

ABENGOA

IV Annual Analyst and Investor Day

October 22nd – 23rd, 2008

**ABENGOA
BIOENERGY**



- ✓ **Abengoa Bioenergy H1 Results**
- ✓ **The Evolution of Abengoa Bioenergy**
- ✓ **Market Outlook**
 - ❑ **EU Market and overview**
 - ❑ **USA Market and overview**
 - ❑ **Brazil Market and overview**
 - ❑ **New Technology overview**
- ✓ **Conclusions**



Abengoa Bioenergy H1 Results



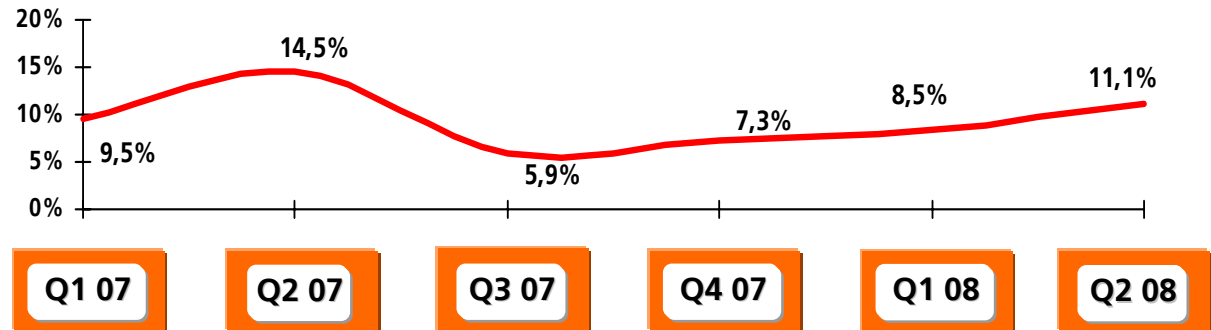
Main Magnitudes (M€)

	H1 08	H1 07	Dif.
Incomes	384,7	264,3	+ 46%
Ebitda	37,1	31,3	+ 18%
% Ebitda over sales	9,6%	11,8%	- 2,1%

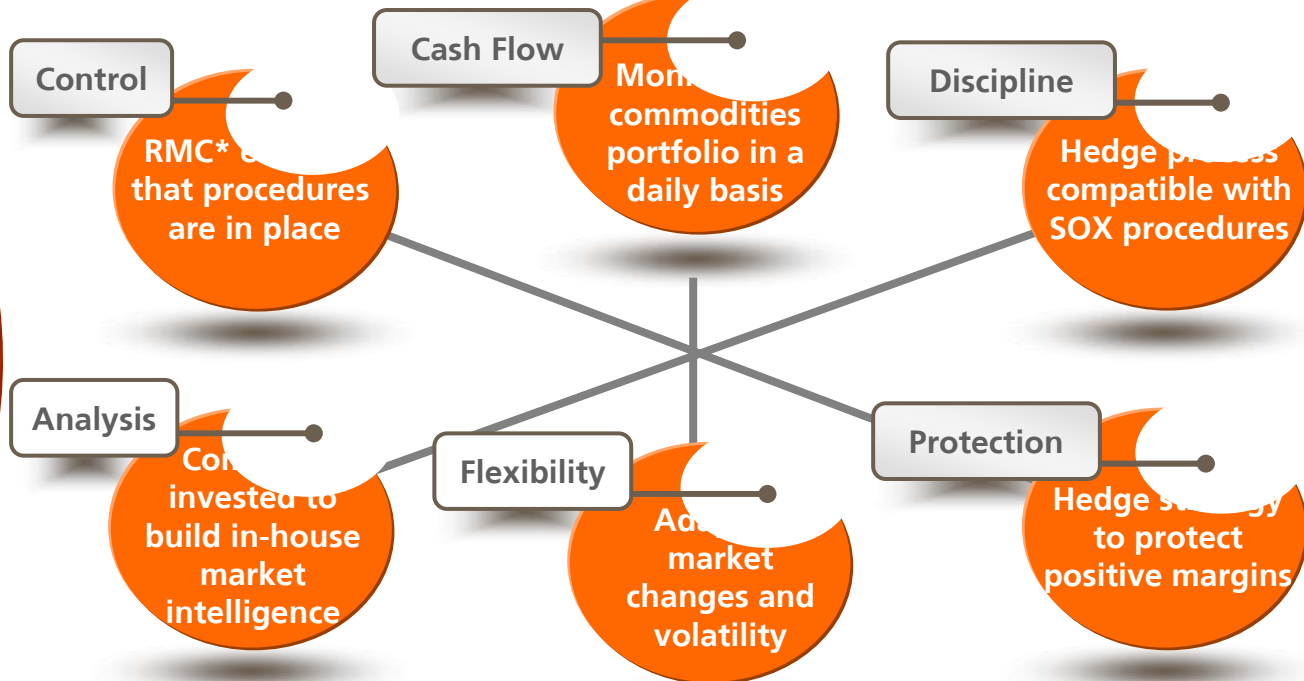


Successful management
of our assets and
execution of our Risk
Management Policy

(% Ebitda over sales)



Risk Management
Policy



*RMC = Risk Management Committee

The Evolution of Abengoa Bioenergy



- ▶ Abengoa identifies the need for a renewable alternative for transport sector energy needs
- ▶ Construction of the two largest facilities in Europe
- ▶ Acquisition of High Plains Corporation in the U.S.

1995 - 2001

2002 - 2006

- ▶ Joint venture with Cepsa (Total) for ETBE facility and 200 kt/year biodiesel plant
- ▶ Start-up Salamanca Plant. 200 MI/year (53 Mgal / year)
- ▶ Expansion of plants (York, Colwich, Portales and Galicia)
- ▶ More than 265 MI (70 Mgal) of ethanol exports to Europe
- ▶ R&D award by the U.S. DOE (2,2 MUSD + 35,5 MUSD)
- ▶ R&D award by the European Commission (4.5 M€)

- ▶ Acquisition Dedini Agro
- ▶ 76 MUSD award from DOE for a ethanol commercial facility from lignocellulosic biomass
- ▶ Funding obtained for: Lacq, Indiana, Illinois
- ▶ Start-up plant of Lacq
- ▶ Start-up Ravenna Plant 330 MI/year (88 Mgal / year)

2007 - 2008

- ▶ 31,2 M€ award from Spanish Ministry of Industry to design and develop new ethanol production technologies
- ▶ Start construction of : Netherland, Indiana, Illinois and San Roque
- ▶ Prince Philip Award for Business Excellence in the category of Renewable Energies and Energy Efficiency
- ▶ York pilot plant reception and first ethanol production from biomass





Cartagena, Sp
150 MI/year
Since 1999



Coruña, Sp
195 MI/year
Since 2001



Salamanca, Sp
200 MI/year
Since 2006



Lacq, FR
250 MI/year
Since 2007



Rotterdam, NE
480 MI/year
Construction



San Roque, Sp
250 MI/year
Construction



York, NE
210 MI/year
Since 2001



Colwich, KS
95 MI/year
Since 2001



Portales, NM
125 MI/year
Since 2001



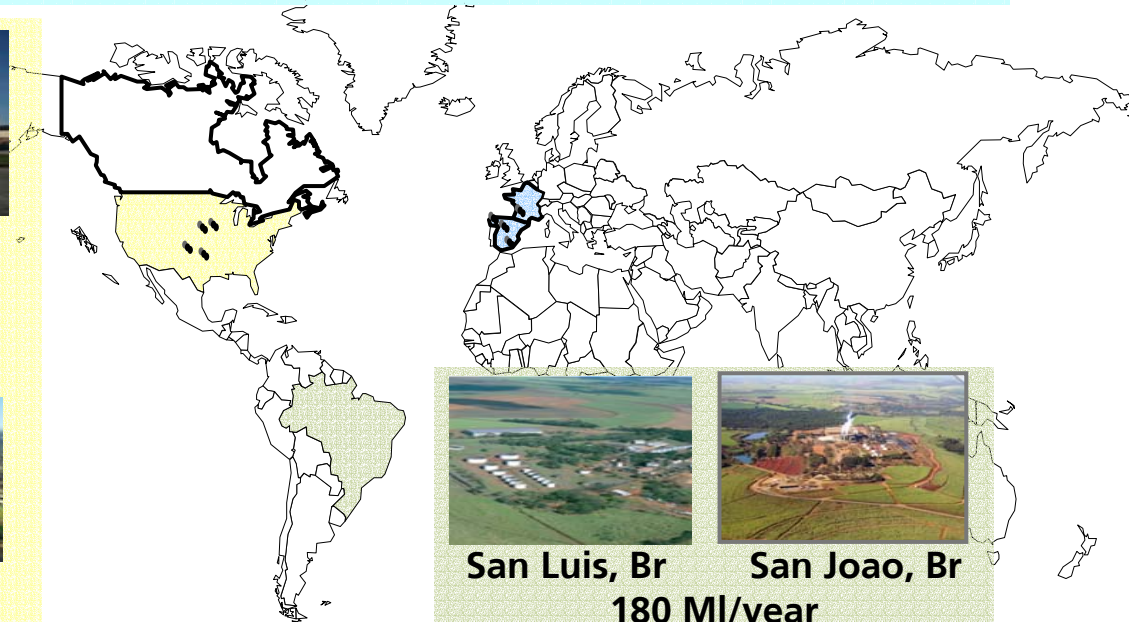
Ravenna, NE
330 MI/year
Since 2007



Evansville, IN
330 MI/year
Construction



Tricity, IL
330 MI/year
Construction



San Luis, Br
180 MI/year

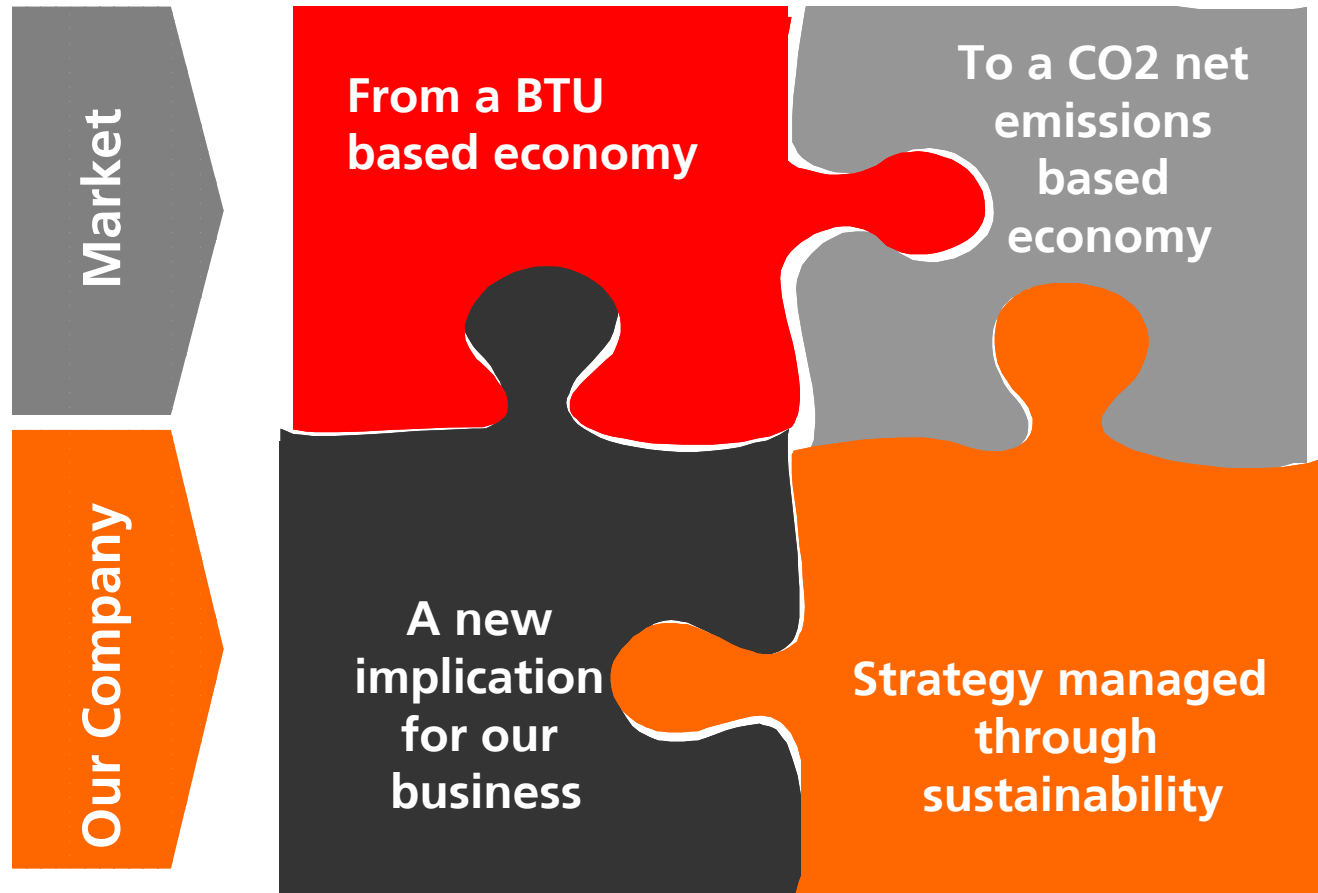


San Joao, Br
500 Kt/year - Sugar
Since 2007

From nowadays to future ethanol capacity (Ml/year)

	2007	2008 / 2009	2009 / 2010
Rotterdam			480
Indiana			330
Illinois			330
Lacq		250	
San Roque		250	
Accumulated Capacity	1.385	1.885	3.025 Ml/year







The bioethanol will be value based on sustainability criteria

Challenges

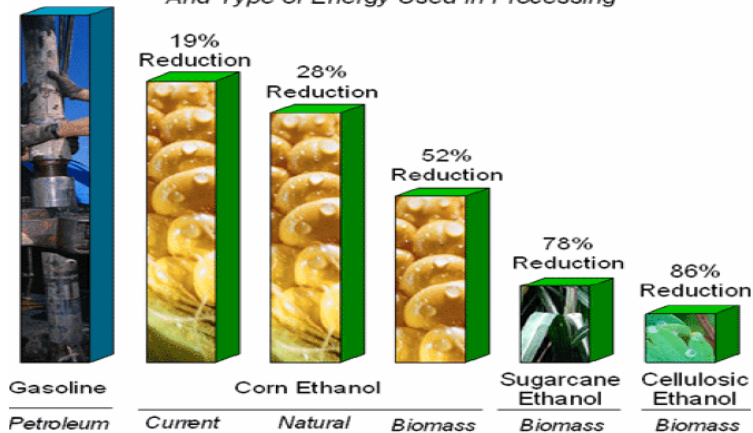
Cash	Technology	Flexibility	Supply Chain Involvement	People and Environment
<ul style="list-style-type: none"> • Enough cash from 1st generation to fund our growth and R&D program 	<ul style="list-style-type: none"> ▪ World-wide recognized leaders in 2nd generation ▪ Pilot plants in operation + starting commercial ▪ R&D investment: Ebitda s/v: 3,7% (06) vs 4,7% (07) 	<ul style="list-style-type: none"> ▪ Global Ethanol Company ▪ Vertical Integration ▪ Multifeedstock ▪ Multi-technology 	<ul style="list-style-type: none"> ▪ A distinctive set of suppliers 	<ul style="list-style-type: none"> ▪ Professional and personal development ▪ Social development

Opportunities



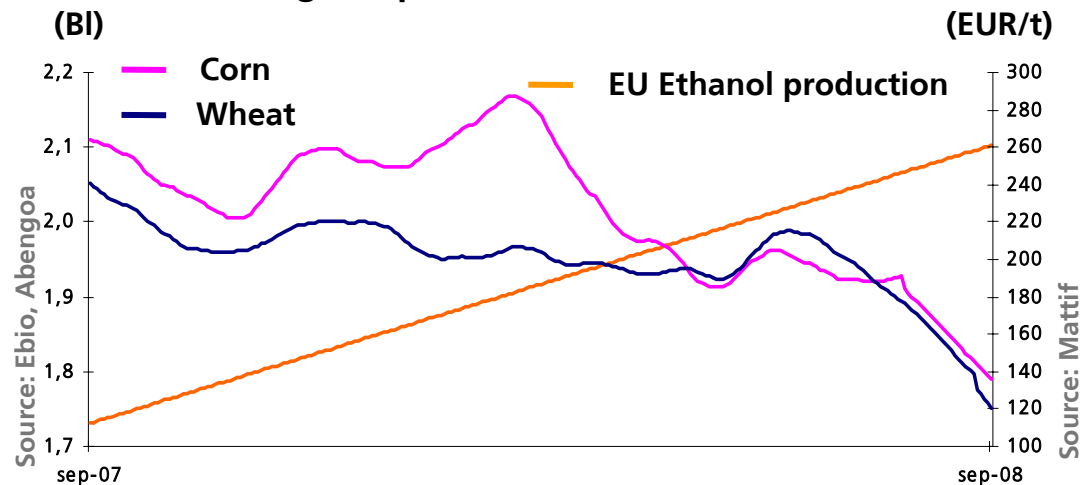
Biofuels are not responsible neither for Food prices nor Global Warming

Greenhouse Gas Emissions by Transportation Fuel
And Type of Energy Used in Processing



Sources: Wang et al, *Environ. Research Letters*, May 2007; Wang et al, *Life-Cycle Energy Use and GHG Implications of Brazilian Sugarcane Ethanol Simulated with GREET Model*, Dec. 2007

Coarse grain prices vs. EU Ethanol Production



Source: Ebio, Abengoa

Source: Mattif

sep-08

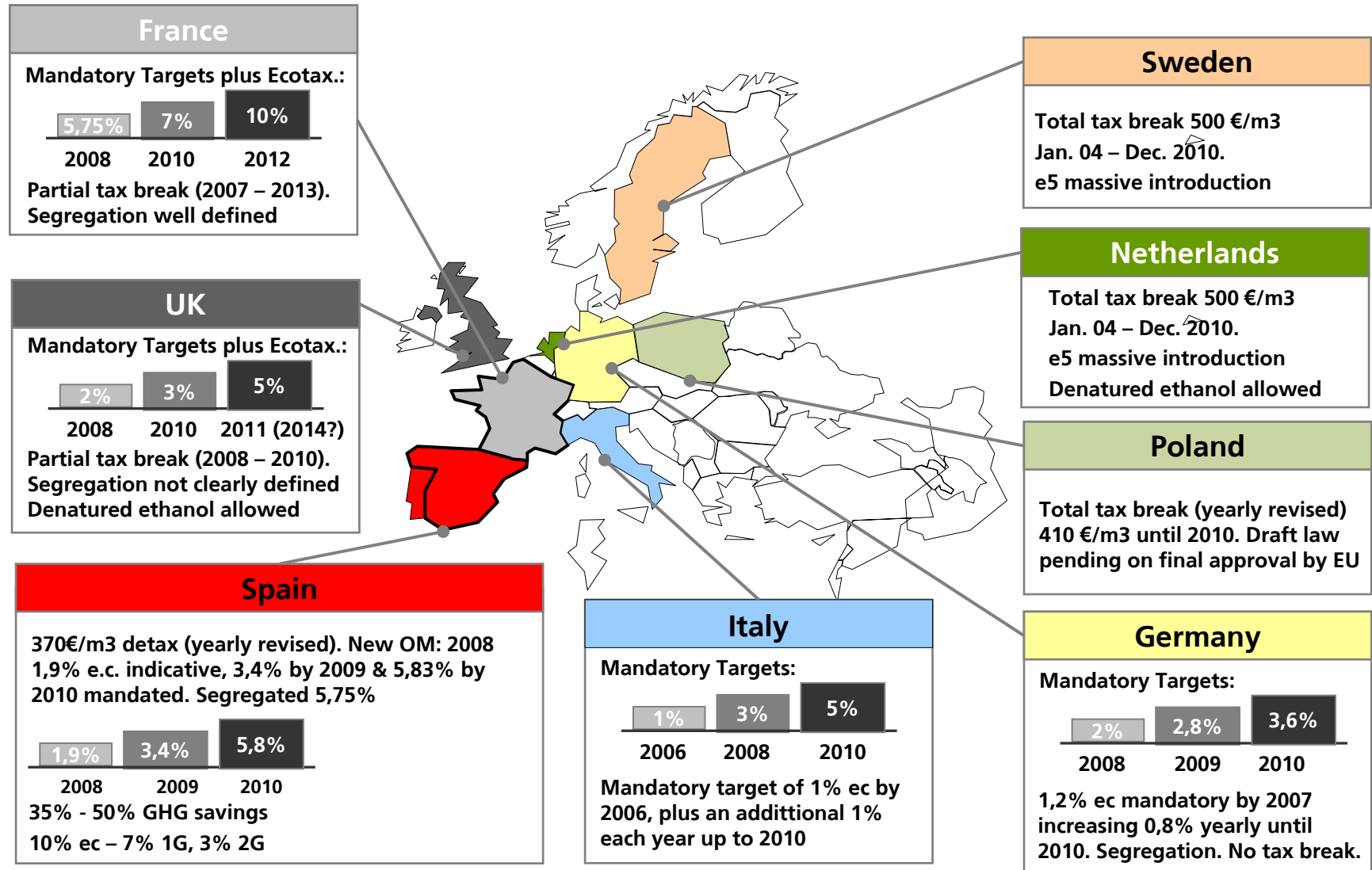
Biofuels contribute significantly to reduce GHG

Cereal prices were down 50% while ethanol production increased by 20%

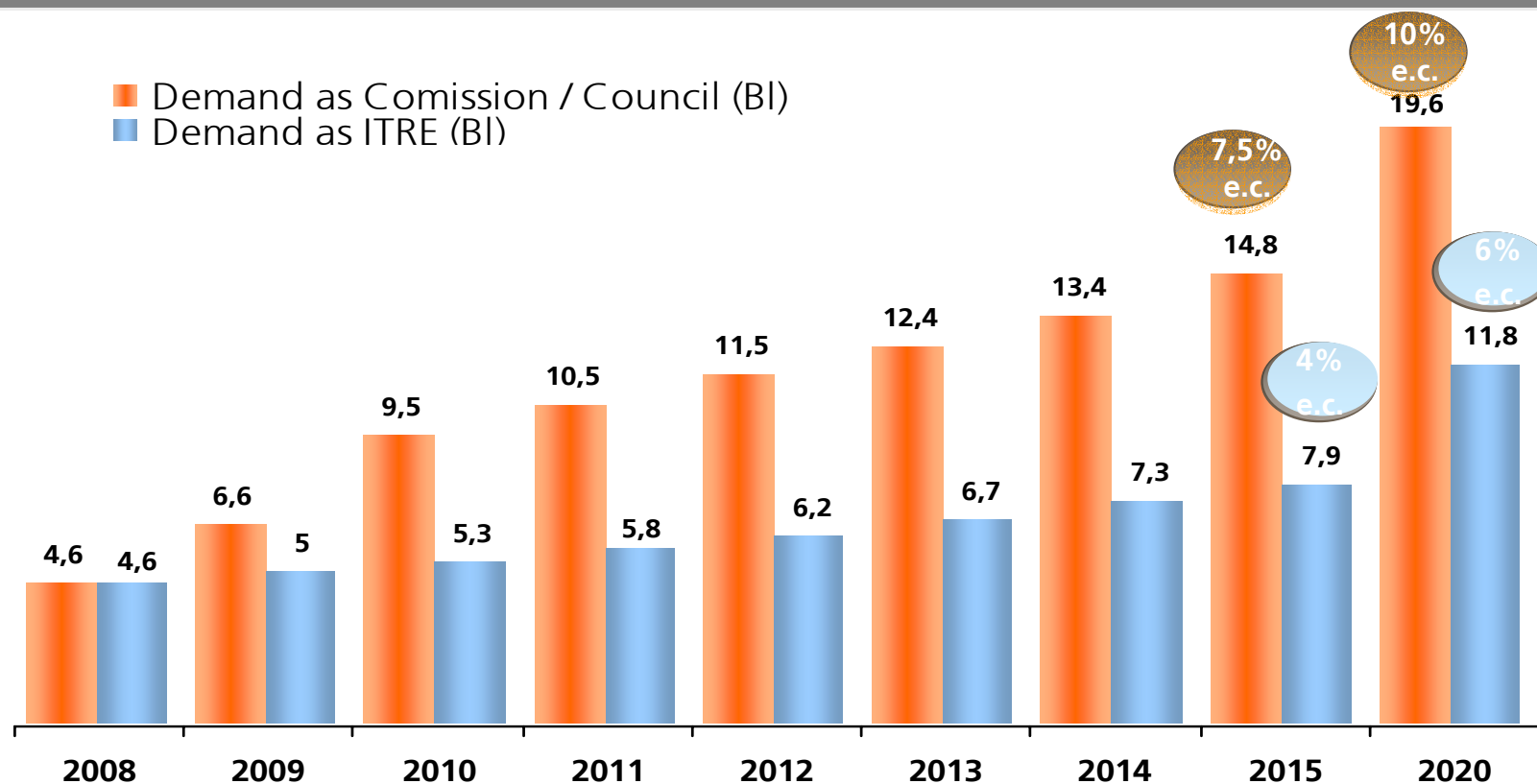


EU Market Outlook





Commission	Parliament (Industry and Energy Committee)
Scope and targets	
<p>Indicative 5,75% from total fuel consume for transport in 2010 (Includes maritime and rail transport,...)</p>	<p>5% from total fuel consume just for road transport in 2015, from them:</p> <ul style="list-style-type: none"> • 1% for 2G (hydrogen, electricity, ligno-cellulosic biomass,...) • 4% for 1G biofuels
<p>Obligatory 10% share of renewable energy in the energy consumption of petrol and diesel in transport as a whole in 2020 (includes maritime and rail transport..)</p>	<p>10% from total fuel consume just for road transport in 2020, from them:</p> <ul style="list-style-type: none"> • 4% for 2G (hydrogen, electricity, ligno-cellulosic biomass,...) • 6% for 1G biofuels
GHG savings	
<p>GHG savings in biofuels compared to fossil fuels should reach at least 35%, increasing to 50% in 2017</p>	<p>GHG savings in biofuels compared to fossil fuels should reach at least 45%, increasing to 60% in 2015</p>

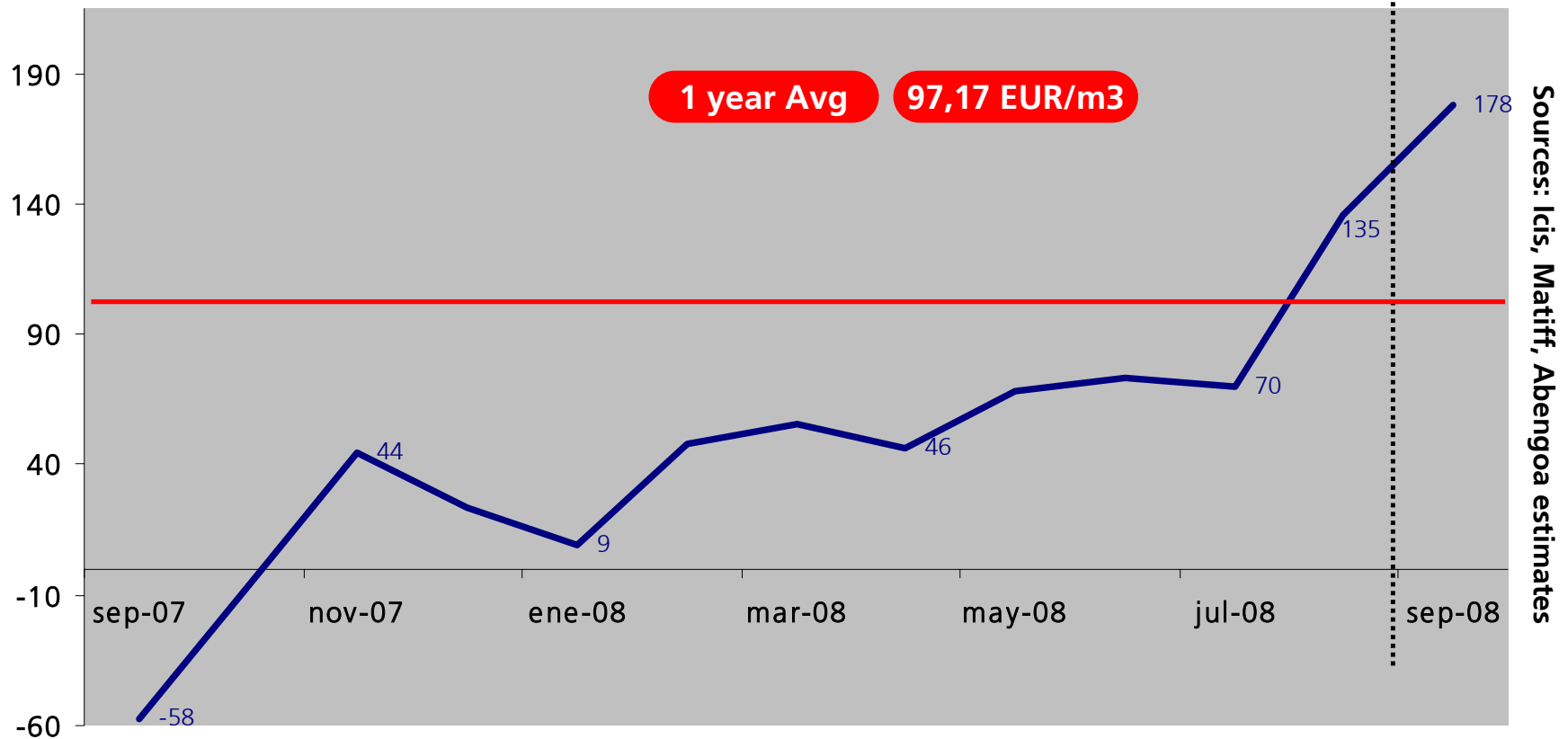


Sources: Icis, Matiff, Abengoa estimates

- Demand increases a 19,9% in the Comission/ Council scenario
- Demand increases a 12,6% in the ITRE last proposal

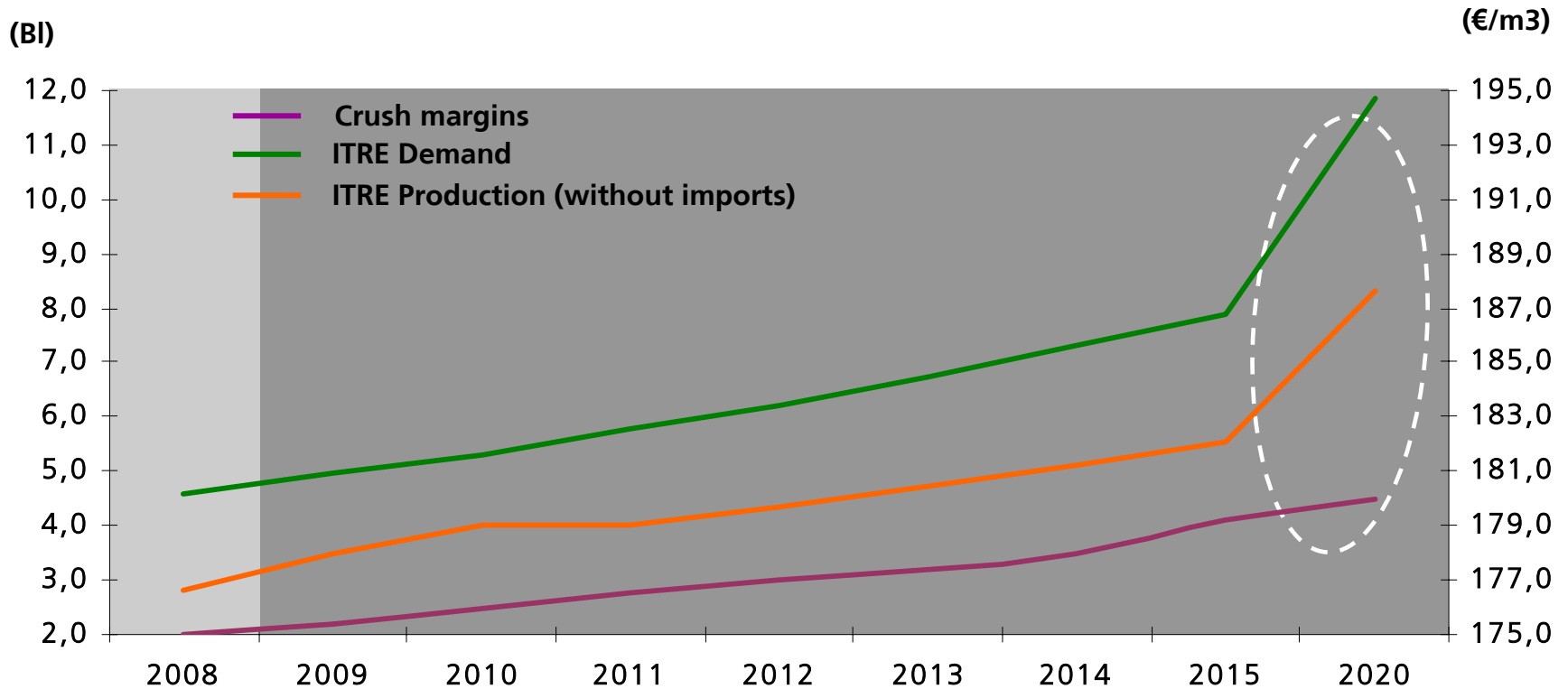
CAGR (08-20) = 19,9%
CAGR (08-20) = 12,6%

(€/m3)



Ethanol Crush = (Icis Lor Ethanol price – (Matiff Maizze price / yield))

EU market crush spread heading to high margins



Sources: ITRE, Abengoa estimates

We envision a demand market in which we need significant quantities to be imported as well as new plants

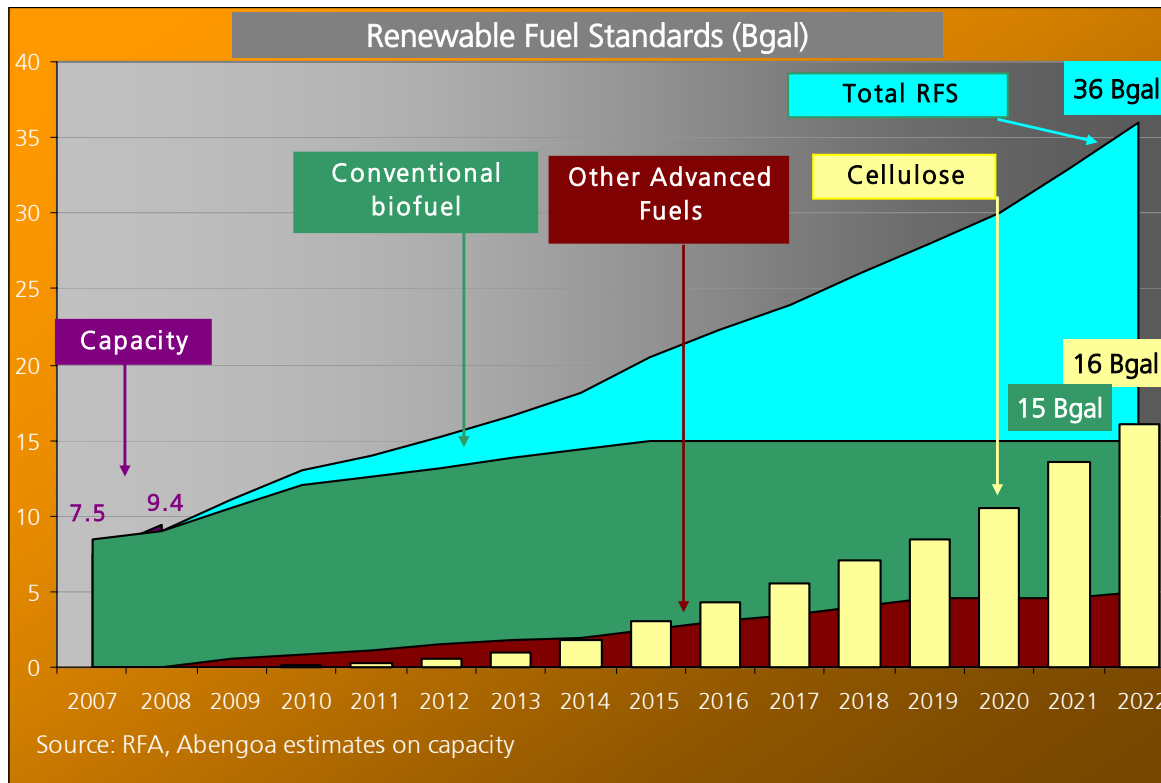
1. 2020 demand increases x2 in the worst case and a x5 in the last Commission proposal
2. The current legislation is aligned with our strategy on biomass to ethanol
3. Higher margins due to the pressure on increasing demand
4. Current sustainability criteria under development on D.E.R. compatible with our strategy approach defined back in 2002

AB positioned to capture extra margin as the first mover



U.S. Market Outlook

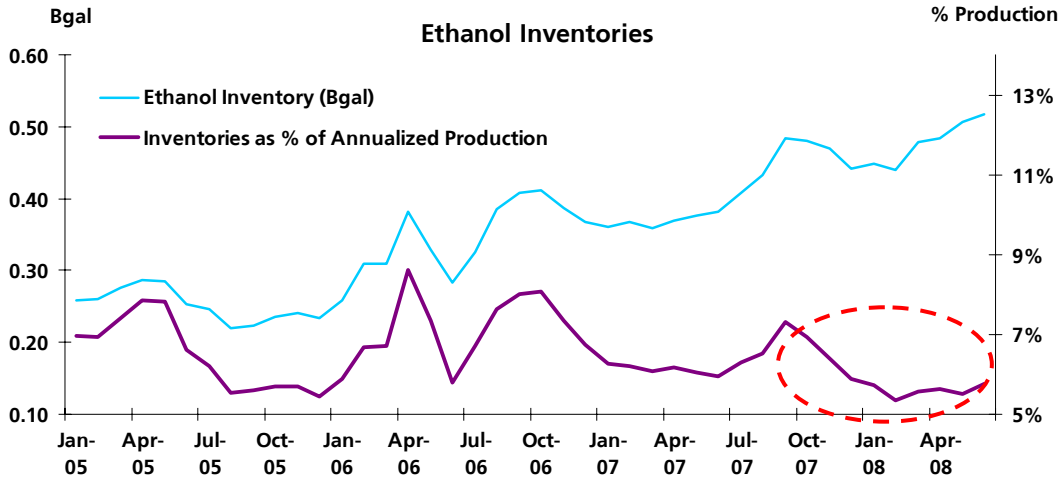




Year	Ethanol Market Share
2015	12%
2022	25%

BioFuel Type	GHG%
Conventional	20%
Advanced	50%
Cellulosic	60%

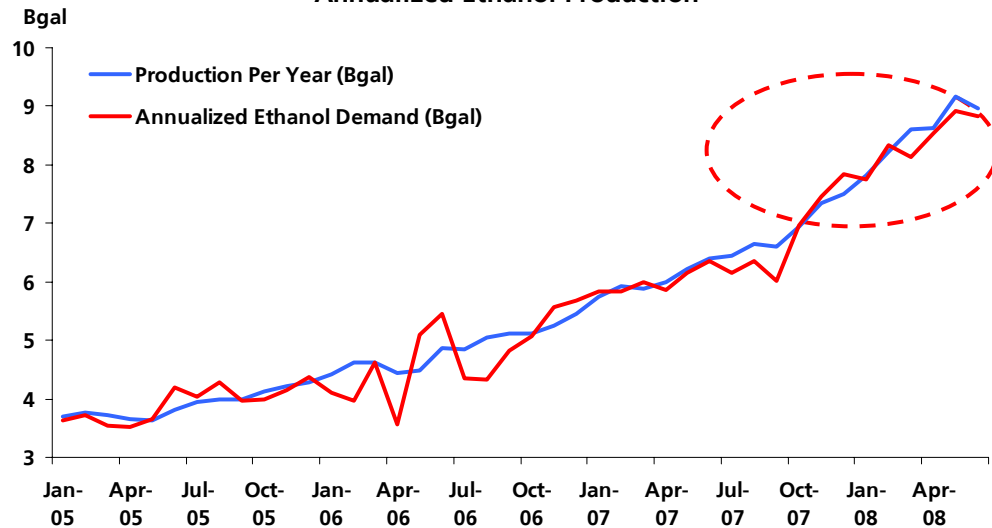
Mandate ensures demand would be sufficient to offset ethanol capacity expansion in years to come, increasing ethanol prices



Source: US DOE

Ethanol inventories as a % have been decreasing...

Annualized Ethanol Production



Source: US DOE

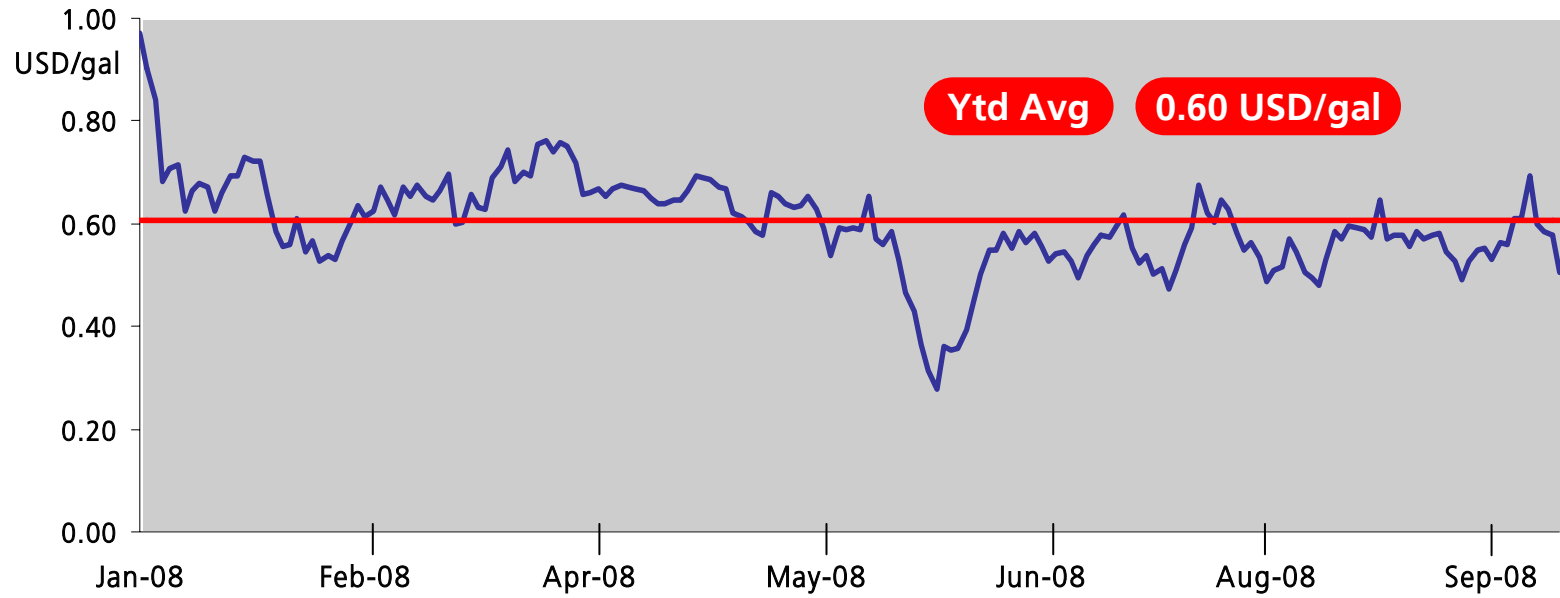
...while demand has been on the rise since 2005

2005-2008 Demand CAGR

29%

2005-2008 Supply CAGR

29%



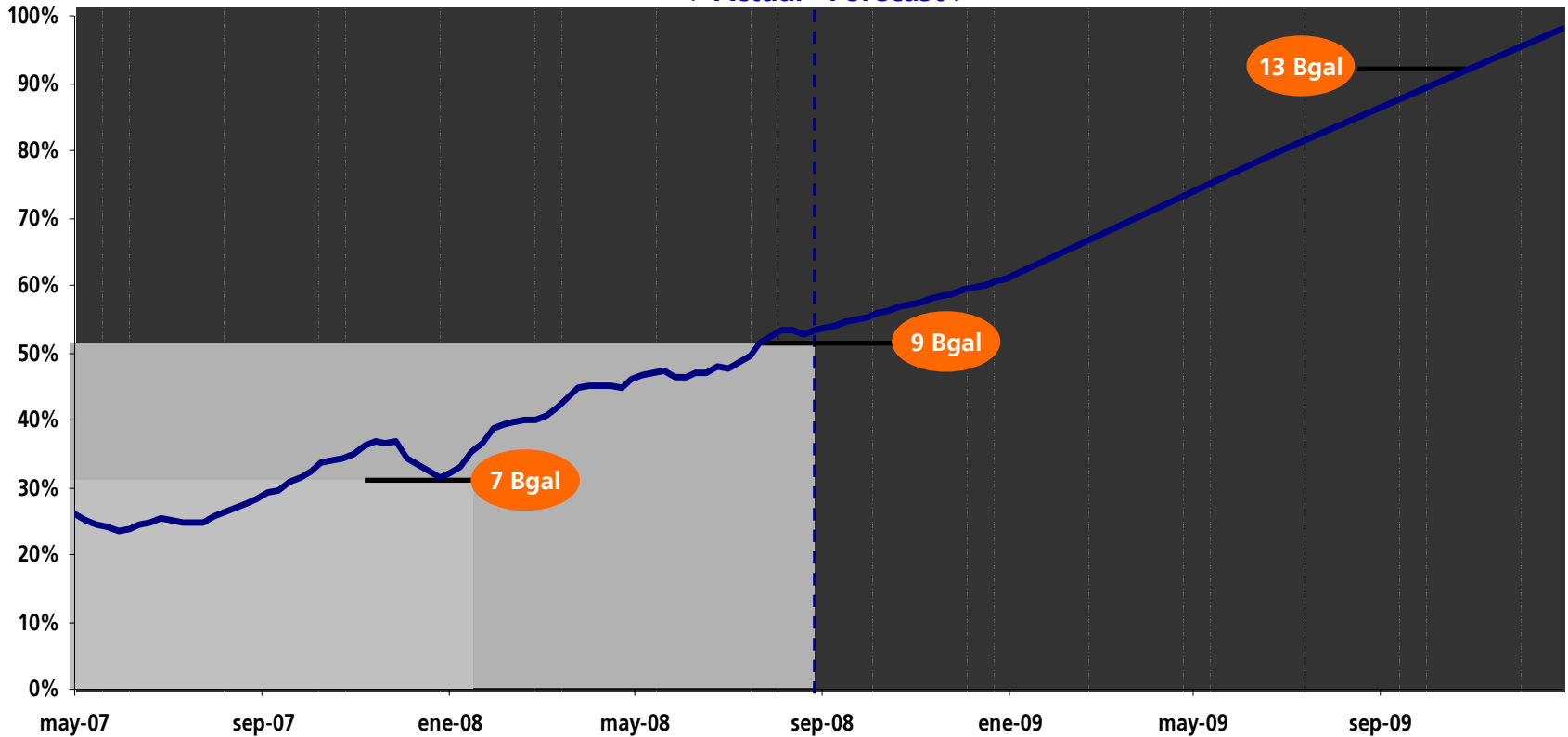
Ethanol Crush = (CBOT Ethanol price) - (CBOT corn price/2.7) * 70% - (NYMEX Nat Gas * .031767 mmBTU/gal)

Source: CBOT, NYMEX, Abengoa calculations

US market crush spread has been very steady over the past year

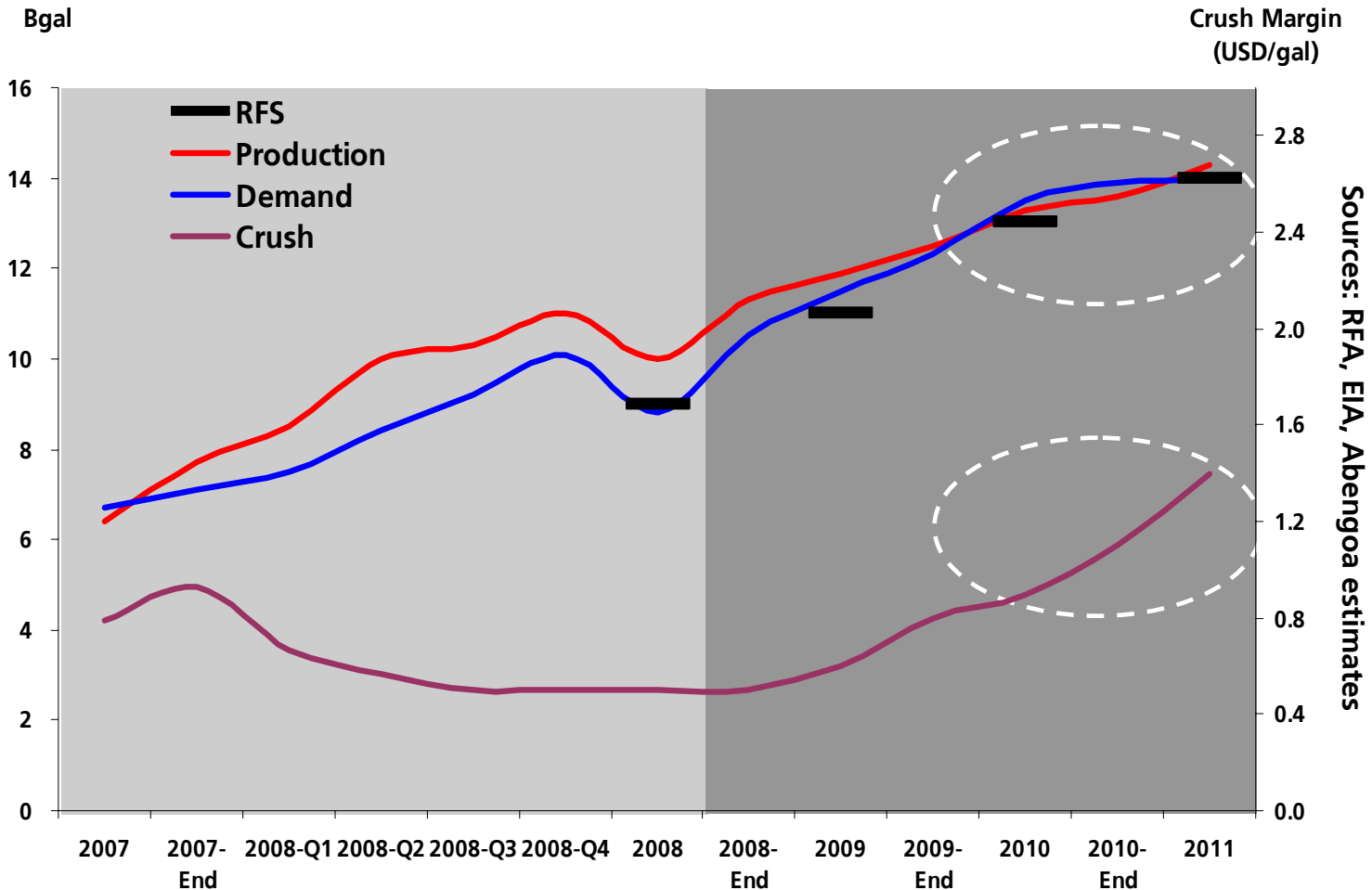
% of Ethanol on
Conventional
Gasoline Blended

<- Actual Forecast->



Sources: EIA for historical, Abengoa forecasts based on recent trend line

Exceptional growth of conventional gasoline demand



Sources: RFA, EIA, Abengoa estimates

**Crush Spread is expected to improve in 2009
as ethanol demand would balance supply**



- The worst in the ethanol market is behind us
- Huge incentive to maintain demand for conventional gasoline blends
- By the end of 2009 ethanol supply and demand would balance, which will pressure crush spread to increase
- Low expectations of large Brazilian exports in US
- Risk Management and working capital policies as a critical factor to succeed in this market

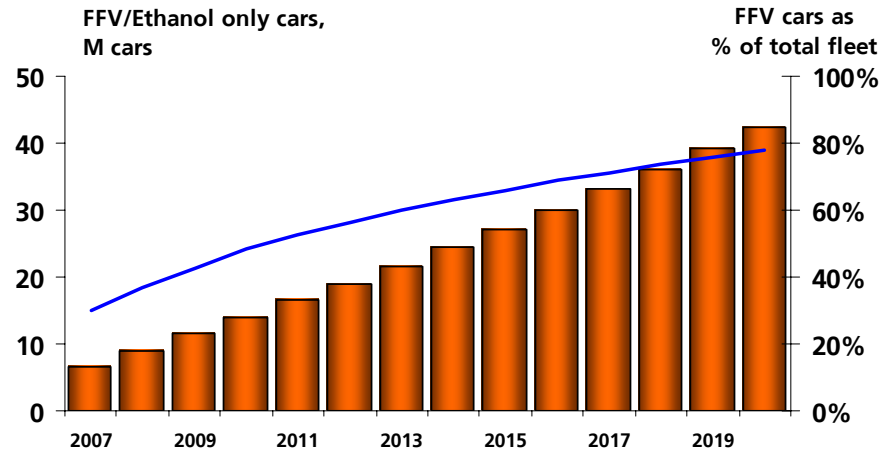


Brazil Market Outlook



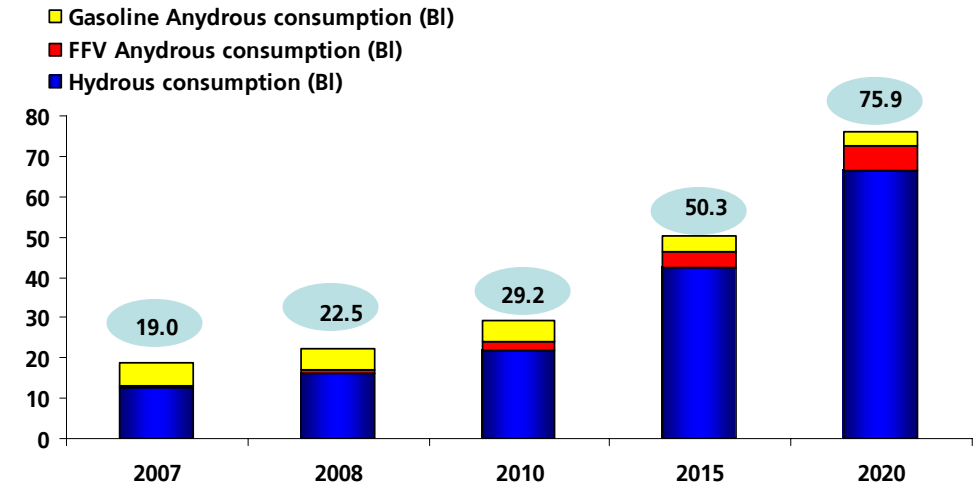
Ethanol domestic demand: Main driver for sector growth

Estimated FFV growth



Sources: ANFAVEA, Bear Stearns, Abengoa Estimates

Ethanol Demand by Types of Consumption



Source: UNICA, Conab, Abengoa estimates

Assumptions:

3% annual new car growth through 2020
 85% FFV as % of new cars
 2% retirement rate
 9yr-average for car retirement

g ethanol 65% of time (25% gasohol)
 nth/ a car ethanol consumption
 nth/ a car gasohol consumption
 line cars using 100% gasohol
 ol in gasohol

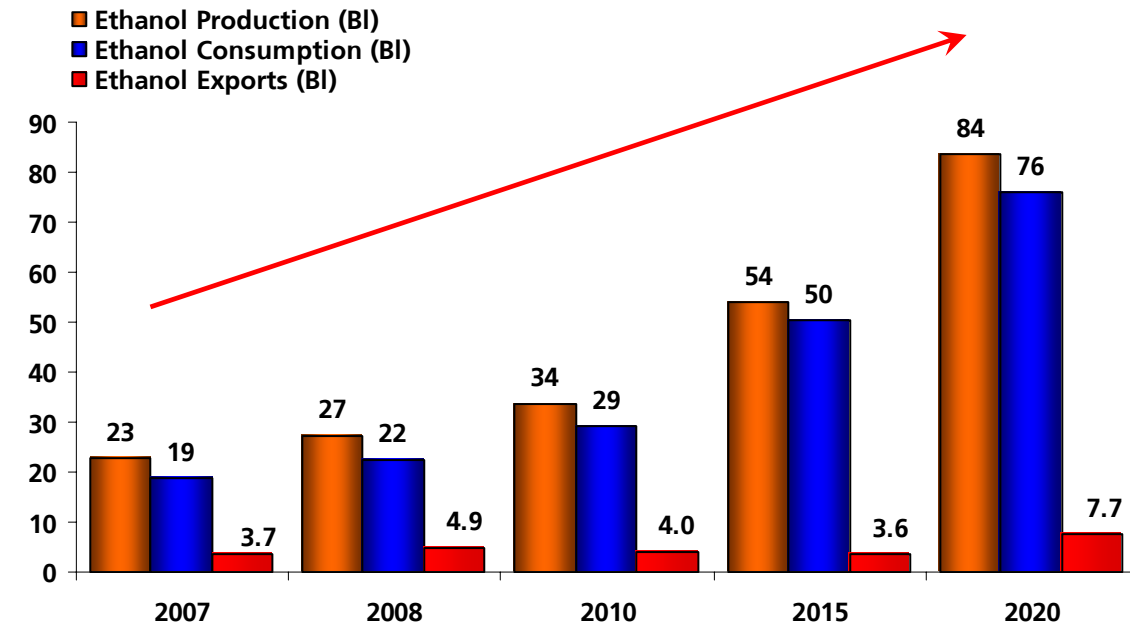
14% CAGR of FFV cars from 2007-2020 will make ethanol demand jump 2.6x by 2015, 4x by 2020!



2007-2020 Ethanol Supply CAGR 10%

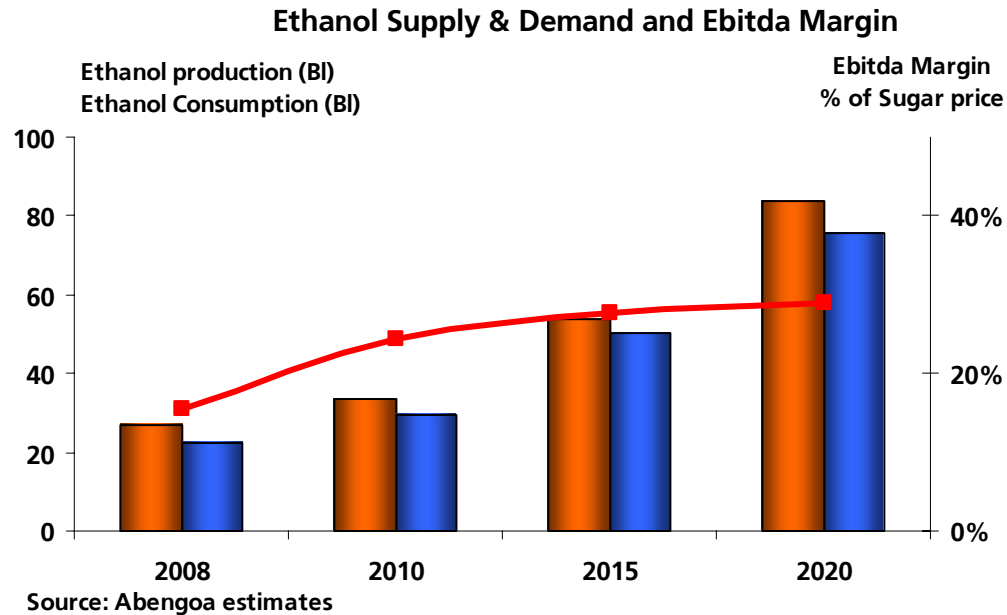
2007-2020 Ethanol Demand CAGR 10%

Brazilian Ethanol Supply and Demand



Source: Abengoa estimates, Unica, Conab, Morgan Stanley

Internal demand would limit ability to export Brazilian ethanol putting upward pressure on ethanol prices



Balanced ethanol supply and demand would keep upward pressure on Ebitda margin

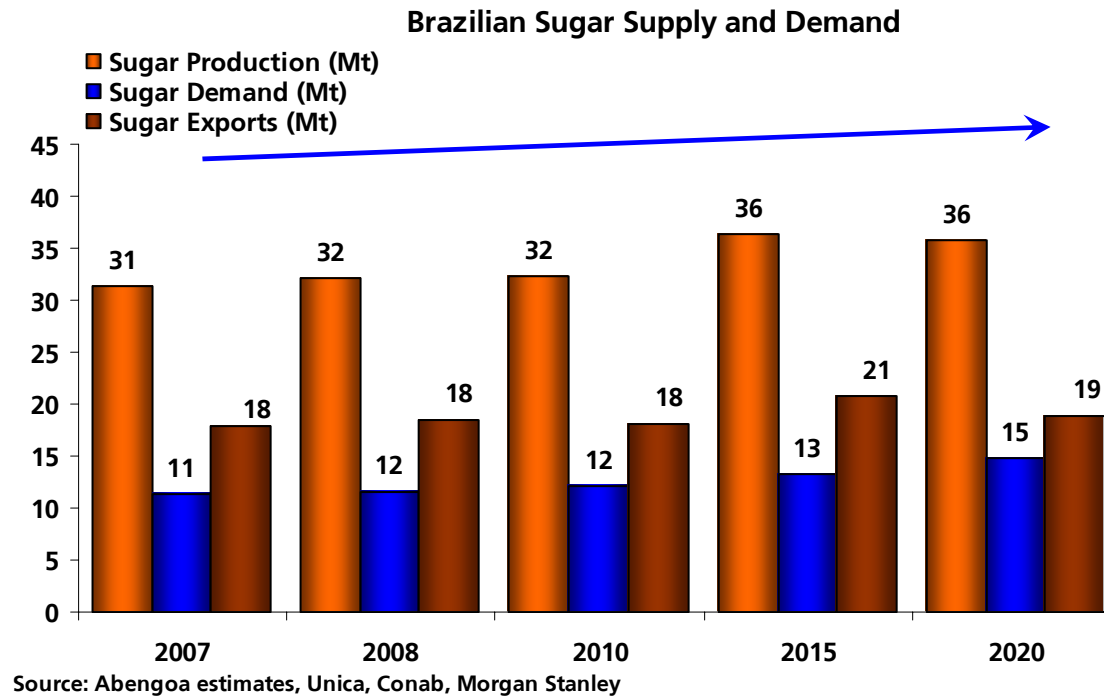
Brazilian Sugar market: Overshadowed by ethanol growth

2007-2020 Sugar Supply CAGR

1 %

2007-2020 Sugar Demand CAGR

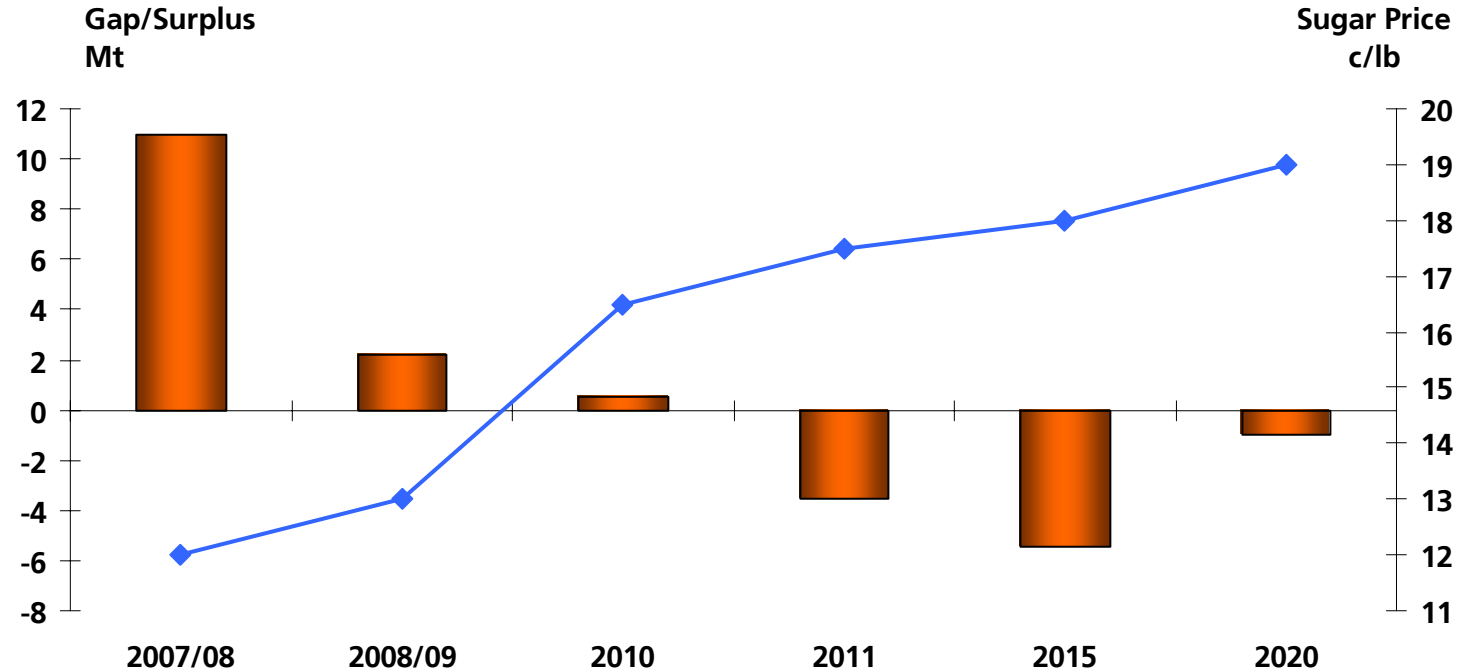
2 %



Sugar sector growth would remain limited, as focus will remain on ethanol

World Sugar Outlook 2009 - forward

Sugar balance shifting to deficit



Source: ISO, USDA, Abengoa estimates

Higher ethanol prices result in higher ethanol production in Brazil which leads to lower sugar production, sugar deficit and higher sugar prices

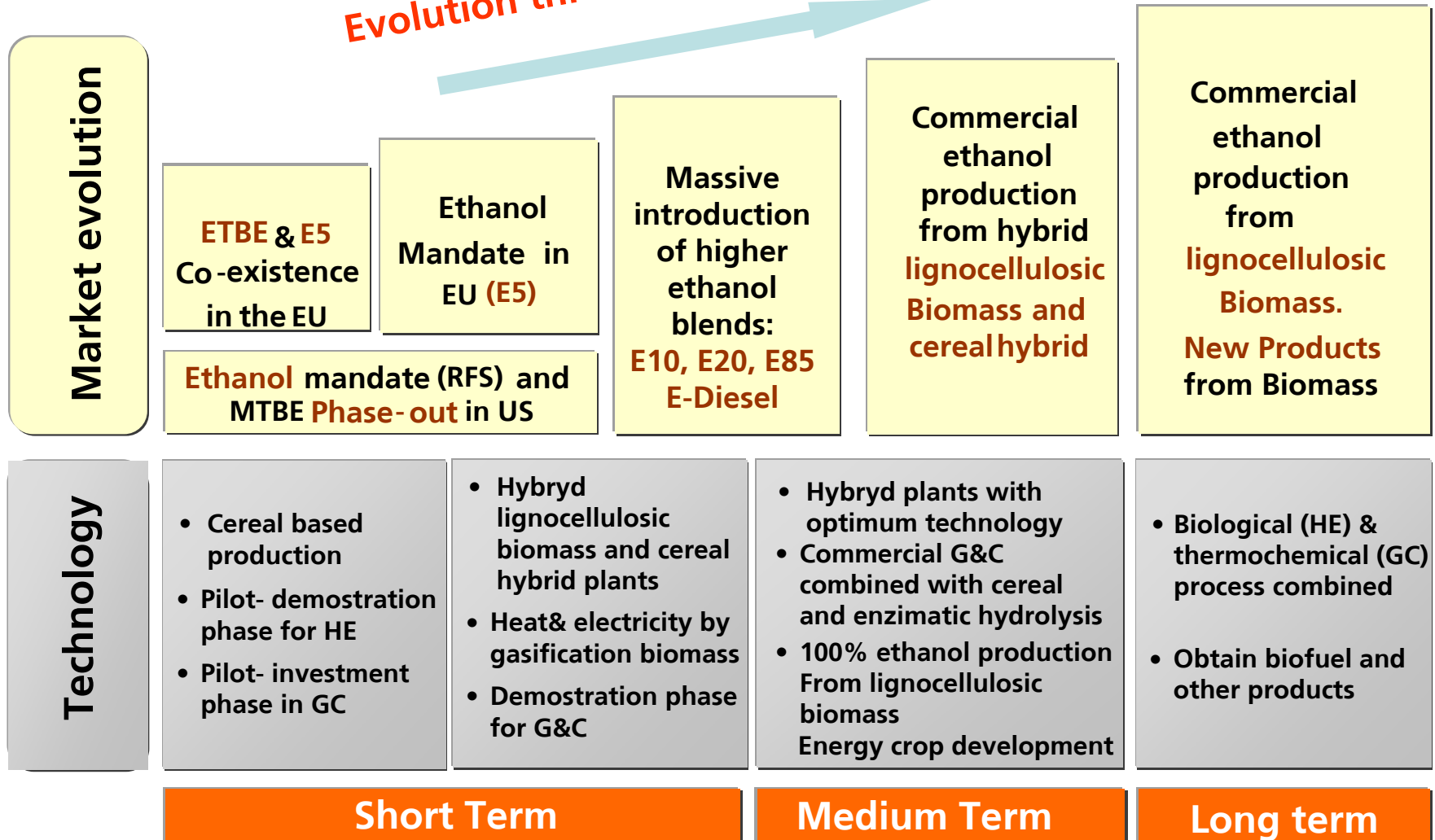
- Ethanol sector will expand massively through 2020 with increasing share allocated to ethanol and less to sugar
- Most of ethanol supply would be consumed locally due to high growth of FFV...
- ...Leaving limited room for export potential and keeping ethanol prices high
- As a result, the crush margin would improve notably
- Brazilian cogeneration has great potential, promising to deliver up to 25% of new electricity growth until 2015

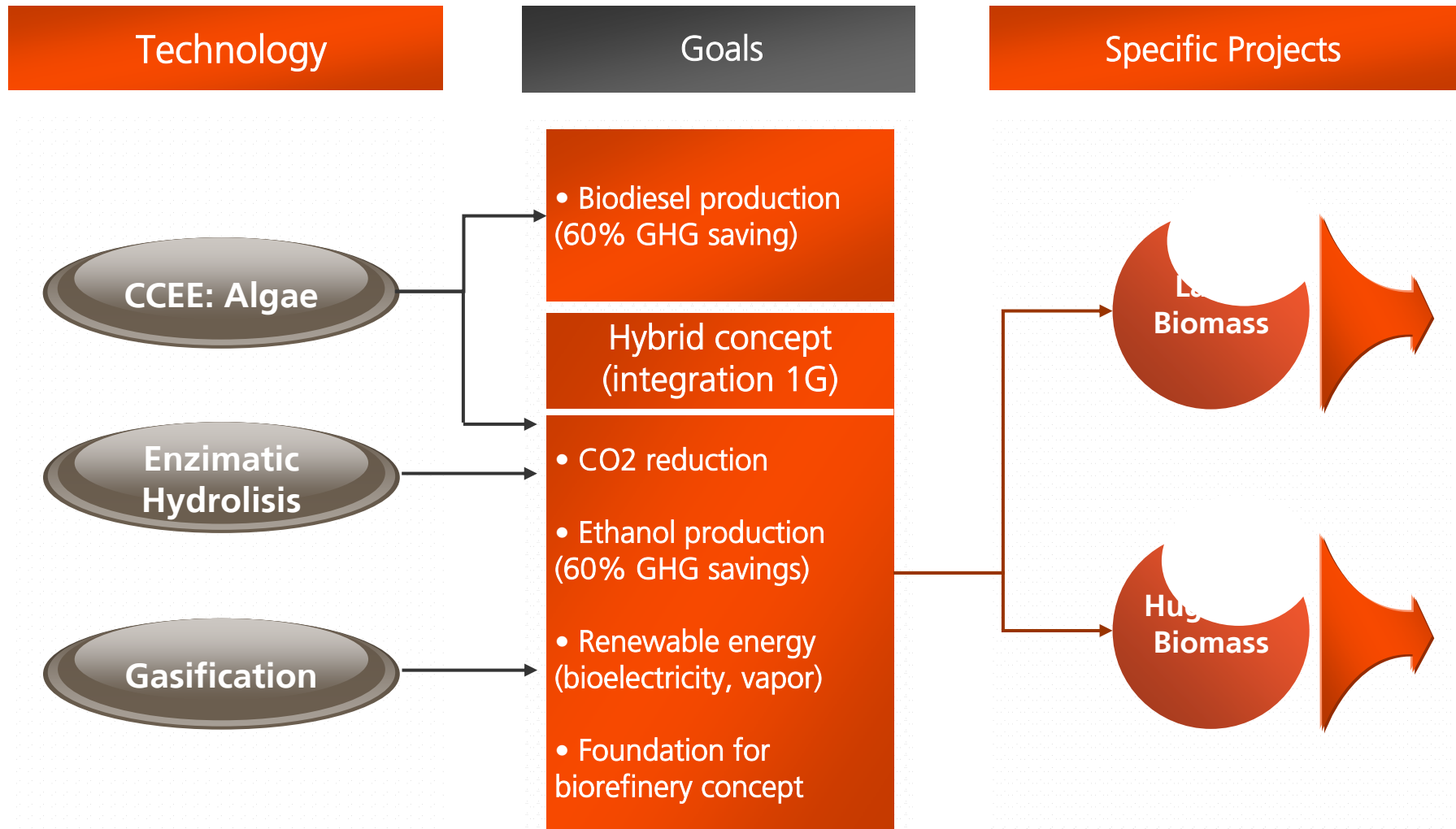


New Technologies Outlook

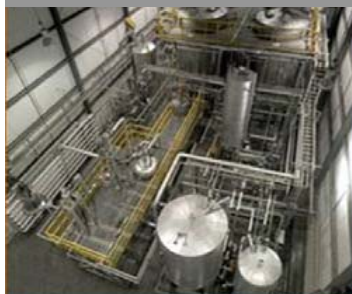


Evolution through innovation



Commercial Hybrid Biomass Plant Hugoton (KS, US)



- Capacity : 100 Mgal/year (13 Mgal/year biomass, 87 Mgal/year starch)
- Raw material : Corn starch and stover
- Technology : Enzymatic Hydrolysis (glucose & xylose)
- Objective : Production at a gasoline competitive cost
- Start-up Operations : 2011 estimated

Biomass Demonstration Plant in BCL (Salamanca, Spain)



- Capacity : 1.3 Mgal/year
- Raw material : Wheat and Barley Straw
- Technology : Enzymatic Hydrolysis (glucose)
- Objective : Demonstrate biomass-to-ethanol process technology at commercial scale
- Start-up Operations : 2008

Biomass Pilot Plant in York (NE, US)



- Capacity : 0.02 Mgal/year
- Raw material : Corn stover
- Technology : Enzymatic Hydrolysis (glucose & xylose)
- Objective : Competitive process with grain ethanol
- Start-up Oper. : 2007

Contract DOE / Hugoton KS



- ✓ The first commercial hybrid facility in USA, biomass and cereal
 - 700tn/day of biomass (ag residue and grasses) and 31MBu/y cereal
 - 400 t/day biomass a 75 gal/t = 13 Mgal/year cellulosic EtOH
 - 300 t/day biomass for gasification, net gas replacement
 - Cereal conversion to 87 Mgal/year cereal EtOH
 - Biomass and cereal supplied by the same local producers
- ✓ Process and detailed engineering on track by Q3 2009.
- ✓ Current progress on major permits anticipates the completion of air permit by Q2 2009 and the Environmentals by Q3 2009.
- ✓ Startup is anticipated to commence in 2012
- ✓ Loan guarantee from the USDA can guarantee up to 250 MUSD of project debt.
- ✓ The USDA also created a 1,01 USD per gallon tax credit for cellulosic biofuel in the 2008 farm bill

Project ABHF

Targets

- ✓ The first hybrid facility in Europe.
- ✓ To reach a life cycle > 60%



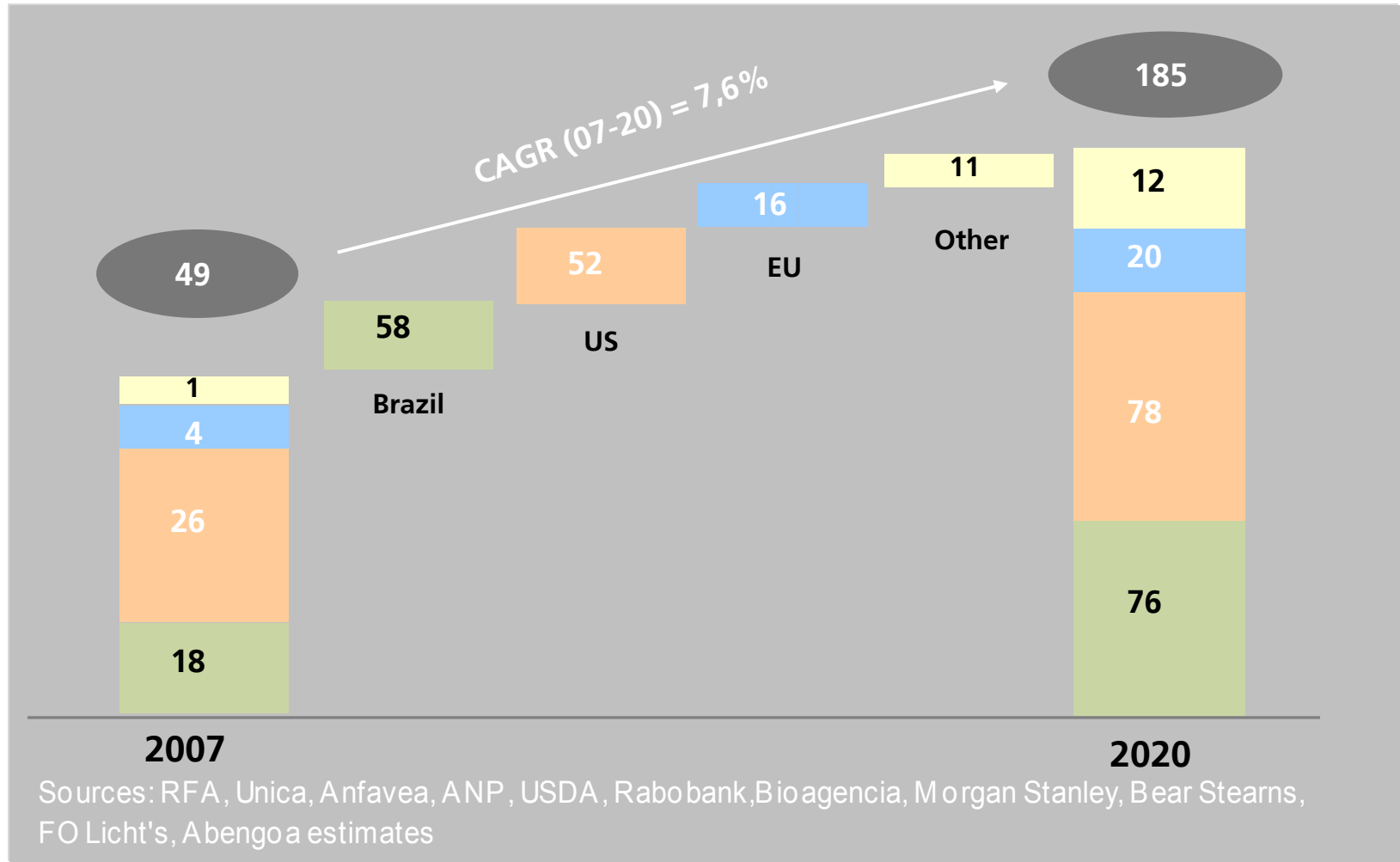
Status

- ✓ Successful presentation to the French Engineering Academy
- ✓ Ministerial request of a detailed proposal
- ✓ Stablishing strategic partnerships

Conclusions



Ethanol Demand (2007-2020) in Bt



Other

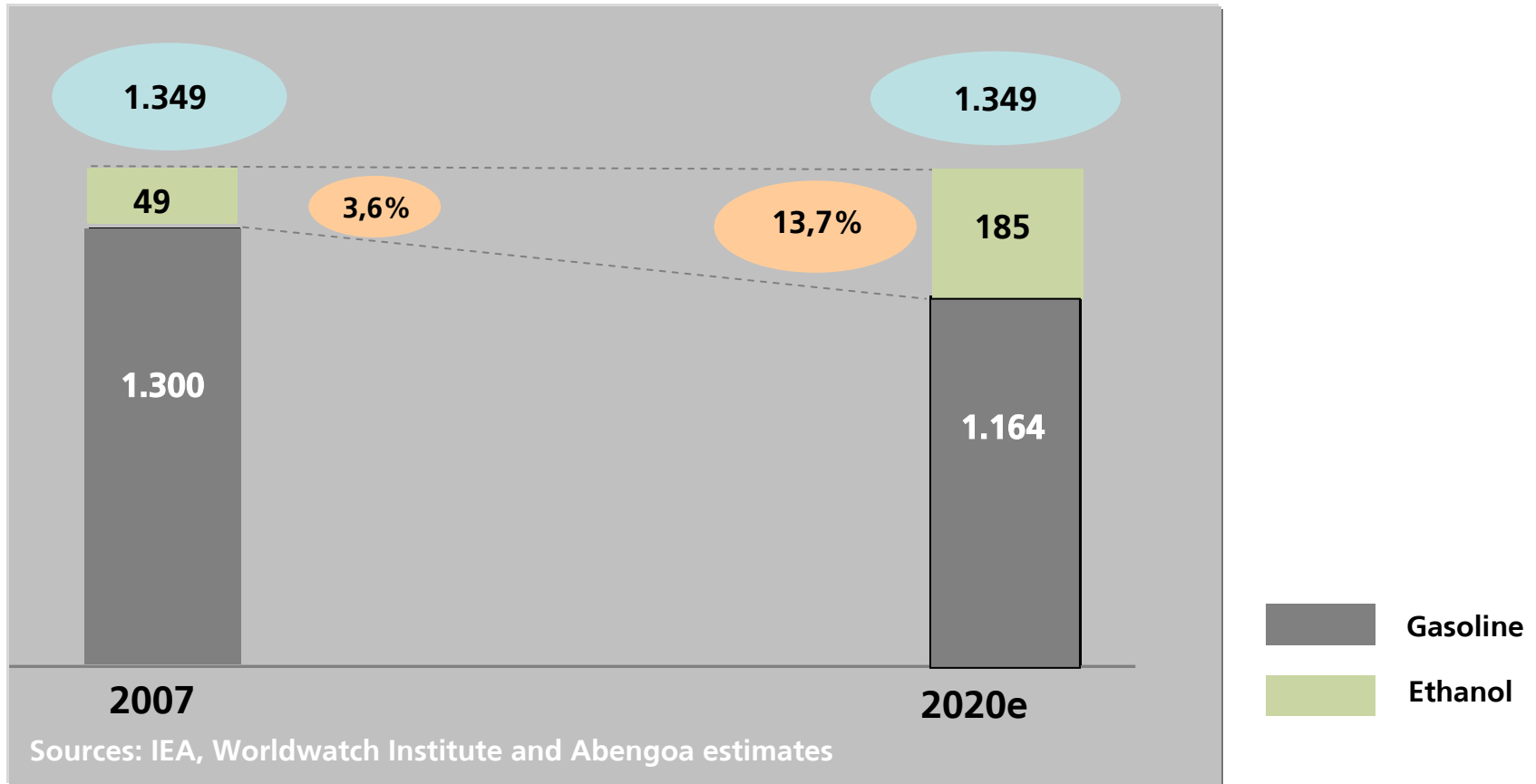
EU

US



Brazil

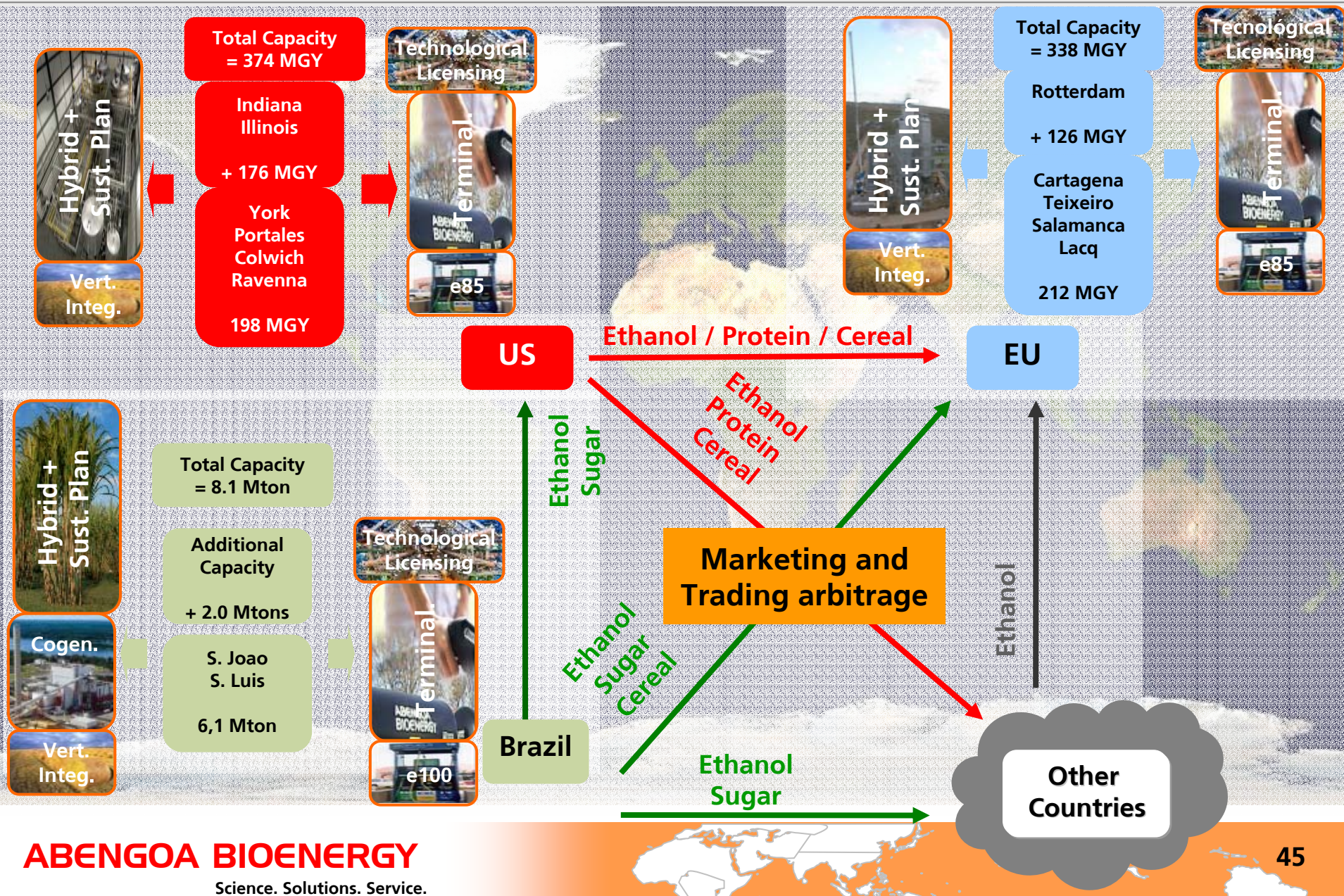


Gasoline + Ethanol Demand (2007-2020) in B

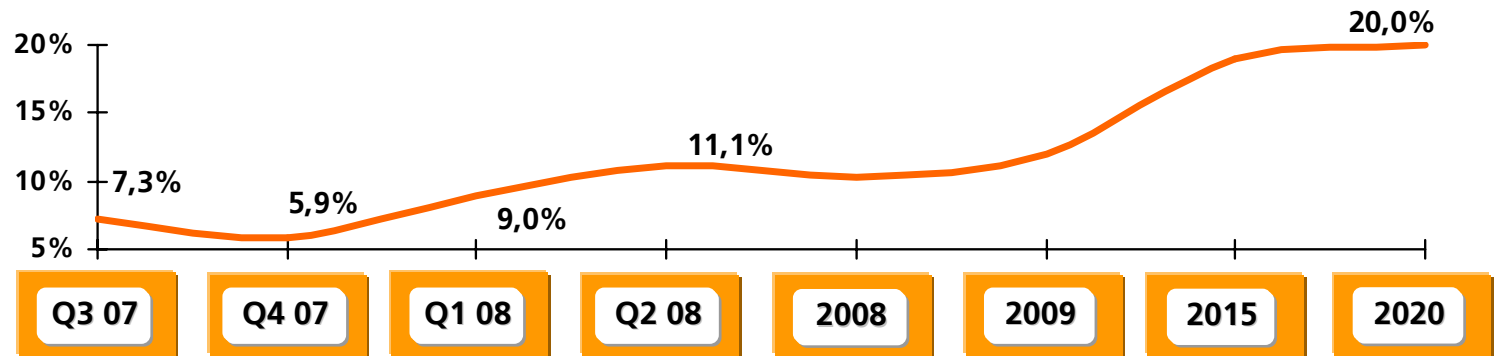


Ethanol will displace a significant fossil fuel demand by 2020

	US	UE	Brazil	
Key Actions	<ul style="list-style-type: none"> Hybrid 1st. Concept (Vertical Integration) 	<ul style="list-style-type: none"> Hybrid 1st. Concept (Vertical Integration) 	<ul style="list-style-type: none"> ABBr integration and optimization Vertically Integrated Greenfields 	 <p>New Technologies</p>
	<ul style="list-style-type: none"> Sustainability Plan deployment 	<ul style="list-style-type: none"> Sustainability Plan deployment 	<ul style="list-style-type: none"> Sustainability Plan deployment 	
	<ul style="list-style-type: none"> Hedging Policy WC Policies Marketing and Trading 	<ul style="list-style-type: none"> Hedging Policy WC Policies Marketing and Trading 	<ul style="list-style-type: none"> Hedging Policy WC Policies Marketing and Trading 	 <p>Marketing & Logistic</p>
Objectives	Growth and evaluation other opportunities	Growth and capture initial high margins	Integration and Growth	
Commodities	Higher margins	Infant industry. High margins	Higher margins	
Market Overview	S&D balanced	New Energy Directive	Ethanol shortage	



**% Ebitda
over sales**



Key issues in each
market

