

PROJECTS FOR THE PRODUCTION OF BIOMASS



**ENERGY CROPS FOR
BIOCOMBUSTIBLE SOLIDS
AUGUST 2009**



VALSECO

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1. THE CONCEPT

- ✓ Development of Paulownia crops to be used for energy
- ✓ Production of Energy from Paulownia energy crops
- ✓ Drive the development of the Spanish market for renewable bio-energy sources
- ✓ Creation of an enduring industry in the Autonomous Community
- ✓ Viable alternative to traditional crops
- ✓ Production of a renewable fuel (CO2 neutral)



2. VALSECO AND ITS ENERGY PROJECTS

- **Valseco is engaged in agro-industrial projects based on the cultivation of olives, nuts, pistachios and Paulownia.**
- **Valseco is driving the search for investor partners seeking those who meet the following criteria:**
 - **Interested in improving their rural farming enterprise**
 - **Interested in investing in agribusiness**
 - **Seek a management company and alliances to carry forward the implementation, maintenance and operation of the Project**
 - **Share the idea of innovation in this sector, based on investor effort and natural resources to produce the goods, products and services demanded by today's society with a higher yield of value added for their professional effort and investment**
 - **Seek profitability based on the real productivity of projects that work without major fluctuations, or financial bubbles that give rise to unexpected consequences due to changes in the world economy.**

3. VALSECO-COTEVISA

VALSECO:

- Function: Extensive experience in project implementation.
Supplies, consulting and maintenance of plantations, own technology
- Operations: First plantings carried out in Toledo in 1995
- Market: Spain. Exportation in the future
- Surface area: Own facilities: Office 400 m². Warehouses 2.000 m², laboratory, experimental farms
- Collaborations: Spanish Universities for R&D&I
Madrid Schools of Agricultural Engineers and Albacete School of Agronomy Engineering



3. VALSECO-COTEVISA

COTEVISA

- Function: Production of Paulownia Power Plants
- Market: Spain. Exportation in the future
- Surface area: 66,000 m² of nurseries and hothouses
2,000 m² of laboratories and offices
- Collaborations: Spanish Universities for R&D&I
Agricultural and Forestry Schools



4. PAWLONIA AND ITS VIRTUES

- **Originally from China (more than 2 million hectares planted)**
- **Improved in the U.S.**
- **We have the exclusive for Spain**
- **Rapidly growing tree**
- **It is already growing in Cáceres: 6 meters in 1 year. Better than in Georgia, U.S.A.**
- **The tree is totally harmless to the environment**
- **Grows back when cut at 3 years. Pruned at least 8 times.**
- **Only needs watering during the first 2 years**
- **Allows for alternating crops such as cereals (co-production of biofuels is being evaluated), pasture for cattle, etc.**



GEORGIA, EE.UU, 3 YEARS



PAJARES RÍO, EXTREMADURA 1 YEAR

4. PAWLONIA AND ITS VIRTUES



Paulownia 1 week after it was planted



Paulownia 1 month after it was planted



Paulownia 1 year after it was planted



5. THE VALUE CHAIN



PRODUCTION FACILITY FOR IN VITRO CULTIVATION

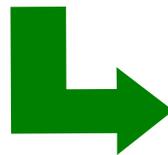


ENERGY CROPS

**INVESTMENT GROWERS – CONTRACTING OF SERVICES
VALSECO, WITH LONG TERM PURCHASE CONTRACT FOR BIOMASS**



TRANSFORMATION OF BIOMASS



PRIVATE INVESTMENT



5. THE VALUE CHAIN VALSECO-COTEVISA

- Model facility for technology of in Vitro propagation
- Agreements with Spanish Universities for R&D&I
- Differentiated experience in the implementation of plantation projects
- Team for facility, maintenance and technical supervision for project management



5. THE VALUE CHAIN (FARMERS)

- The current agricultural model in Europe is coming to an end (subsidies, PAC reform, sustainability, etc.)
- Farmers must seek alternatives for cultivation
- Energy crops are an enduring solution supported by Kyoto, PER, etc.
- Long term purchase contracts of biomass
- Alternative markets for the wood
- Consolidation of agricultural employment
- PAC subsidies, 45 €/Ha. for energy crops.
- PAC. Related to exploitation. (Average 75 €/ha).



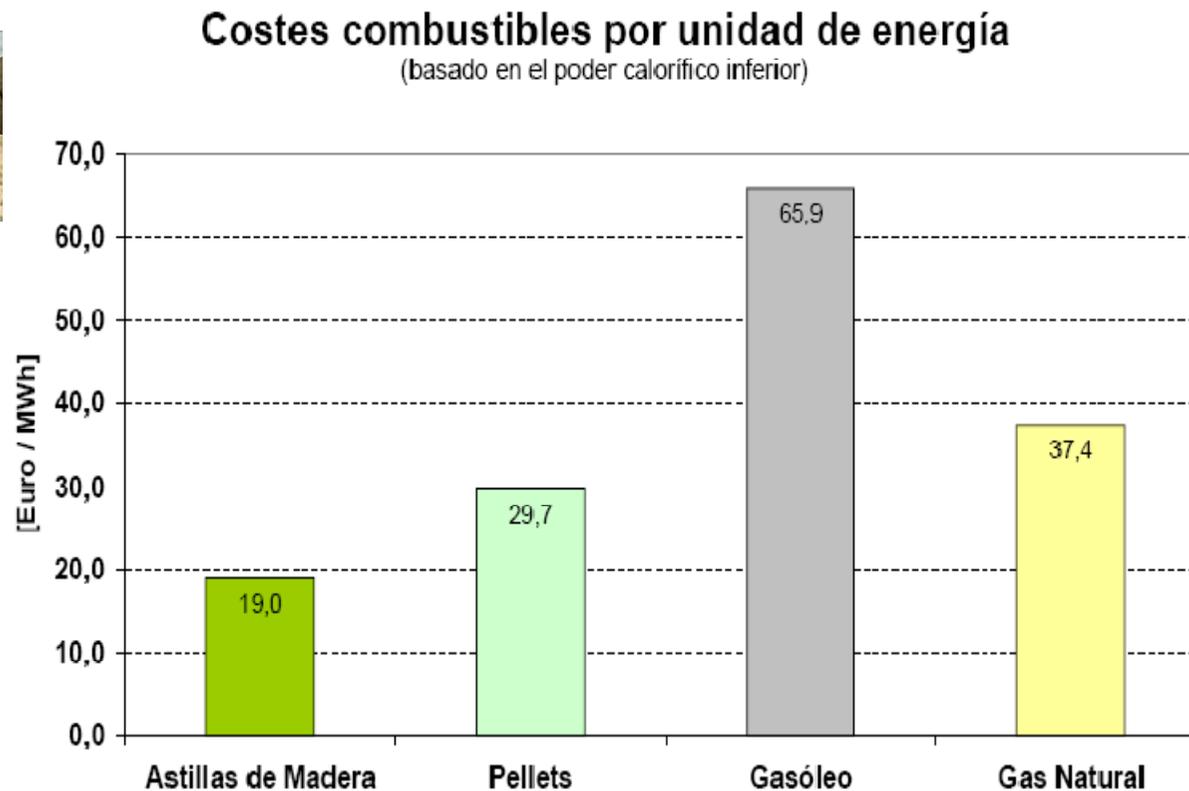
5. THE VALUE CHAIN (THE POWER PLANT)

- Power Plant generating energy from biomass
- Plant designed with the best European technologies
- Biomass to be used for the heating needs of the plant from dried chips



6. COST COMPARISON

The increase of prices for fossil fuels as well as environmental necessities (Kyoto) have compelled a number of countries to foster the production and consumption of renewal energy sources, such as biofuels.



7. BUSINESS MODEL

- Investment plan
- Projection of earnings
- Results

ECONOMIC MODEL FOR BIOMASS PRODUCTION. (Assumption 9 hectares).

DATA FROM THE FARM:

TOTAL CYCLE (3 YEARS X 9CORTES): 27 YEARS

THE FARM:

OWNER:

STANDARD MODEL

PROPOSE TO DO CYCLES OF 3 YEARS FROM FELLING TO FLARE

SURFACE OF THE FARM:

9,00 HECTARE

STUDY DATE:

AUGUST-08

HECTARE

FRAMEWORK

2X4

DENSITY

8,00 m2

No TREE/HECTARE

1.250

No. TOTAL TREES

11.250

YEAR		PLANTATION	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	YEAR 8	YEAR 9
REVENUE											
Timber produced (tons / Phase 3 HECTARES)	3 YEAR CYCLE	3 HECTARES	3 HECTARES	3HECTARES	450,00	450,00	450,00	450,00	450,00	450,00	450,00
Evolution of production income in total farm					13.500	13.500	13.500	13.500	13.500	13.500	13.500
Grant CAP. (€ / ha)	0	-	-	-	-	-	-	-	-	-	-
Price biomass / lot line. (30 € / ton on the hoof)	30,00	-	-	30,00	30,00	30,00	30,00	30,00	30,00	30,00	30,00
Total Harvest Value Property 3 has):	€uros	-	-	-	13.500	13.500	13.500	13.500	13.500	13.500	13.500
REVENUE:											
Study and design:											
Soil Study S.I.S.											
Standard soil survey											
Projects and studies:	125										
Installation of irrigation:	1.200										
Air irrigation installation											
Surveys and water harvesting	NO INCLUIDA										
Pumping Equipment											
Filter Head											
Fertigation											
Installation of irrigation:	1.200										
Electric line and box C.B.T.											
Electrical installation:	NO INCLUIDA										
Site preparation and refining	170										
Amendments and subscribers. (including applications)	120										
Insecticides and herbicides. (Including applications)	40										
Marking of the plantation	-										
Opening of furrows	225										
Plant	3.507										
Protector	285										
Tutor acacia wood 170 x 3 x 3	-										
Manual planting work	500										
Planting:	4.847										
Total investment per hectare	6.172										
Total investment to transform plot	55.548	55.548									
MAINTENANCE COST:											
Total Maintenance Costs plot	4.410		1.470	2.940	4.410	4.410	4.410	4.410	4.410	4.410	4.410
Maintenance costs have	490		490	490	490	490	490	490	490	490	490
Pesticides, fertilizers, herbicides and fert.	100		100	100	100	100	100	100	100	100	100
Maintaining irrigation facilities	60		60	60	60	60	60	60	60	60	60
Pruning and training entutorado	75		75	75	75	75	75	75	75	75	75
Tillage	60		60	60	60	60	60	60	60	60	60
Energy consumption and irrigation fee	195		195	195	195	195	195	195	195	195	195
Direction and technical assistance											
Collection costs (included in sale price)											
BALANCE:											
Income-maintenance costs		-	- 1.470	- 2.940	9.090	9.090	9.090	9.090	9.090	9.090	9.090
Income-maintenance-Investment Expenses (YTD)		- 55.548	- 19.986	- 16.264	- 7.174	1.916	11.006	20.096	29.186	38.276	47.366
Performance of the implementation (€/ Ha)		- 6.172	- 2.221	- 1.807	- 797	213	1.223	2.233	3.243	4.253	5.263

COMMENTS:

- * The estimated production is 150 tons / ha useful to third year.
- * The planting of 9 hectares (prototype) is planted in stages 3 hectares per year for felling cycle of 3 hectares in the third year.
- * We do not consider price of land, loss of income or capital gains, interest.
- * We have not considered subsidies to irrigation infrastructure.

8. FORMULAS FOR EXPLOITATION

- Leasing of farm for a period of 21 years
- Joint exploitation, with the issue of shares based on capitalization of the project
- Contracting of Services, through contracting of planning, technical management, maintenance
- Capital investment in the business. Profitability of 20%.