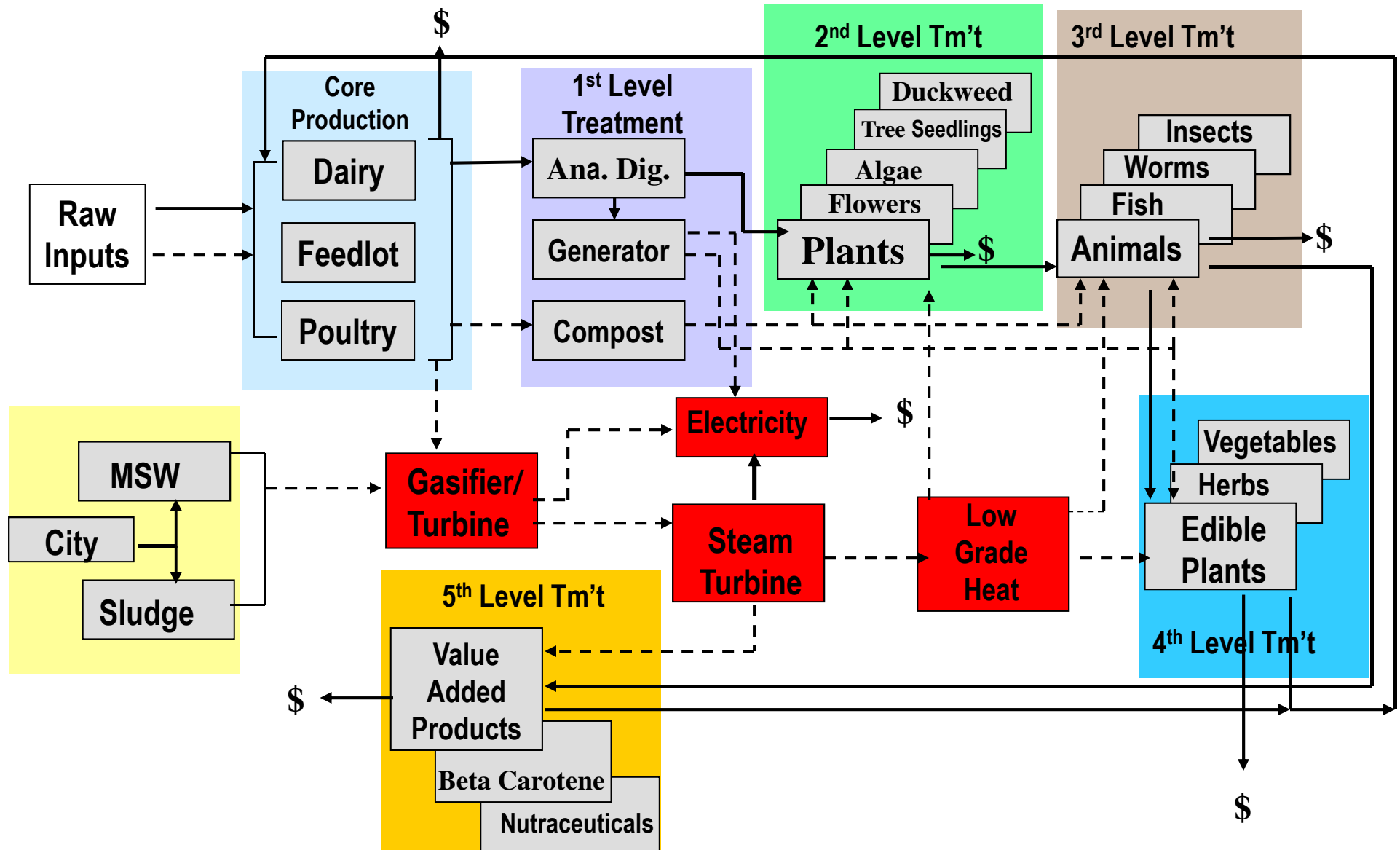
**\$8**

**Sale, 30x58" bath towel, each**

**Bamboo bath towel** in 5 colors. Extra-absorbent 50% bamboo, 50% cotton.  
• Hand towel, sale \$7  
• Washcloth, sale \$6  
Coordinating bamboo bath rugs also on sale.

Liquid containing water,  
nitrogen, and carbon  
Energy, gas or carbon

# Modular Production System Components



# **No Pie-in-the-Sky Projects**

**Real projects**

**Simple Projects**

**Theop Inslee – Conner, OK**

**Reeve AgriEnergy – Garden City, OK**

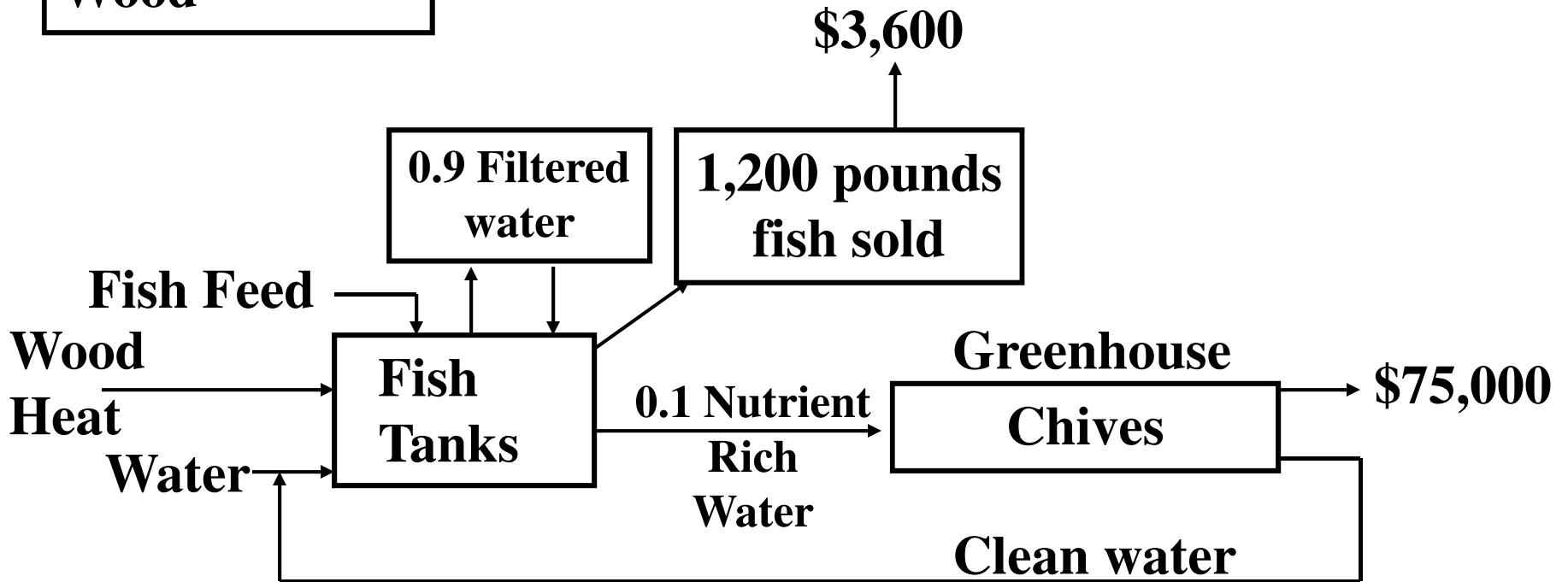
**Colorado Gators – San Luis Valley**

**Colorado Aquaculture – Lamar, CO**

**RESOURCES:**

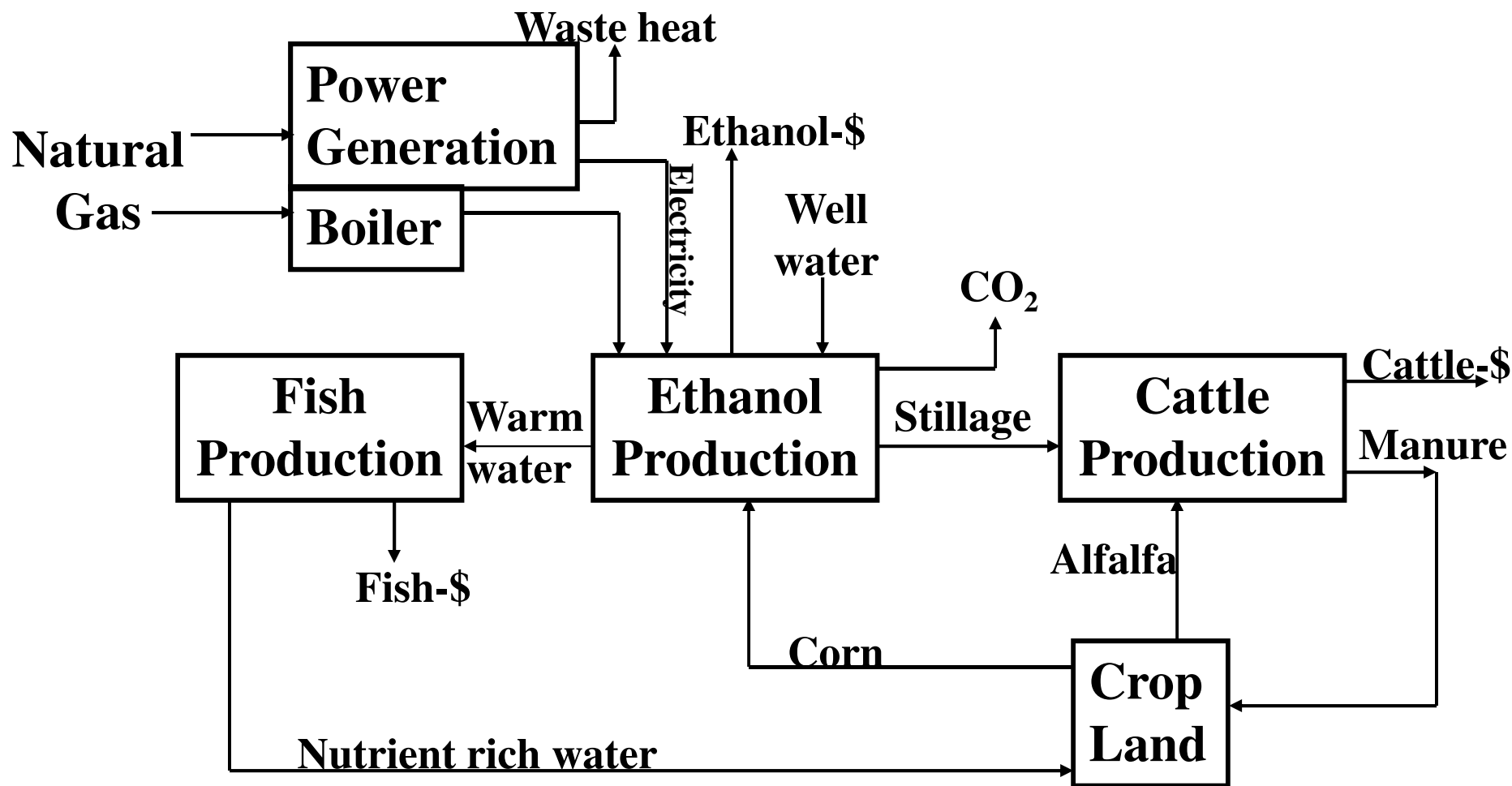
**Water**  
**Land**  
**Sunlight**  
**Wood**

**Insley Operation**

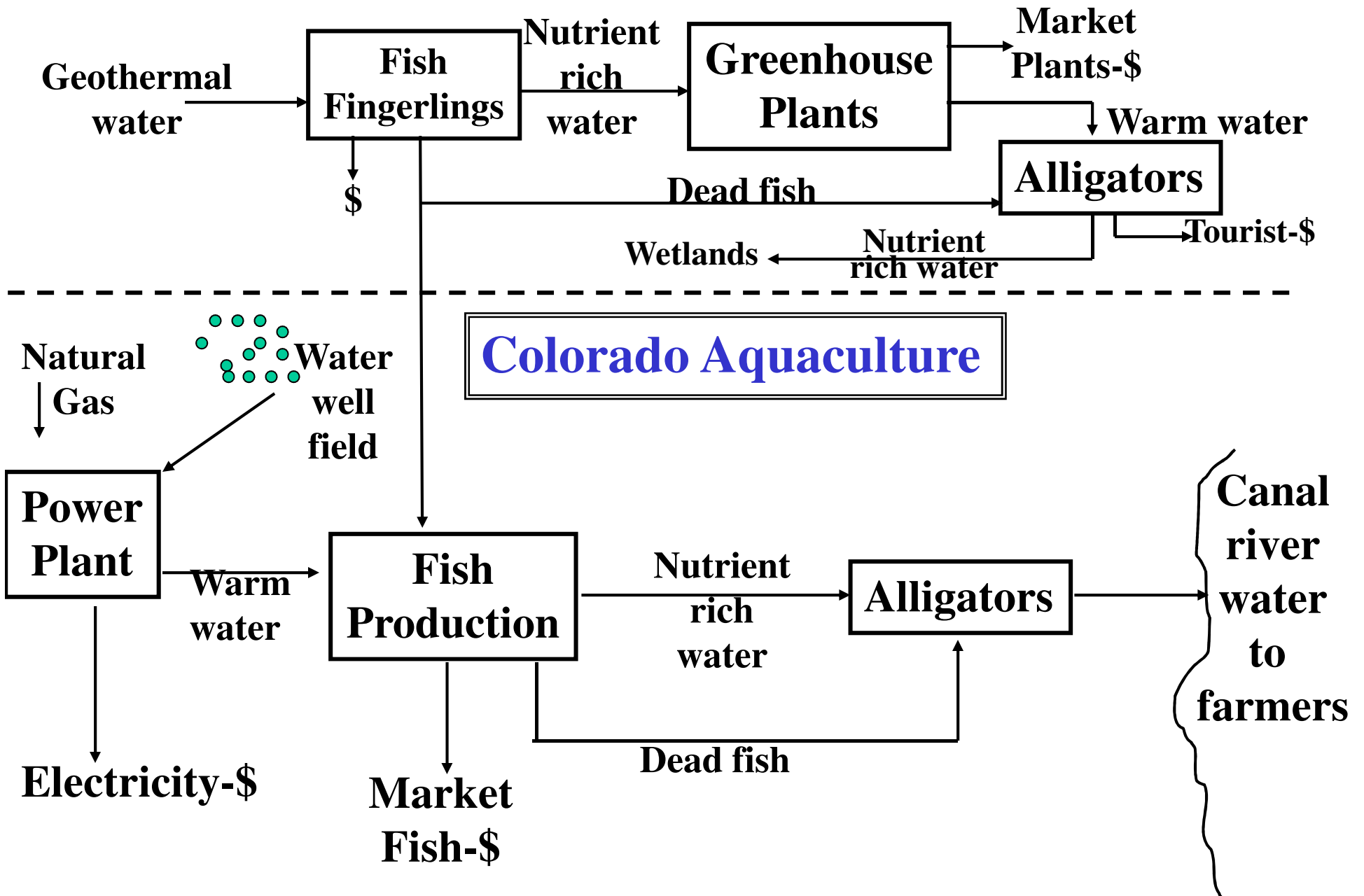




# Reeve AgriEnergy



# Colorado Gators

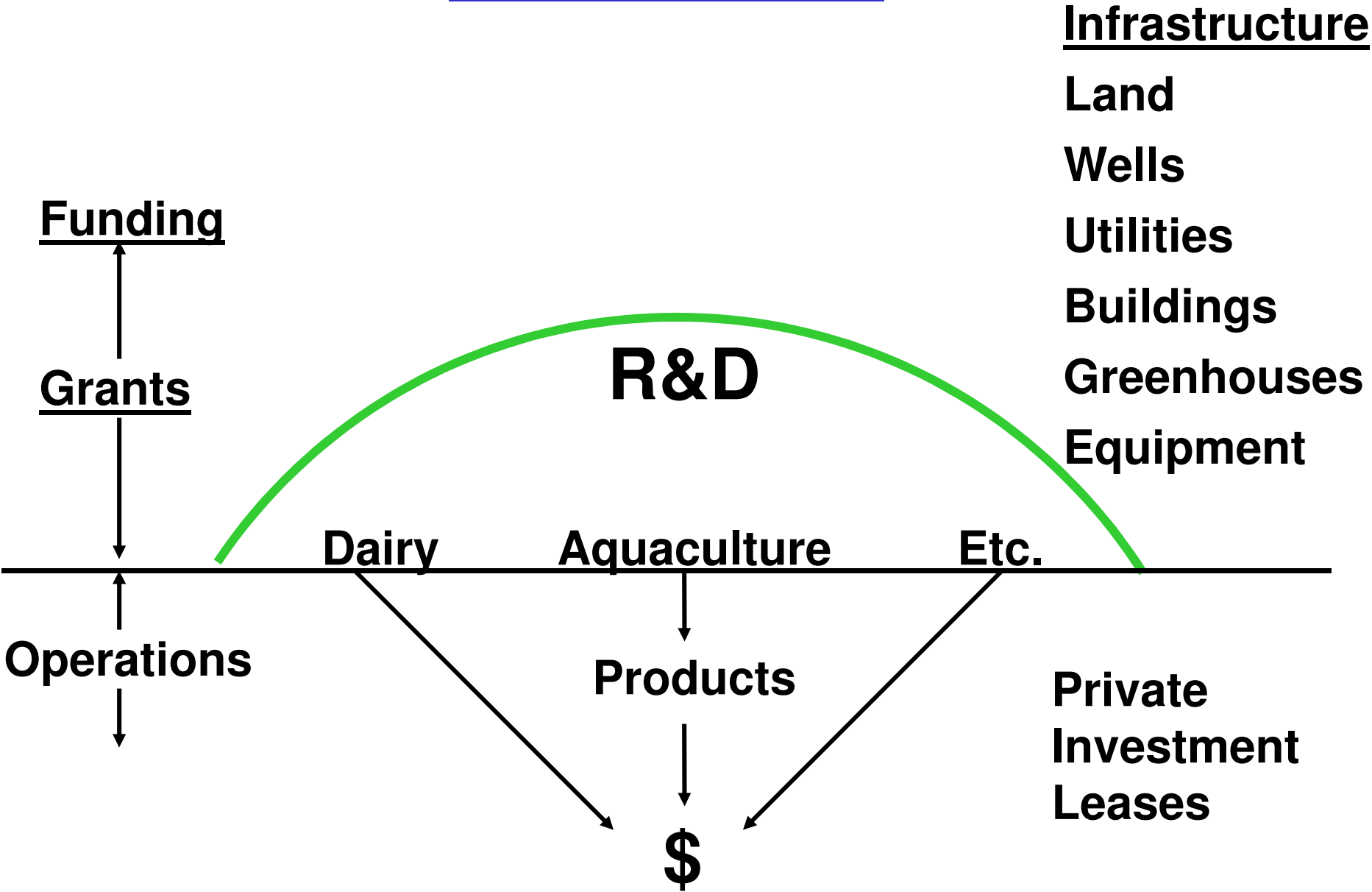


# San Luis Valley SEED Park



Sustainable Agriculture-Based  
Industrial Park

# SEED Park



# San Luis Valley SEED Park

## 10 Potential Businesses

1. **Bioremediation – municipal solid waste**
2. **Greenhouses**
3. **Small-timber lumber mill**
4. **Biomass gasification**
5. **Aquaculture**
6. **Solar energy products**
7. **Ice production**
8. **Dairy & creamery**
9. **Manufacturing of homes**
10. **Cryogenics**

# Bioremediation

## Municipal Waste

### Products

Compost

Water

Animal Feed

Bio-fuel

### Revenue

Service Fees

Product Sales

### By-products

Methane Gas

Heat

# Greenhouses

## Products

Food

Ornamentals

Nutraceuticals

## Revenue

Product Sales

## By-products

Compost

# Small-timber lumber mill

## Product

Posts

Fencing

Pallets

1 x 4s

2 x 4s

## Resources

Product sales

## By-product

Wood chips



# Biomass Gasification

## Products

Electricity

Syn-fuels

Steam

Heat

## Revenue

Product Sales

## By-products

Heat

Ash

# Aquaculture

## Products

Food fish

Ornamental

Tropical

## Revenue

Product Sales

## By-products

Water

Nutrients

Heat Storage

CO<sub>2</sub> Gas

# Solar Energy Products

## Products

Heat

Electricity

Mechanical Power

## Revenue

R & D Grants

Product Sales

## By-products

Unkown

# Ice Production

## Products

Ice

Cool Air

## Revenue

R&D Grants

Product Sales

## By-products

Water

# Dairy & Creamery

## Products

**Milk**

**Cream**

## Revenue

**Product**

**Sales**

## By-products

**Animal Waste**

**Water**

# Manufacturing of Homes

## Products

Low cost,  
Low energy  
homes

## Revenue

Product sales

## By-products

Scrap building  
materials

# Cryogenics

## Products

Liquid Oxygen

Liquid Nitrogen

## Revenue

Product Sales

Aquaculture

Food Processing

Tire Recycling

## By-products

Waste heat

# San Luis Valley SEED Park

## Other Potential Businesses - 1

**Algae**

**Bamboo plywood**

**Bio-fuels**

**processing**

**Butterfly farm**

**Education**

**Escargot**

**Feed manufacturing**

**Fibercrete**

**Geothermal energy from**

**non-consumptive water**

**Hazardous waste processing**



# San Luis Valley SEED Park

## Other Potential Businesses - 2

**Medical waste processing**

**Nutraceutical processing**

**Potato storage units**

**R&D centers**

**Recycling glass**

**Recycling metals**

**Recycling plastics**

**Retail Marketing**

**Starch production**

**Tourism**

**Vocational Training**

# San Luis Valley SEED Park

## Next Step

### 1. Feasibility Studies

#### Second Step

1. Business plans for each business
2. Integration of business plans

# Contacts

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