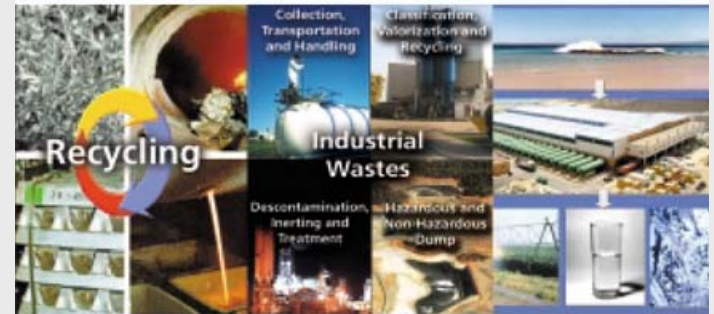


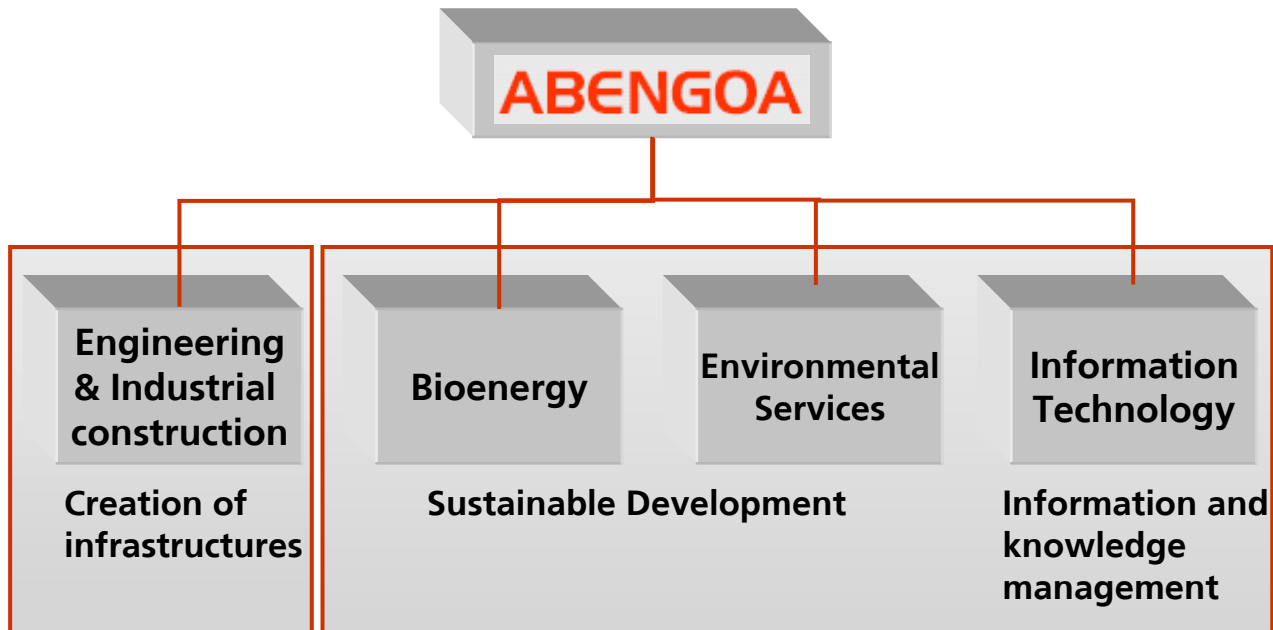
# ABENGOA



**Your Partner in Resources and  
Technical Solutions**

**"The present document has been drafted by Abengoa for its exclusive use as a presentation of the results of the period considered. It does not suppose a bid, commitment nor recommendation to subscribe or to acquire values, it has not been verified by third parties and consequently neither the Company nor its employees assume responsibility for the use of the information, commentaries and valuations contained or connected with this document."**

Abengoa provides innovative technology based solutions to large corporate clients in the creation of infrastructures and in two more recent and high growth areas: sustainable development and information and knowledge management



## Highlights

- **FY04 Results Overview and Balance Sheet**
- **Well positioned for growth**
- **Driving Europe into Bioethanol**

€ M

<b>Profit and Loss Account (Millions €)</b>	<b>2004</b>	<b>% Variación (04-03)</b>	<b>2003</b>	<b>1994</b>	<b>% CAGR (94 04) (**)</b>
Sales	1.687,1	3,2	1.635,3	453,0	14,1
EBITDA (*)	202,3	9,2	185,2	15,7	29,2
Net Profit attributable to Parent Company	51,8	10,1	47,0	4,5	27,8
Net Cash-Flow (EAT+Amort.+Provision)	155,9	13,4	137,5	18,6	23,7
<b>Significant Variables</b>					
Margin (% EBITDA/Sales)	12,00		11,33	3,46	
- Shareholders' equity (ROE) % (***)	13,76		13,61	3,13	
Return on Capital Employed (ROCE) % (****)	13,53		11,85	4,30	
<u>Per share figures:</u>					
- Earnings per share (€)	0,57		0,52	0,05	27,6
- Dividend per share (€)	0,14		0,14	0,04	12,5

(\*) EBITDA: Earnings Before Interest, Tax, Depreciation and Amortization

(\*\*) CAGR: Compound Annual Growth Rate

(\*\*\*) ROE: Net Profit over Shareholder's equity

(\*\*\*\*)ROCE: EBIT less taxes over capital employed

€ M

	December 2004	December 2003
Net Debt	41.7	202.0
Net debt/Shareholder's equity	0.11	0.58
R.O.E. (%)	13.76	13.61
R.O.C.E. (%)	13.53	11.85

	2004	2003	04/03 %
Sales (€M)	722.3	713.0	1.3
EBITDA (€M)	78.0	80.1	-2.7
EBITDA / Sales (%)	10.8	11.2	

### Comments

- \$ weakness
- Gap between end of some Latam contracts and new awards
- 18 months backlog

	2004	2003	04/03 %
Sales (€M)	359.1	365.4	-1.7
EBITDA (€M)	38.0	37.8	0.6
EBITDA / Sales (%)	10.6	10.3	

### Comments

- Change in perimeter (+25 €M)
- Steady growth in Industrial waste (+10.6 % in volume)
- Certain improvement in aluminum recycling



	2004	2003	04/03 %
Sales (€M)	270.4	265.5	1.9
EBITDA (€M)	38.8	31.0	25.3
EBITDA / Sales (%)	14.4	11.7	

## Comments

- Sales growth affected by \$
- Recovery of activity in Q4 on Traffic
- Increase in margins on "higher value-added" products and services
- Backlog up to 346,5 €m from 266 € M in Dec-03

	2004	2003	04/03 %
Sales (€M)	335.3	291.4	15.1
EBITDA (€M)	47.5	36.3	30.8
EBITDA / Sales (%)	14.2	12.5	

### Comments

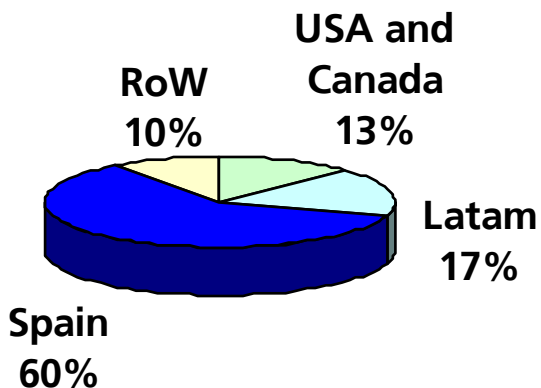
#### Europe

- 30% increase in ethanol sales (Germany and JV with Cepsa)
- Margins on the rise due to higher utilization rates even with higher raw material prices

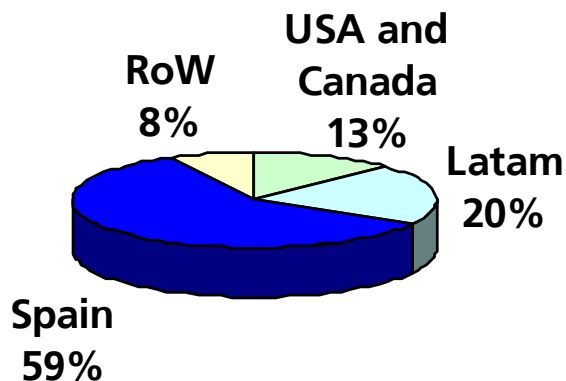
#### USA

- Stable sales volumes
- Higher margins due to improved market conditions

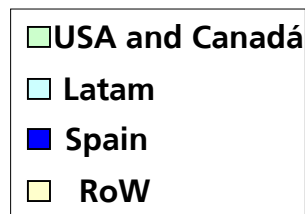
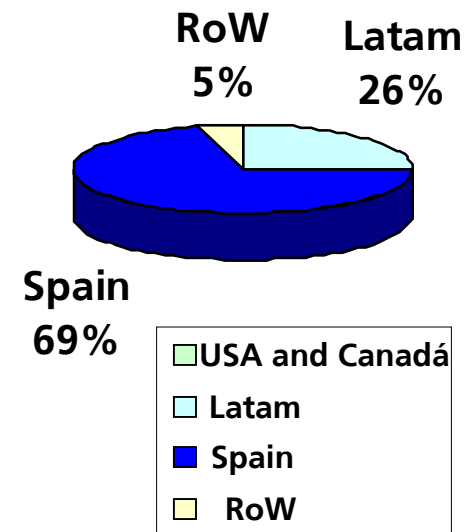
### 2004



### 2003



### 1994



#### Activity Abroad

	2004		2003		1994		CAGR (94-04)
	M €	%	M €	%	M €	%	%
<u>Exportation and Local Company Sales</u>							
- USA and Canada	217.5	12.9	209.8	12.8	0.0	0.0	-
- Latin America	285.6	16.9	332.9	20.4	115.3	25.5	9.5
- Europe (Spain excluded)	115.5	6.9	76.7	4.7	10.6	2.3	27.0
- Africa	31.6	1.9	27.8	1.7	4.6	1.0	21.1
- Asia	26.3	1.6	16.9	1.0	5.8	1.3	16.3
<b>Total Abroad</b>	<b>676.5</b>	<b>40.2</b>	<b>664.1</b>	<b>40.7</b>	<b>136.3</b>	<b>30.1</b>	<b>17.4</b>
<b>Total Spain</b>	<b>1,010.6</b>	<b>59.8</b>	<b>971.2</b>	<b>59.3</b>	<b>316.7</b>	<b>69.9</b>	<b>12.3</b>
<b>Consolidated Total</b>	<b>1,687.1</b>	<b>100.0</b>	<b>1,635.3</b>	<b>100.0</b>	<b>453.0</b>	<b>100.0</b>	<b>14.1</b>

	Bioenergy	Environmental Services	Information Technology	Engineering and Industrial Construction
<b>Market Position</b>	# 1 Ethanol producer in EU # 5 in US	Leader in Spain in industrial waste management and desalination	International leader in real time IT in four sectors (energy, transport, traffic, environment)	Leader in Spain and in Latin America
<b>Competitors</b>	ADM, Cargill, Sauter, Tereos, Agroetanol, Südzucker	Veolia, Ferrovial, FCC, Ionics (GE)	Indra, Cubic, Itron, Roper	ACS, Fluor, Amec
<b>Growth Opportunity</b>	Increase in biofuels use	Desalination and Industrial Waste	Organic growth New sectors	Med Rim & MEast Solar & PFI

Sales 2004 (€M)

335.3

359.1

270.4

722.3

Weight (%)

19.9

21.3

16.0

42.8

EBITDA 2004(€M)

47.5

38.0

38.8

78.0

Weight (%)

23.5

18.8

19.2

38.5

**Leader in Spain and Latam of several Engineering and Industrial Construction markets:**

- Electric generation and distribution
- Industrial
- Transport.



- **Geographic expansion: Med Rim and Middle East**
  
- **PFI – Concessions:**
  - **Areas of core expertise**
  - **No demand Risk**
  - **Availability of long Term Project Finance**
  
- **Ground break of 10 Mw thermoelectric solar plant**

## Overview of all Latam T & D Concessions

Country	Project	Regional location	Distance Kms	Reference Investment (mUSD)	Abengoa stake	Status (Operations start date)	Concession Contract type	Operator
BR	Expansion	Minas Gerais	582	112	25%	Operating (Dec-02)	BOOT	Transener
BR	NTE	North East	387	129	50,1%	Operating (Jan-04)	BOOT	CHESF NTE
BR	ETIM (InterExp)	Minas Gerais	210	63	25%	Operating (Jul-04)	BOOT	Transener
BR	STE	Rio Grande do Sul	389	70	50,1%	Operating (Jul-04)	BOOT	Transener
BR	ATE	Sao Paulo & Paraná	370	156	100%	Construction (Aug-06)	BOOT	To be appointed
BR	ATE2	Colinas Sobradinho	940	358	100%	Construction (Nov-07)	BOOT	To be appointed
<b>Total</b>			<b>2.878</b>	<b>888</b>				
CH	Araucana (Aelsa)	SIC 8 <sup>th</sup> Region	54	8	100%	Operating (Nov-96)	BOOT	Transelec
CH	Abenor	SING 2 <sup>nd</sup> Region	100	9	100%	Operating (Jan-96)	BOT	Electroandina
CH	Huepil	SIC 8 <sup>th</sup> Region	141	38	100%	Operating (Jun-03)	BOOT	Transelec
<b>Total</b>			<b>295</b>	<b>55</b>				
Perú	Redesur	Southern Perú	431	80	20% (*)	Operating (Mar-01)	BOOT	Redesur / REI
<b>Total</b>			<b>3.604</b>	<b>1.023</b>				

(\*) Note: through a 33.33% stake in Soc. Tenedora de Accs. which in turn owns 60% of REDESUR  
Exchange rate Real/USD of 3,0

## Regulatory considerations - Brazil

- **Transmission is key for Brazil's electric sector due to:**
  - **distance between generation (north) and demand (south)**
  - **efficient way to use hydraulic potential that accounts for 85% of production**
- **Favorable regulatory scenario:**
  - **adequate and stable regulatory framework**
  - **economic and financial equilibrium guaranteed by concession contract**
  - **availability of Long Term Project Financing in local currency**
  - **interest of regulator to favor new entrants**
  - **high operation and technical capacity of National System Operator (ONS)**
- **Transmission has been the most attractive segment for foreign investment**
- **Brazil is one of the most attractive growth opportunities for the energy transmission sector on a global basis.**
- **Abengoa is leader in the market and the ideal partner for T &D companies wishing to access Brazil**



**Befesa leads three environmental services markets in Spain: industrial waste management, environmental engineering and services and aluminum residues recycling.**



- **Desalination : Befesa is one of the leaders in Spain...**
  - **More than 650.000 m<sup>3</sup>/day built**
- ...and internationally**
  - **2 BOOT contracts in Algeria**
- **New water Investment Plan of Spanish Ministry for the Environment 3.990 €M**
- **Industrial Waste**
  - **Sustained Growth in Spain**
  - **Latam 1<sup>st</sup> steps**
- **Growth in Steel dust Recycling**

### Recent References in desalination

Location	Client	m3/day	Technology	Status
Almería, Spain	City of Almeria	50.000	Reverse Osmosis	Operating 2H 2004
Cartagena, Spain	Ministry of Environment	65.000	Reverse Osmosis	Operating 2Q 2005
Carboneras, Spain	Ministry of Environment	120.000	Reverse Osmosis	Operating 1H 2004
Atabal, Spain	Ministry of Environment	165.000	Reverse Osmosis	Operating 1H 2004
Skikda, Algeria	Algerian Energy Co	100.000	Reverse Osmosis	In progress 1H 2007
Orán, Algeria	Algerian Energy Co	150.000	Reverse Osmosis	In progress 2H 2007

- **Desalination market 2005-2015: a 95 \$ billion market**
- **Mediterranean and Gulf Area key markets in the short term**
- **US, China & India opportunities for the future**
- **Reverse osmosis technology will cover most of new capacity, as energy costs are being reduced**
- **Growth driven by increased demand of water and rising cost of alternative supply**
- **Befesa is uniquely positioned throughout the value chain to capture this opportunity**

## Telvent's vision

**Telvent is a leading provider of complete RealTime IT solutions in selected industrial sectors (Energy, Traffic, Transport and Environment) in the Americas, Spain and China, enabling our customers to more efficiently manage their operations and business processes.**



### Telvent's solutions help to safely manage and control in real-time...

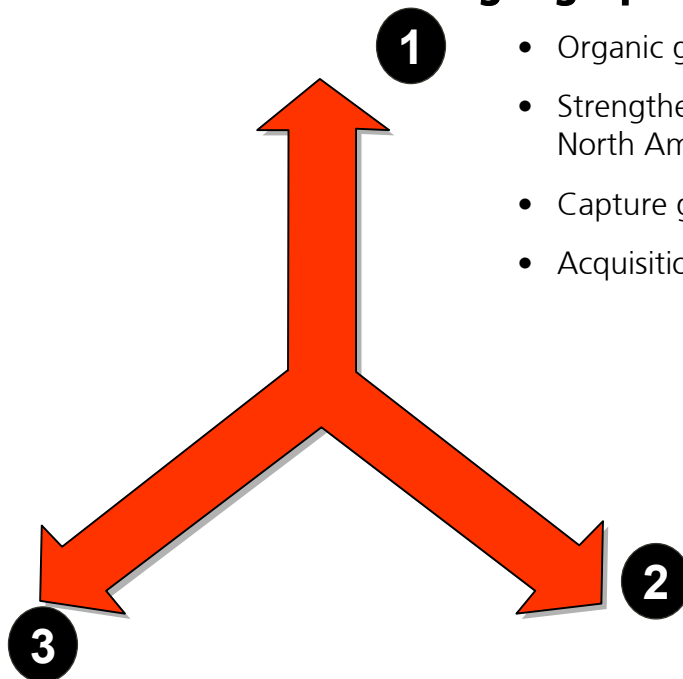
- Approximately 60% of oil and gas volume movement through pipelines in North and Latin America
- Transportation and distribution of more than 140,000 GWh, providing electricity to more than 80 million people
- Traffic of vehicles at more than 6,000 intersections through which more than 170 million drivers pass every day
- Transportation of more than two billion passengers every year on trains and subways
- Transit of more than five million people per day, over more than 8,700 kilometers of motorways, dual highways and tunnels
- The safe and efficient landing and takeoff of more than 60 million passengers at more than 70 airports



## Our Three Axis Growth Strategy

### Capture the “vertical” RealTime Process Co-sourcing opportunity

- Value-added applications and solutions
- Leverage existing client relationships



### Consolidate leadership in core geographies and sectors

- Organic growth in Europe and Latin America
- Strengthen presence and develop sectors in North America
- Capture growth in China
- Acquisition opportunities

### Complete a distinctive, fully integrated RealTime IT solution in core sectors

- R&D
- Alliances
- Acquisitions

**11-13% Organic Growth Over the Next 5 Years Complemented with Acquisitions  
25% Gross Margin**

## Successful IPO

- Telvent is a NASDAQ listed Company (“TLVT”) since October 21 2004
- The Telvent IPO was a successful transaction despite a choppy IPO market and significant valuation sensitivity among almost all institutional accounts around the \$9.00 level
- Telvent was able to generate quality institutional demand due to:
  - ✓ Clear value proposition of Telvent product/service
  - ✓ Strong organic-driven growth characteristics
  - ✓ Quality and depth of relationship with customers
  - ✓ Recurring revenue stream and visibility

**Telvent has a strong shareholder base with a mix of technology, small-cap, growth and European/International-oriented investors**



## Acquisitions in line with Telvent's strategy

- Well established and profitable companies, with solid management teams
- Attractive price (05 PER of 8,5 x and 5,6 x)
  - ➔ **ICX, closed in May 2004**
    - Based in Seville (Spain). Owned by Regional Government & Fujitsu
    - 30 people. 3,7 €M 05(E) Revenue
    - Strong software product for Health Care to become the core of IT solution suite to be offered by Telvent
  - ➔ **Xwave Western Region Division, closed in August 2004**
    - Based in Calgary. Subsidiary of Aliant.
    - 85 people. 7,7 €M 05 (E) Revenue
    - IT Outsourcing specialized in Energy customers
  - ➔ **Miner & Miner, closed in December 2004**
    - Based in Fort Collins, Colorado (US).
    - 100 people, 12,0 €M (E) Revenue
    - Developer of AGCM, a GIS software solution for utilities that has been implemented in more than 180 utilities.

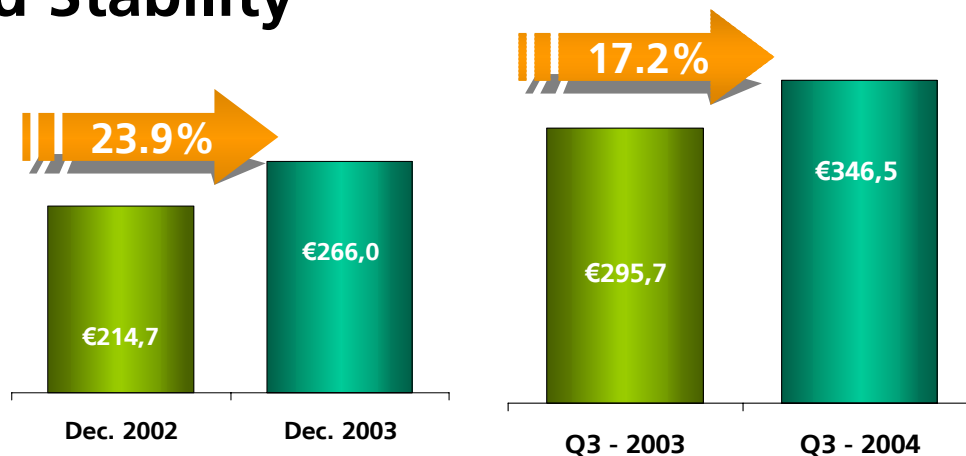
## Acquisition Criteria Proof

	ICX	Xwave	Miner & Miner *
Previous Knowledge/Collaboration	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Strategic ("Three Axis Model")	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Synergies	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
No Overlapping	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Profitability	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
ROIC > 15%	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Accretive/Dilutive	<b>Accretive</b>	<b>Accretive</b>	<b>Accretive</b>
Price(€M) / Valuation(PER)	1.7 / 8.5	2.8 / 5.6	8.0 / 16.4

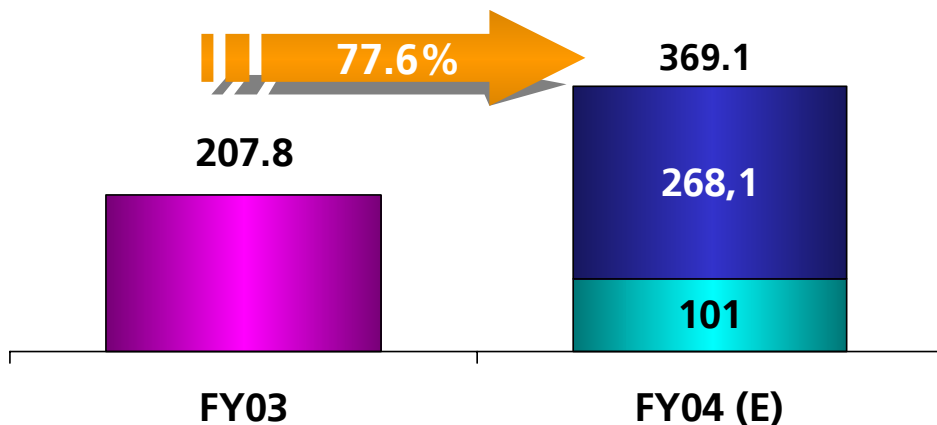
\* Telvent has acquired 70% of Miner & Miner

## Revenue Visibility and Stability

**Backlog** (€ Million)



**Bookings** (€ Million)



**Strong visibility going forward, based on  
Backlog, Bookings, and Pipeline**

# ABENGOA

## Abengoa Bioenergy: Driving Europe into Bioethanol



Residual Starch Pilot Plant (York, NE)

### Definition

**Bioethanol is an ethyl alcohol produced from the fermentation of sugars contained in vegetable products, such as cereals, sugar cane, beets or other biomass**

**Bioethanol is then blended with conventional fuels**

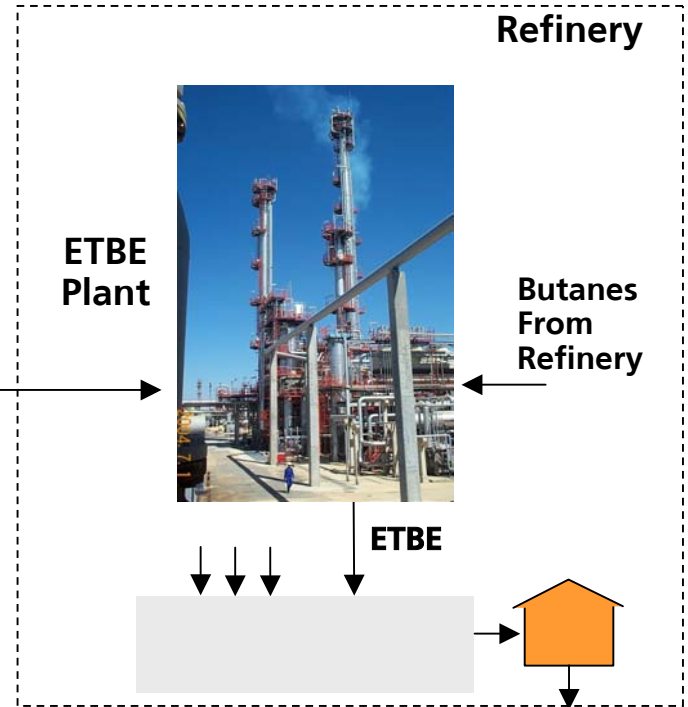
### Uses

- **Production of ETBE (45% EtOH + 55% isobutylene, C4)**
- **Direct blend with gasoline:**
  - ✓ **5% of volume, called E5 (limited by EU's gasoline definition)**
  - ✓ **10% volume E10 (USA),**
  - ✓ **25% volume E25 (Brasil),**
  - ✓ **Higher blends E85 (FFV in Sweden & Spain), E95 (Stockholm buses) E100 (total FFV Brazil)**
- **Blended with gasoil, still in demonstration phase: "E-Diesel"**

## Ethanol distribution as ETBE



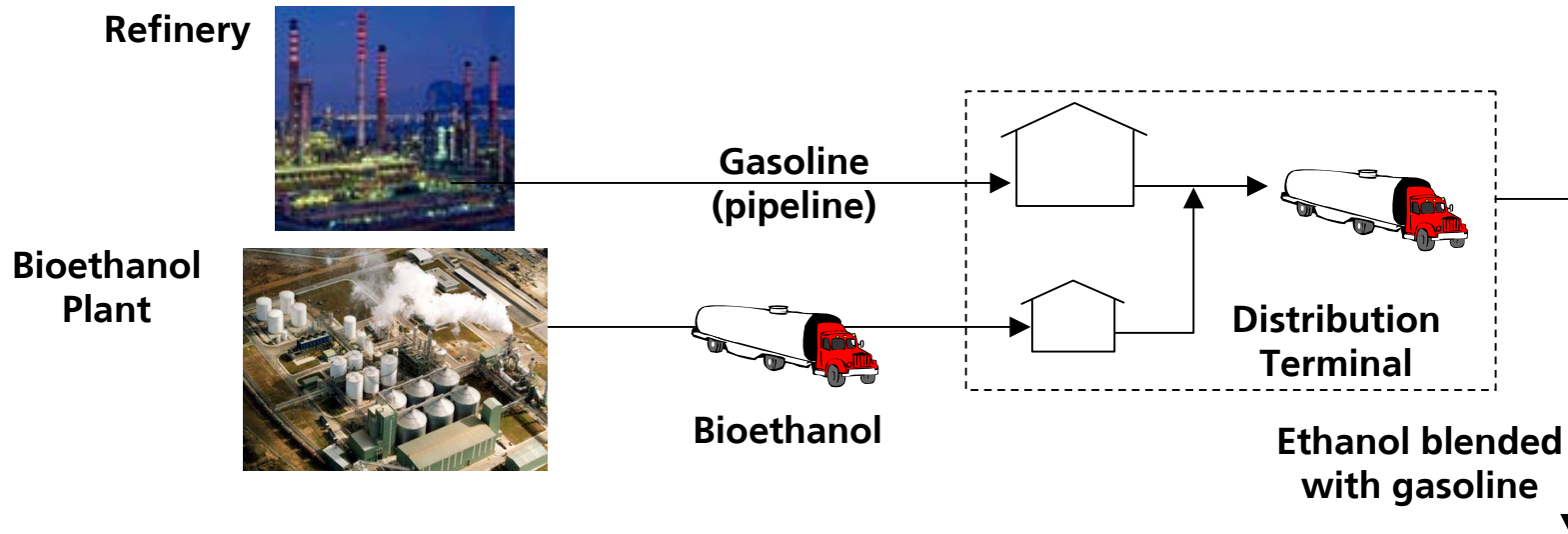
Bioethanol Plant



Service Station

- Ethyl Tertiary Buthil Ether (45% Ethanol – 55% isobutilene)
- ETBE is a gasoline additive
- Substitutes MTBE
- No implications on gasoline distribution
- Introduction limited by availability of isobutilene
- 1<sup>st</sup> step of ethanol introduction in Europe

### Bioethanol direct blending with gasoline



- Direct blending is limited in the US up to 10 %
- In Europe, only Sweden actually blends directly
- 2005-2006: Expected introduction in Spain and Germany
- EU: Direct Blending is restricted by gasoline quality directives (5%, RVP)

### Business

- Production and supply of bio-ethanol, “green” fuel derived from biomass mixed directly or indirectly into fossil based fuels
- Clients oil companies through mid to long term contracts
- Committed support by US and EU Administrations

### Geographies

- #1 in Europe with a installed capacity of 326 ML (and 200 MI under construction)
- #5 in USA with a installed capacity of 365 MI (and 325 MI under construction)

### Research & Development

- Leader in R&D development of renewable fuels. Goals:
  - ✓ Improve current process yield (starch conversion)
  - ✓ Develop cost competitive biomass conversion technology
  - ✓ Increase co-product value
  - ✓ Demonstration programs for ethanol end - uses
  - ✓ Project to develop bio-ethanol based hydrogen fuel cells
- Starch Conversion Pilot Plant in operation
- Biomass demonstration plant under construction



1995

- Abengoa identifies the need for a renewable alternative to transport sector energy needs

1996-2001

- Development of the two largest facilities in Europe
- Acquisition of Abengoa Bioenergy Corporation in the USA

2002

- R&D award by the European Commission (4.5 €M)
- R&D award by the US DOE (\$35.4 M)

2003

- Construction of our third facility in Spain
- First exports of ethanol from Spain to Sweden and Germany

2004

- Takes control of the 325 MI project in Ravenna, NE
- Start-up of ETBE plant joint venture with Cepsa
- 44 MI exports to Germany and France

Abengoa envisions to create a leader in the Bioenergy Industry ...

### Production Facilities

Network of assets in key markets (USA, Spain, Germany, Benelux, France, Poland, etc) able to deliver **best class operational performance...** maximizing cost-efficient management of all facilities

### R&D

A team of professional researchers manage in-house research facilities and co-ordinate and leverage the efforts of some of the leading R&D firms through JVs and equity stakes... to identify and **develop cost-efficient manufacturing technologies and new applications**

### Vision

Create a world class producer of energy from renewable sources through leading-edge manufacturing technologies and best class operational performance

### Clients

Distinctive set of clients including leading oil companies and refineries ... **with international service**

Abengoa Bioenergy is a worldwide leader in renewable fuels, with a unique set of assets in key markets (Europe and USA)

<u>EU (MI)</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>
Production	326	526	756
Construction	200	230	126
Promotion	356	126	

<u>USA (MI)</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>
Production	365	420	745
Construction	325	325	325
Expansion	55		
Promotion		325	

Cartagena



La Coruña



York, NE



Ravenna, NE



Salamanca



Huelva



Colwich, KS



Portales, NM



A distinctive set of clients among the major oil companies.



- Leader company in the bioethanol industry
- Unique international player in the USA and Europe
- Reliable and flexible service to our customers

### Competitive advantages:

- Technology (efficient productivity, R&D)
- Presence in USA and Europe
- Track record in Europe as a pioneer: recognized technology and solid relationships
- Existing installed capacity (actual 690 MI, 945 MI by 2006 and 1.500 MI by 2007)
- Reliability and quality of supply
- Industrial and stable production and commercialization

Our ultimate goal is to make the ethanol production competitive with gasoline.

How is the strategy set-up?

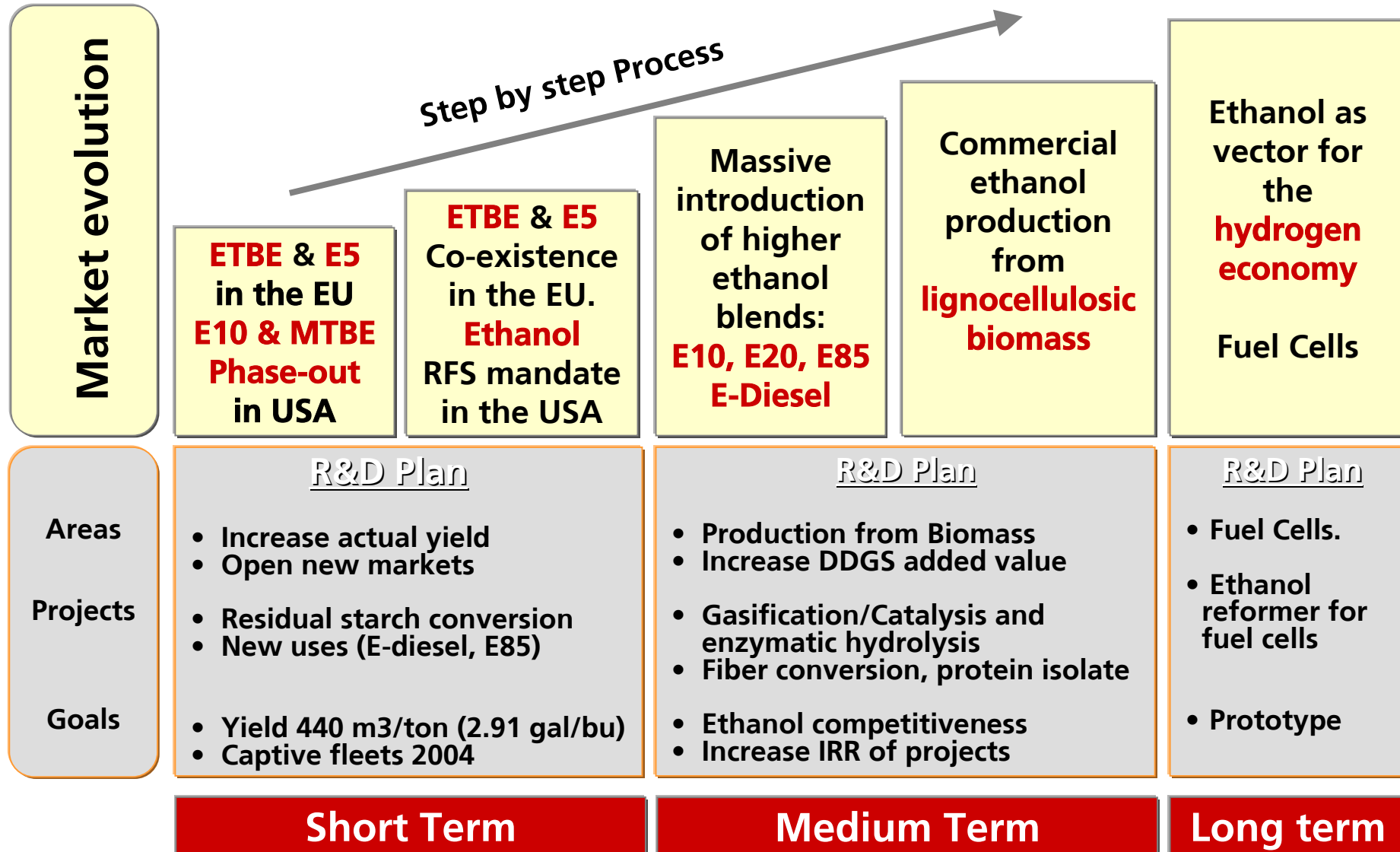
- Increase yield in our plants
- Create a new feed product. Commodity evolving to specialty
- Use biomass as feedstock  
Gasification  
Enzymatic Hydrolysis

From the Production side

- Promotion of new uses of ethanol: E-85, E-Diesel, Higher ethanol blends
- Ethanol reformer for fuel cells
- Ethanol as a vector for the hydrogen economy

From the User's side

Our strategic vision is part of a sustainable energy system:



### Current Situation

- 770 MI/y market

- 12,850 MI/y market

### Our Position

- #1  
326 MI/y installed capacity

- #5  
365 MI/y installed capacity

### Legislative support

- 2 directives:
- 2003/30/CE Promotion and use of biofuels
    - ✓ 2% by 2005
    - ✓ 5,75% by 2010
  - 2003/96/CE Taxation on Energy Products

- MTBE ban in 20 states.
- Energy Bill pending including the Renewable Fuel Standard.
- VEETC (Jobs Bill)

**Europe**

**USA**

### ⇒ Residual Starch

- Completed construction of starch Pilot Plant
- Achieved objectives of first phase experimental program
- Initiated development of new feed co-products
- Initiated evaluation of new technology roll out

### ⇒ Biomass - BCyL

- Completed characterization of straw feedstock
- Completed development of biomass conversion process
- Completed the preliminary engineering

### ⇒ Enzymatic Hydrolysis

- Completed evaluation of pretreatment technologies
- Signed partnership agreements with NREL, Novozymes, SunOpta and Auburn University
- Completed preliminary engineering design for the York Pilot Plan

### ⇒ Gasification Catalysis

- Completed technology assessment and feasibility evaluation
- Initiated development of syngas catalyst for ethanol production



### ➔ Ethanol Reformer

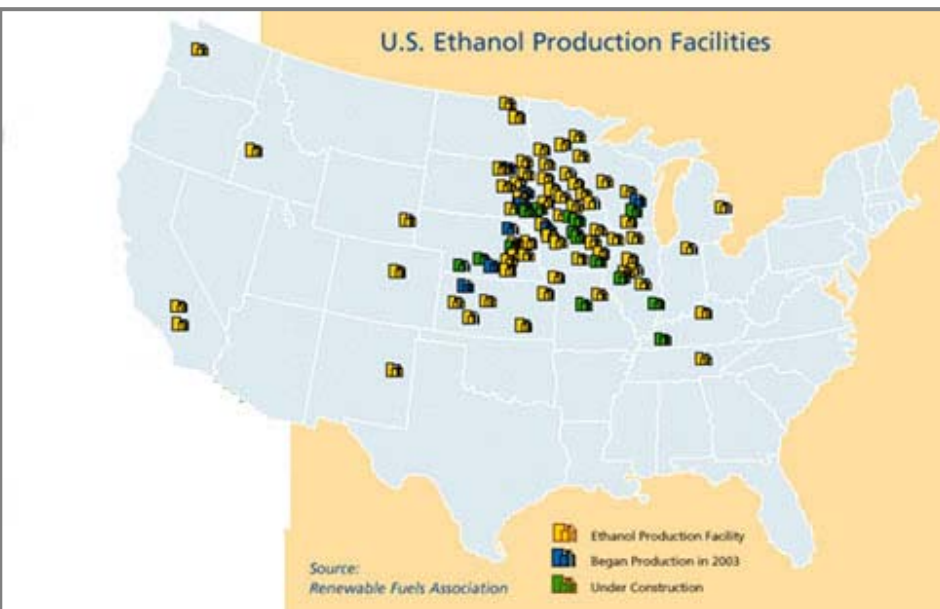
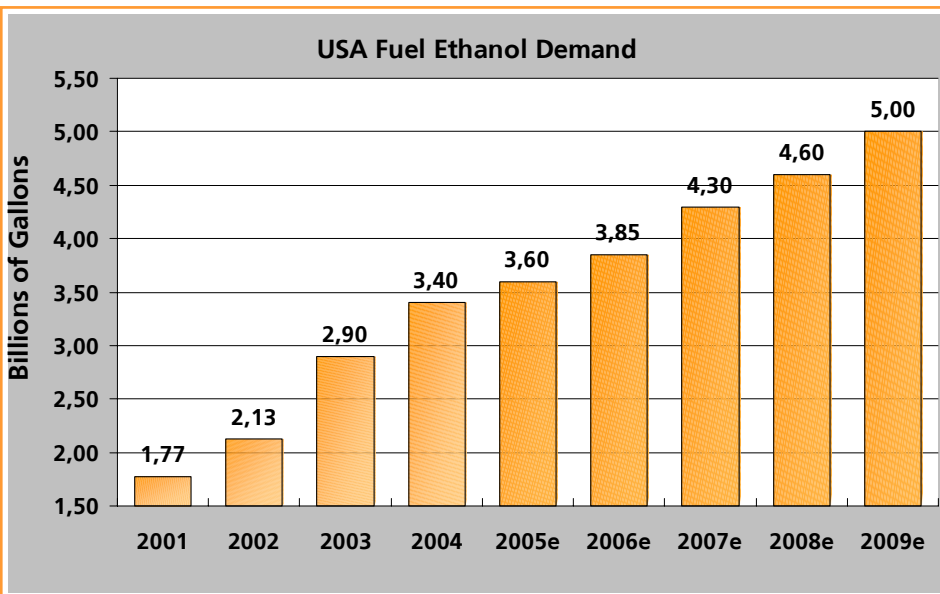


- Completed construction and start up of 1 kW and 10 kW prototypes
- Signed contract for 300 kW ethanol reforming prototype

### ➔ Ethanol Blends



- Obtained fund from Profit to initiate e-diesel blend demonstration
- Signed agreements with Additives Companies
- Promoted FFVs fleet demonstrations



- Mature market CAGR +10% over the past three years
- Expected minimum growth to a 5 BGPY by 2009
- 82 plants on operation and 16 under construction
- Growth drivers:
  - ✓ California blend 10% ethanol instead of 5.7%
  - ✓ Northeast and Gulf Coast markets
  - ✓ MTBE phase out in 20 states
  - ✓ Higher Blends (Minnesota pushed up to 20% by 2012)
- Today gasoline consumption is 140 BGPY (ethanol represents 2,4%share)  
10% ethanol may represent 14 BGPY of potential new markets

The background of the slide is a faded, grayscale version of the European Union flag, featuring a circle of twelve five-pointed stars.

**Biofuels in the European Union:  
The Growth Challenge**



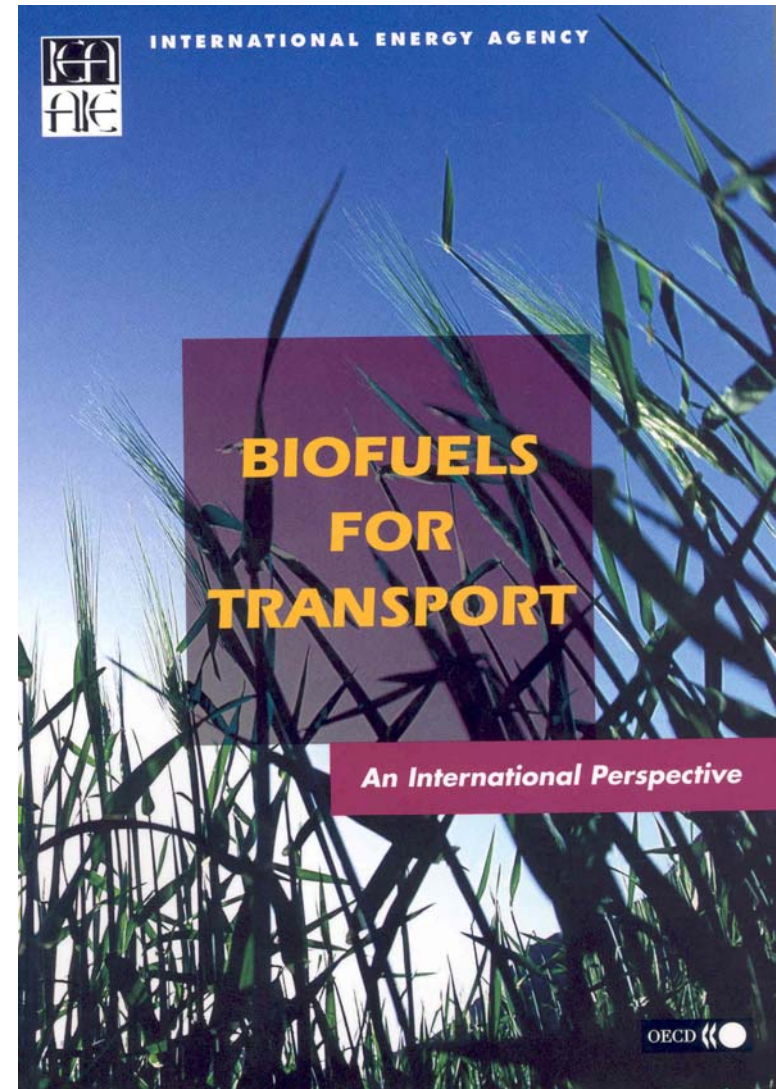
“The transport sector is a principal source of global emissions of GHG. The only long-term solution to this connected set of problems is to **reduce the world’s reliance on oil**”

“Hydrogen fuel cells are at last becoming a viable alternative. Another **alternative likely to become available in a few years is bioethanol**”

“The best way to curb the demand for oil and promote innovation in oil alternatives is to tell the world’s energy markets that the **externalities of oil consumption (security, environment) will influence policy from now on**”

IEA has defined bioethanol benefits:

- ✓ Reduced oil demand
- ✓ Reductions in greenhouse gas emissions
- ✓ Air quality benefits & waste reduction
- ✓ Vehicle performance benefits
- ✓ Agricultural benefits



## European CAP

- ✓ **Alternative for the excess of production**
- ✓ **Set aside land and energy crops**
- ✓ **Sustainability of labors in rural areas**





**Biofuels reduce the greenhouse gas emissions allowing Member States to comply Kyoto Protocol commitments**

### France:

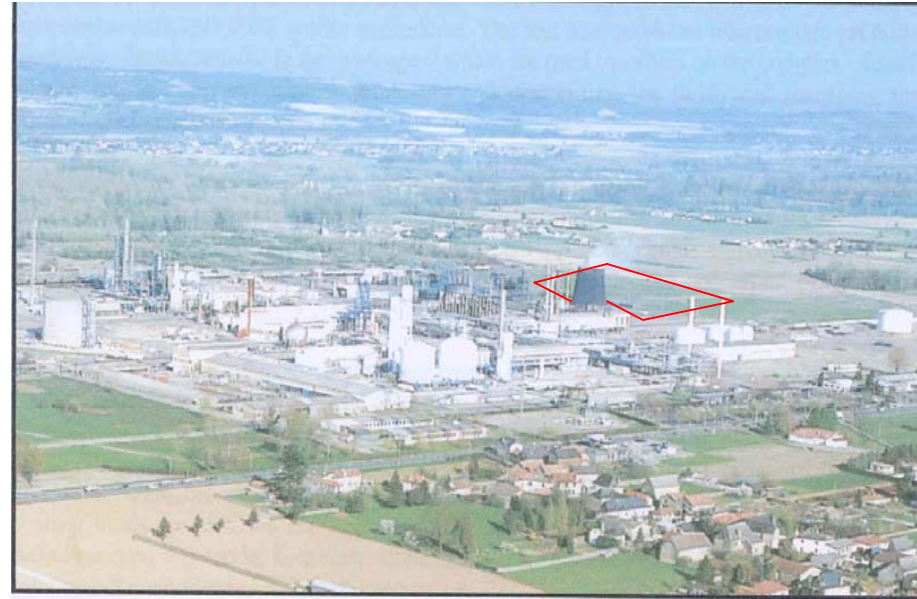
- ETBE production at Total refineries in Dunkerke, Gonfreville and Feyzin, for a total consumption of 100 MI
- Further ETBE development through conversion of Lyondell's facility in Fos, with a capacity of 600 kTm/y of ETBE 340 MI in 2005
- New legislation launched in Feb.2005 allowing further introduction of biofuels (both biodiesel and bioethanol). The target is multiplied by 3 times the actual production.
- Firm commitment to reach the targets of the EU Directives by 2010.
- A special environmental tax to distributors who will not blend its corresponding share of biofuels.
- Public bid for new licenses to produce ethanol

### Spain:

- National Energetic Plan Review for 2005 (including renewal energy plan)
- 220 MI of ethanol used for ETBE by Repsol and Cepsa provided by Abengoa Bioenergy.
- Direct blending to be launched in Q1 2006 through terminals operated by CLH, with our third plant in Salamanca.
- Exploring further development of bioethanol introduction by means of a higher blends (E10)



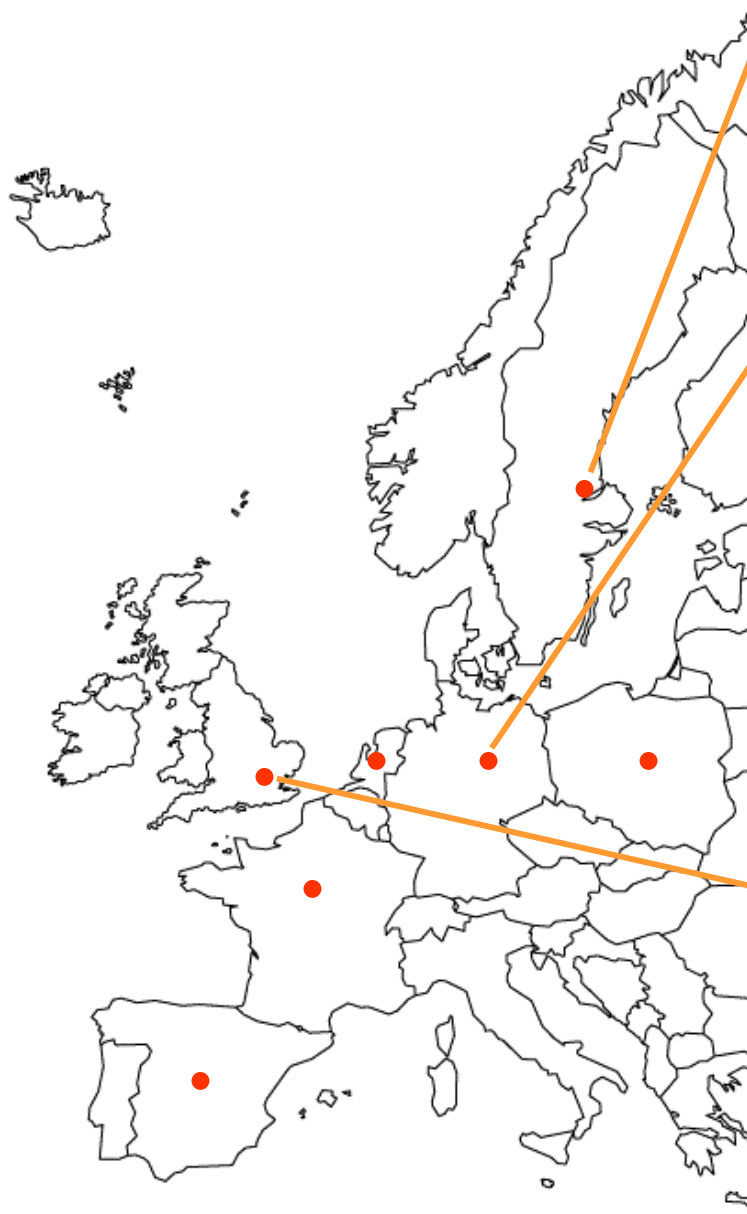
- ✓ **Location:** Pardies, Pyrenées Atlantiques
- ✓ **Investment:** >100 Meuros
- ✓ **N° Employees:** 100 (direct)  
600 (indirect)
- ✓ **Start up:** Q4 2007
- ✓ **Installed Capacity:**
  - Bioethanol (conversion) 230 MI/year
  - Ecoproteína (DDGS) 166 kTm/year
  - Grain consumption (corn) >400 KTm/year



### Shareholders:

- Abengoa Bioenergy's share 51%
- Partners: Dyneff, Aquitaine Industrie Innovations, Euralis, Etablissements Lacadée, Lur Berri, Maisadour, Vivadour and Agpm

**Ethanol destination: Direct Blending (E5) and ETBE**



### Sweden:

- E5 direct blending since mid 90's of 250 MI/y of ethanol
- Exploring further development of bioethanol introduction by means of a higher blending in petrol (E10)

### Germany:

- ETBE production started in 2004 at 2 refineries: Miro and Schwedt. 60 MI in 2004.
- Further introduction of ethanol will be given by the conversion of new ETBE facilities (Oxeno-Marl) and consumption of ETBE manufactured abroad. 180 MI in 2005.
- Direct blending is being tested in Q1 2005 by principal oil companies for a massive introduction in late 2005.

### United Kingdom:

- Tax exemption for direct blending since jan-05, which is supposed to be introduced gradually.
- No ETBE production is considered for local consumption but some refineries are planning to convert its ether facilities to provide ETBE for German and Benelux markets.

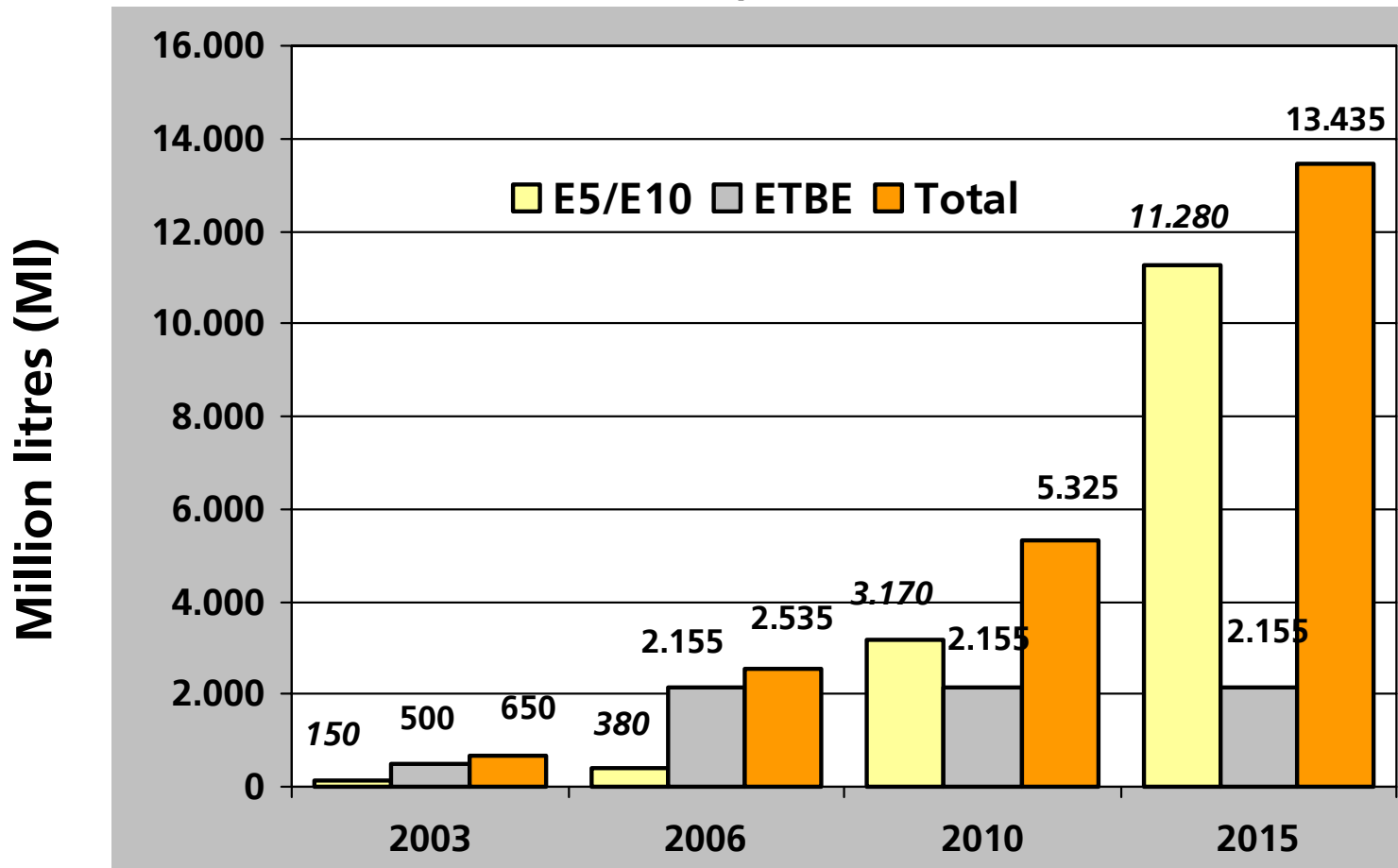
Focusing on bioethanol to be directly blended into petrol as E5 or used in the manufacturing of ETBE, the potential demand from European countries to reach the indications from the Directive of Promotion of Biofuels (2% in 2005 and 5.75% in 2010) will be as per table below (energy content equivalent).

For the EU15 the total potential demand on 2005 will be up to 4.920 million litres, and 14.146 million litres on 2010. Considering the new Members since may 2004, the potential demand for EU25 will be up to 5.393 million litres in 2005 and 15.504 million litres in 2010

Country	kt gasoline 2000	Target 2005	Target 2010
		2% EtOH Ml eq	5,75% EtOH Ml eq
Germany	30.036	1.252	3.598
UK	22.703	946	2.720
Italy	17.527	730	2.100
France	14.347	598	1.719
Spain	8.958	373	1.073
<b>EU15</b>	<b>118.091</b>	<b>4.920</b>	<b>14.146</b>
Poland	5.213	217	624
Czech Rep.	1.953	81	234
<b>EU25</b>	<b>129.422</b>	<b>5.393</b>	<b>15.504</b>

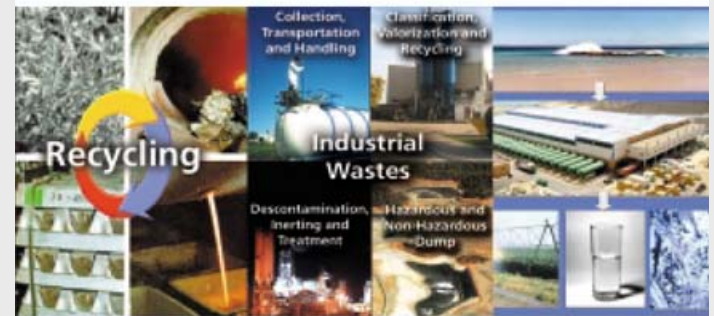
Source F.O.Licht (2003)

### Expected Ethanol Demand in the EU (based on estimated implementation of ETBE and E5/E10)



**Hypothesis: Late implementation of Directives gives a introduction of 40% in 2010  
Direct Blending not massively introduced until 2010**

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