ABENGOA

Innovative Technology Solutions for Sustainability

# ABENGOA

## "Solar Energy Opportunities"

Completing Transformation

**9th Annual Analyst and Investor Day**

**Michael Geyer**

International Buss. Development Director – Abengoa Solar

New York City & London, April 7 & 9, 2015

1 Energy market growth opportunities

2 Competitive strategy and products

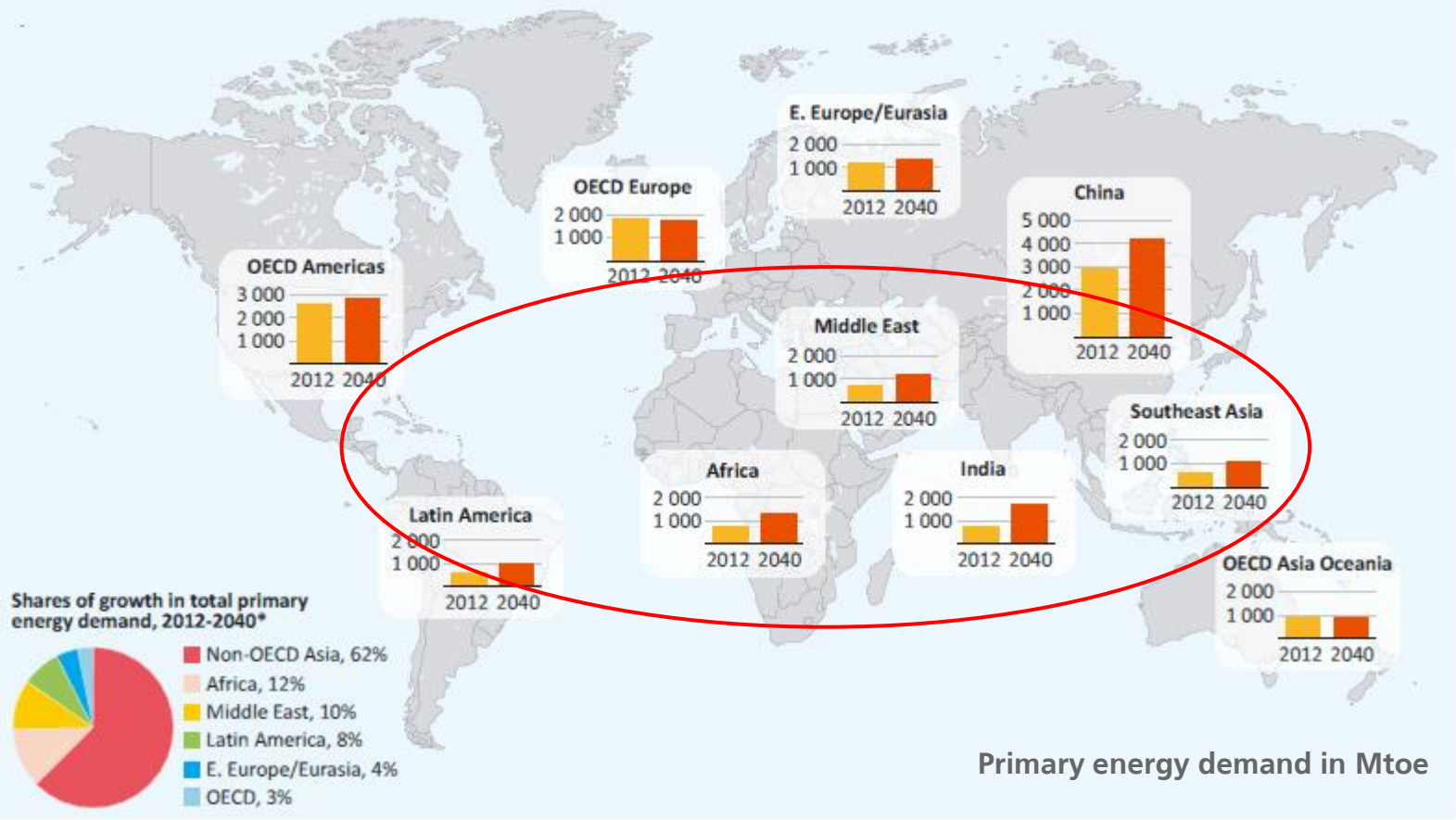
3 Milestones achieved

4 Focal solar markets

1

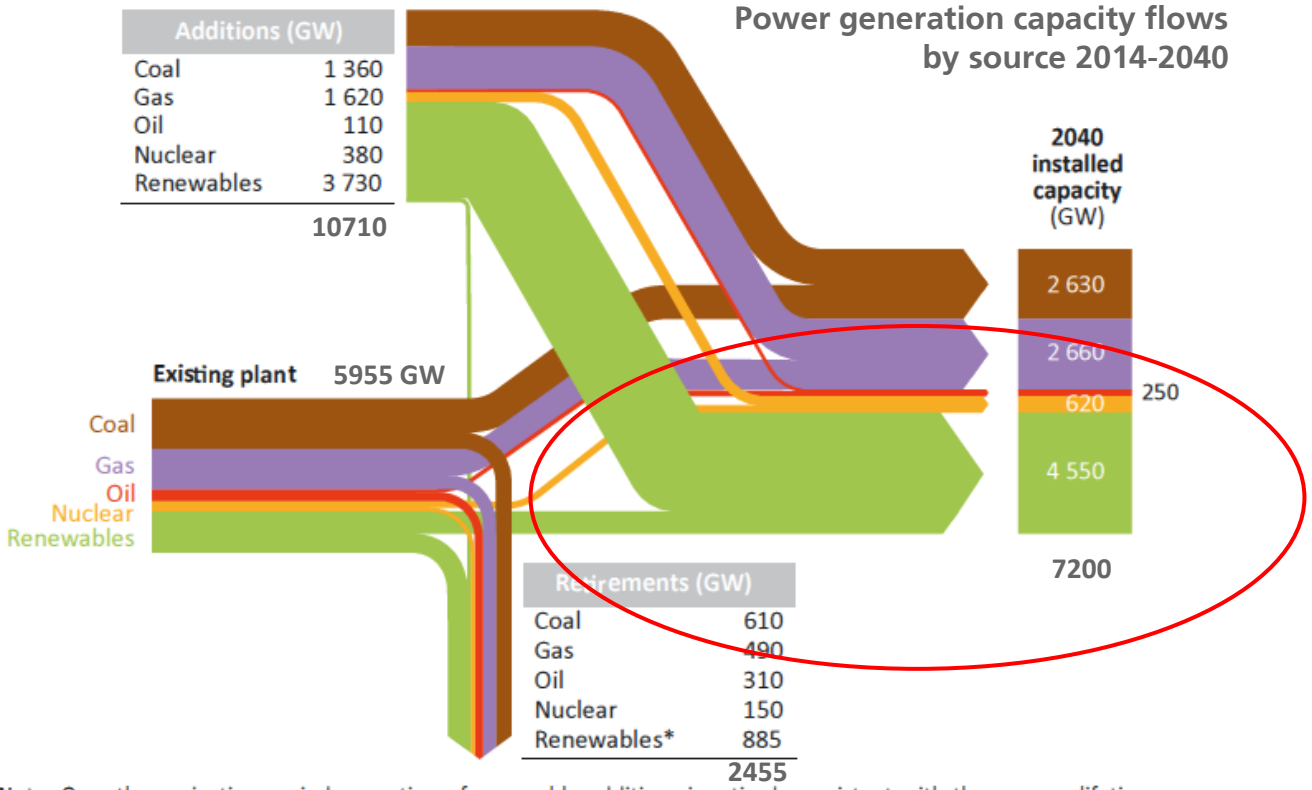
# Energy demand growth

# Next 25 years the energy demand growth is outside OECD




Source: IEA World Energy Outlook 2014

# Majority power capacity additions will be in renewables



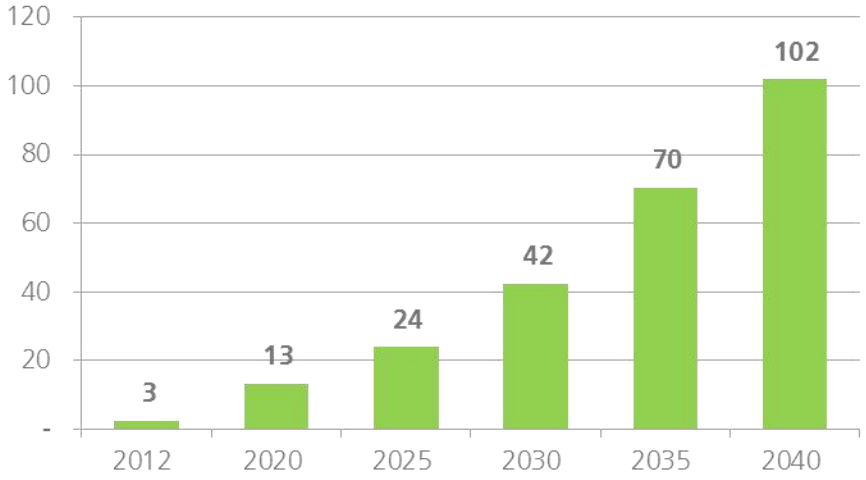

*Note: Over the projection period, a portion of renewable additions is retired, consistent with the average lifetime assumption for wind and solar PV of 25 years.

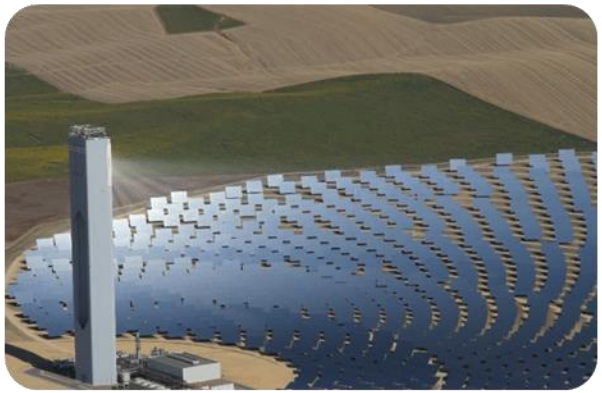
5. The technical lifetimes of thermal plant vary, but average around 40-50 years for fossil fuel-fired plants, 40-60 years for nuclear, 70 years for hydropower. The normal lifetime for solar and wind is around 25 years.

Source: IEA World Energy Outlook 2014

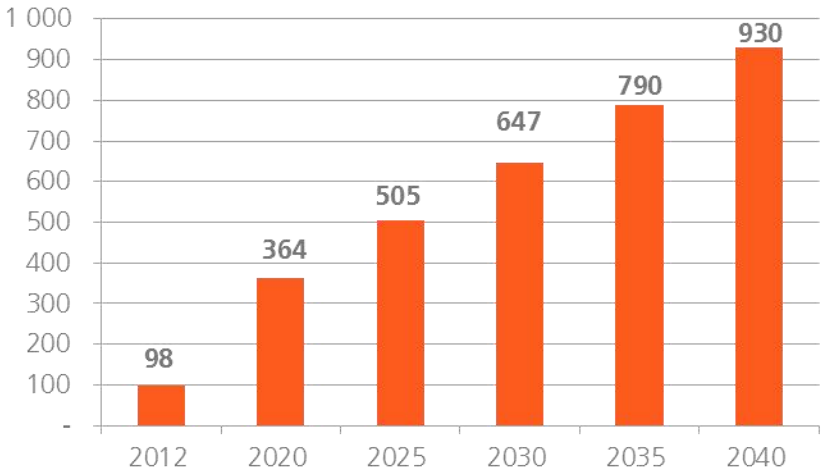
# Over a 4th of future renewable investments go into solar

## STE global capacity installed in GW



## PV global capacity installed in GW




Source: IEA World Energy Outlook 2014

# 2 Competitive strength and products

# 3 keys to success

## 2.1 Own Technology

**Drive cost down and performance up by innovation**

- 3rd generation of parablic troughs
- Superheated steam towers
- Molten salt towers

## 2.2 Own International Development

**First in having new projects ready to bid**

- development teams in all regions of the sunbelt
- prospection of resource and land securement
- obtainment of grid connection and permits

## 2.3 Own Operation and Maintenance

**Best in maximizing production and performance**

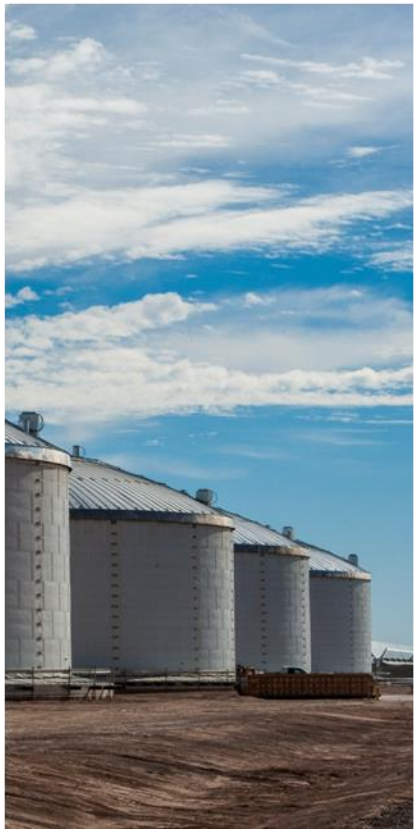
- Critical mass of STE plants worldwide
- Online monitoring of their performance
- Lessons learnt shared between all plants

# Technology leader in the 3 key areas within STE and in HCPV

**STE Solar Thermal Electricity**

- Tower
- Trough
- Storage

**HCPV High Concentrated PV**



# Integrating STE and PV into Smart Solar Plants

**STE**

## The STE advantages

- Dispatchable with thermal storage
- Hybridable with conventional power in combined cycles and coal plants
- Utility scale power generation
- Stabilizes grids like a conventional power plant

**PV**

## The PV advantages

- Cost in many regions close to grid parity
- Short construction times
- High modularity

**Smart Solar Plant**

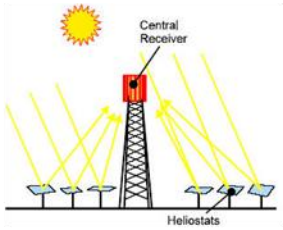
## STE + PV = the smart solar match

- Minimize cost by taking advantage of PV cost reductions
- Complement with STE and storage to match solar supply with local demand
- Stabilize grid by smart control and operation

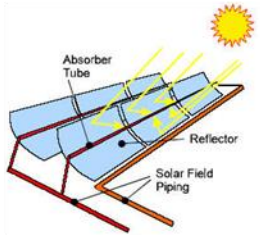
# Abengoa's smart solar technology box …

## Solar Thermal Technology

Solar Tower

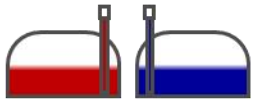



Parabolic Trough

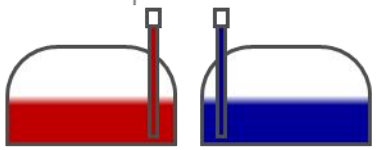



## Thermal Energy Storage

from 3 hours



… up to17 hours

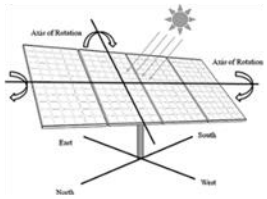


## Power Block

## Solar PV Technology

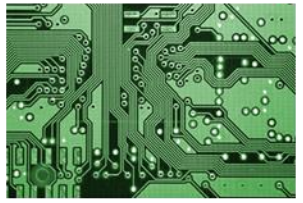
Fixed

2-axis tracked high concentration

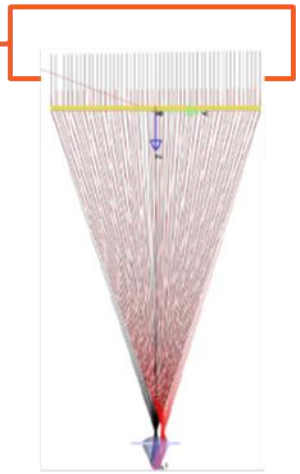


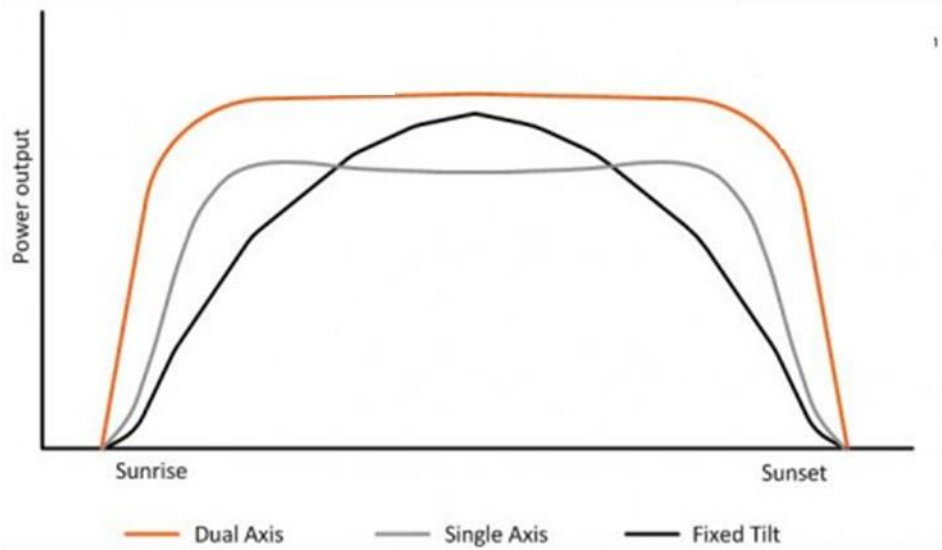
## Electrical Storage

## Smart Control



# Complementing STE with High Concentrated PV (HCPV)

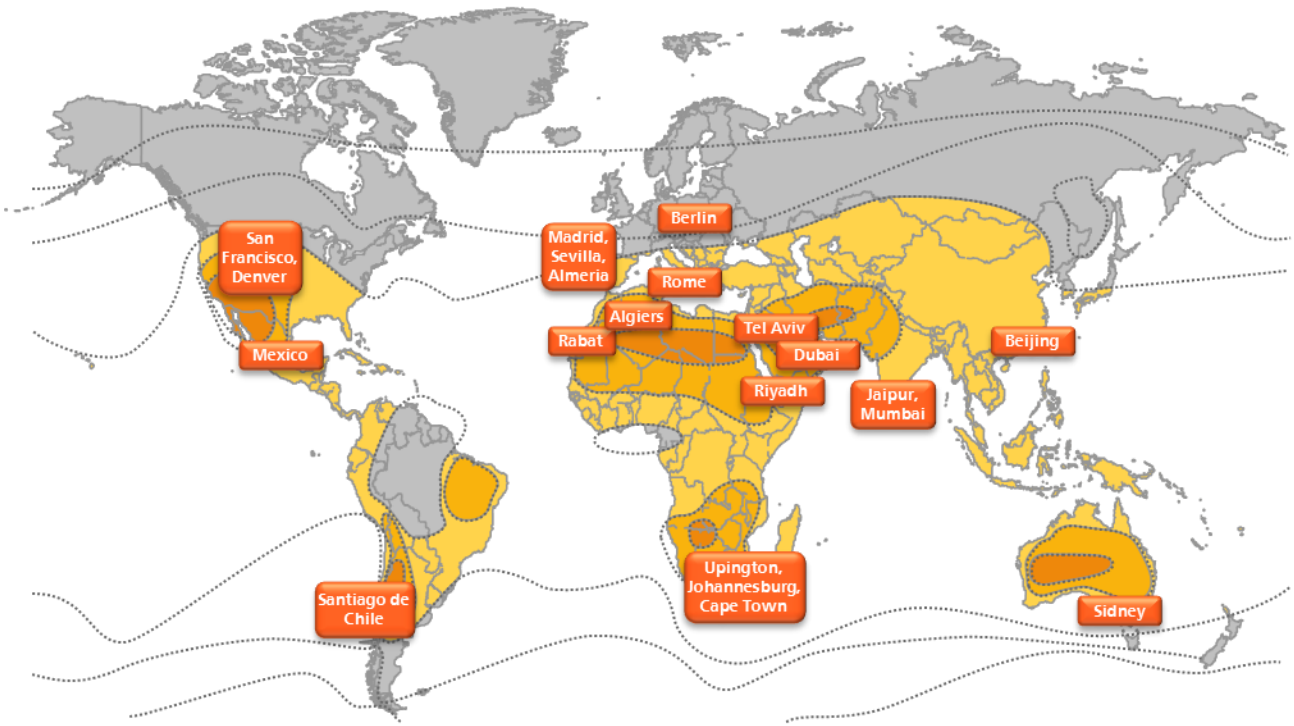





## Advantages of Abengoa HCPV Technology

- Current efficiency 32%, double than silicon, and room to go above 40% by 2020
- power production curves following demand profile superior to existing PV technologies;
- high precision, dual axis tracking system;
- scalable in size from kW to MW;
- greater synergies with final markets, reaching location values that out compete other PV technologies.

# Abengoa has own international solar development teams




## Secure new solar projects by

- being first in new markets
- developing greenfield projects
- preparing bids
- measuring resource
- securing land and servitudes
- obtaining all permits
- obtaining grid connection
- securing local finance

# Over 2040GWh generated worldwide in 2014

## MW in construction

| | 2012 | 2013 | 2014 |
|---|---|---|---|
| | 100,0 | - | - |
| | 560,0 | 280,0 | - |
| | 150,0 | 150,0 | 150,0 |
| | 100,0 | - | - |
| | - | - | 420,0 |
| | **910,0** | **430,0** | **570,0** |

## MW brought in operation

| | 2012 | 2013 | 2014 |
|---|---|---|---|
| | 593,0 | 693,0 | - |
| | - | 280,0 | 280,0 |
| | - | - | - |
| | - | 100,0 | - |
| | - | - | - |
| | **593,0** | **1.073,0** | **280,0** |

## GWh generated

| | 2012 | 2013 | 2014 |
|---|---|---|---|
| | 963,9 | 1.130,5 | 1.077,9 |
| | - | 89,3 | 236,7 |
| | - | - | - |
| | - | - | - |
| Third Parties | - | - | 726,3 |
| | **963,9** | **1.219,8** | **2.040,90** |

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# Milestones Achieved

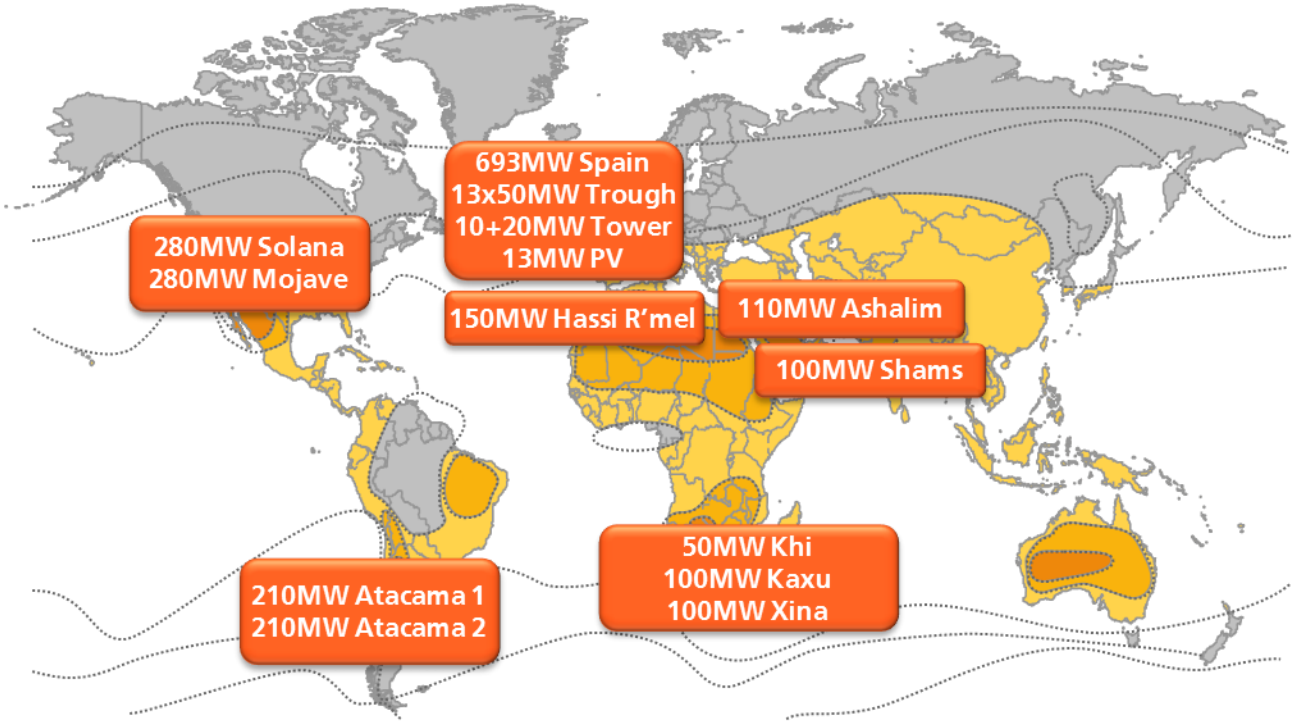
# By April 2015 Abengoa has 1603MW solar plants in operation and 680MW in construction

**Europe**
693MW

**USA**
560MW

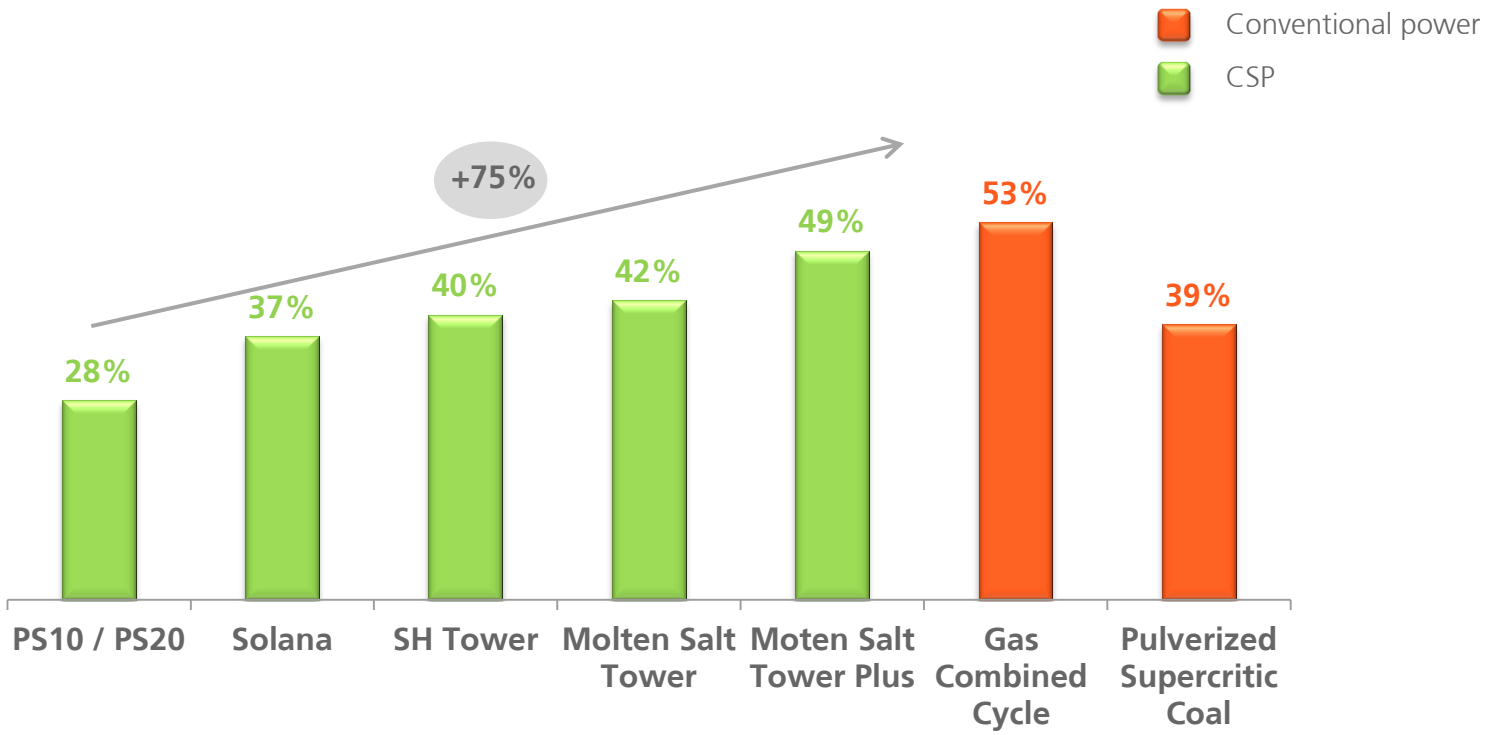
**Africa Middle East**
610MW

**Latin America**
420MW

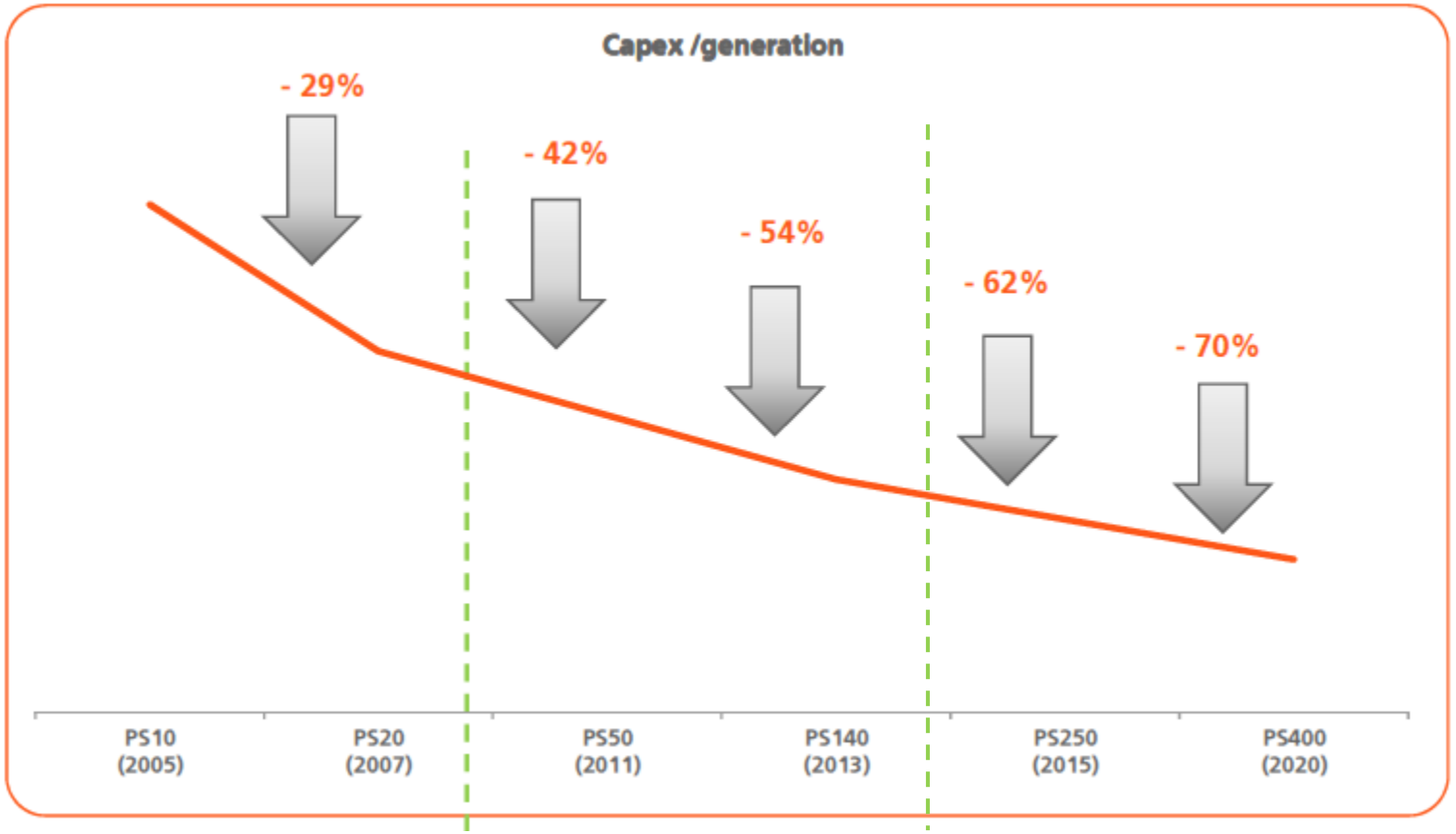


# Proven performance improvements approaching competitiveness

## CSP efficiency evolution and comparison with combined cycles



# We Have Followed our Predicted Roadmap and Will Keep Reducing Costs According to it

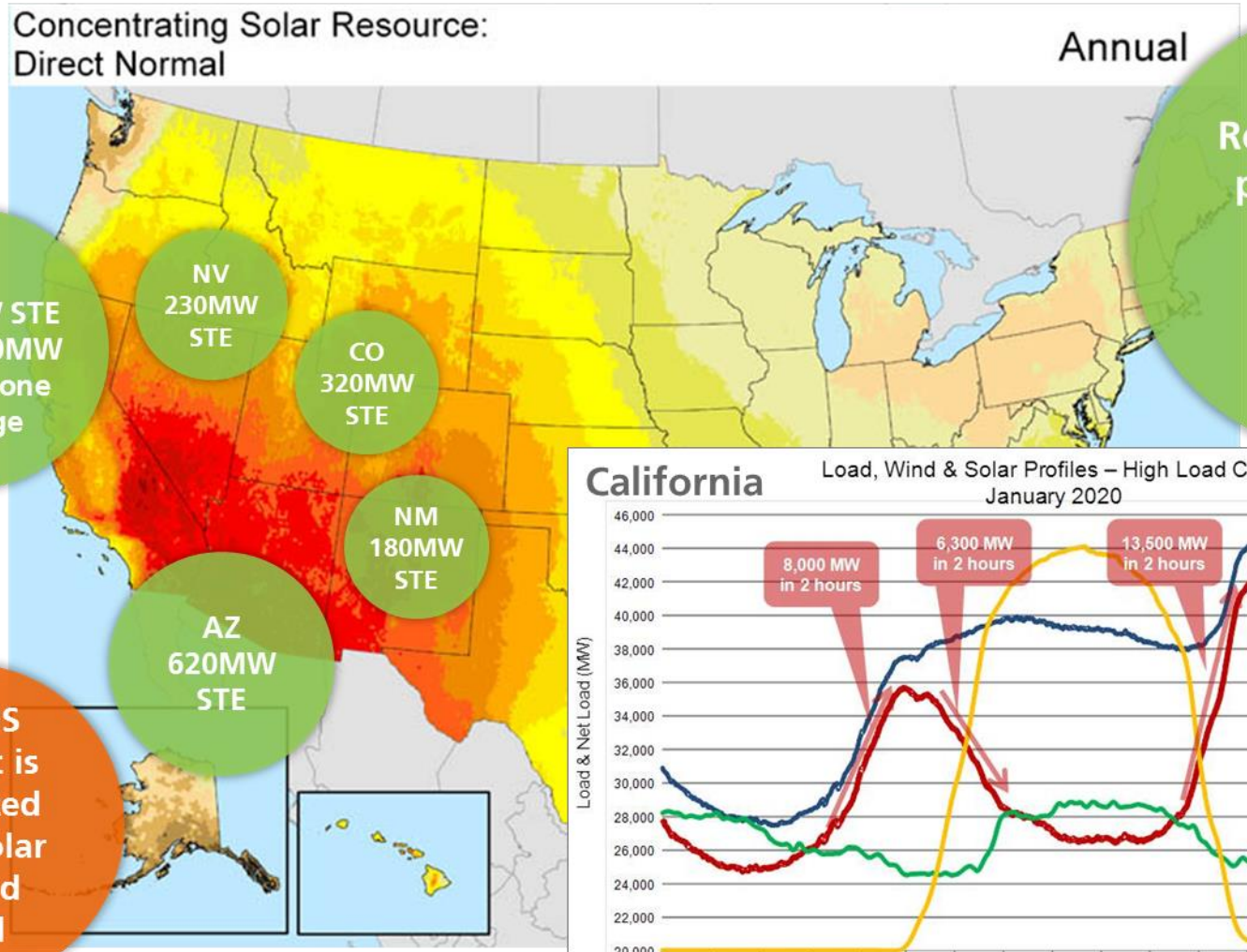



Saturated Steam → Superheated Steam → Molten Salt

4

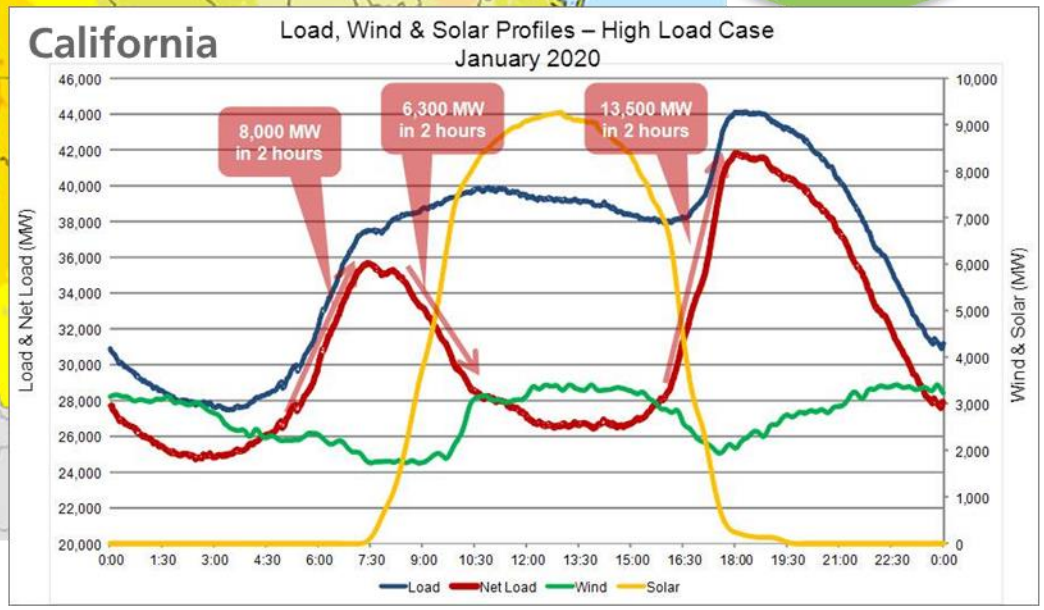
# Focal Solar Markets

# Almost 3GW STE and 1.3GW Storage projected by 2020




Required solar projects that provide flexible capacity

The US market is saturated with solar PV and wind



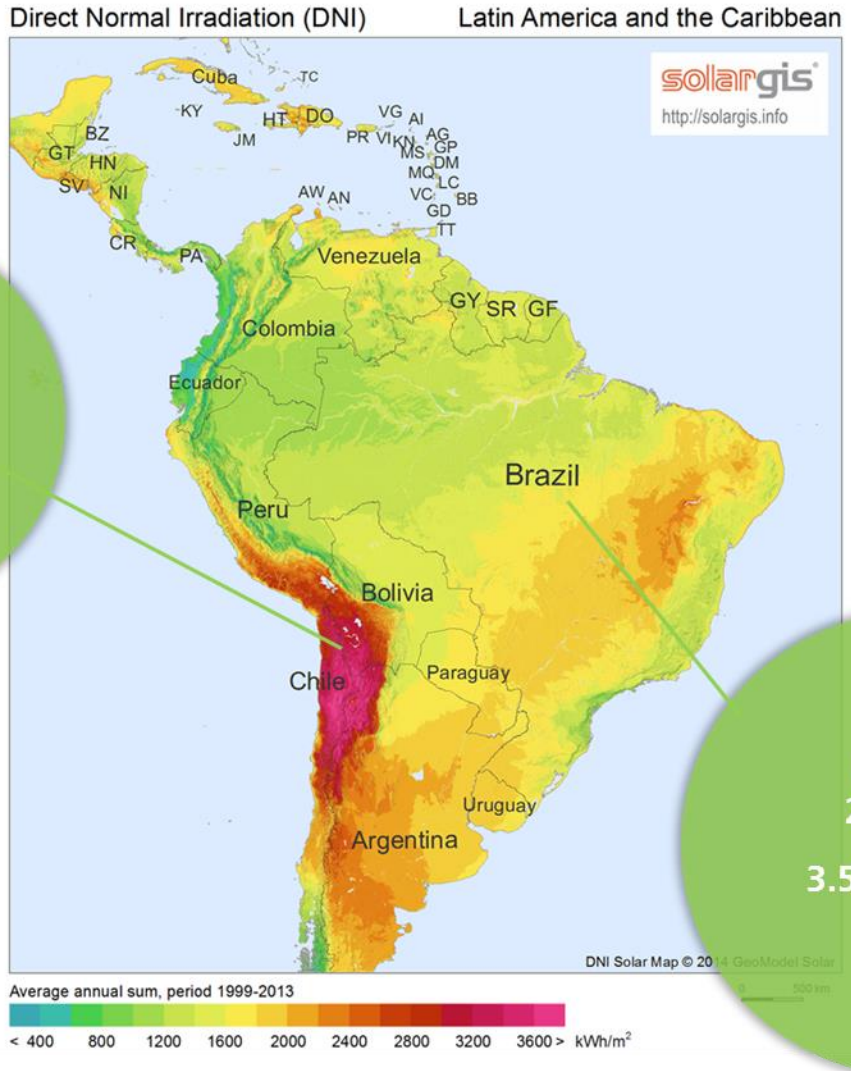

Source: NREL, SunShot and EIA

Source: California Independent System Operator (CalISO)

# South America does first steps in solar

Chile
2025

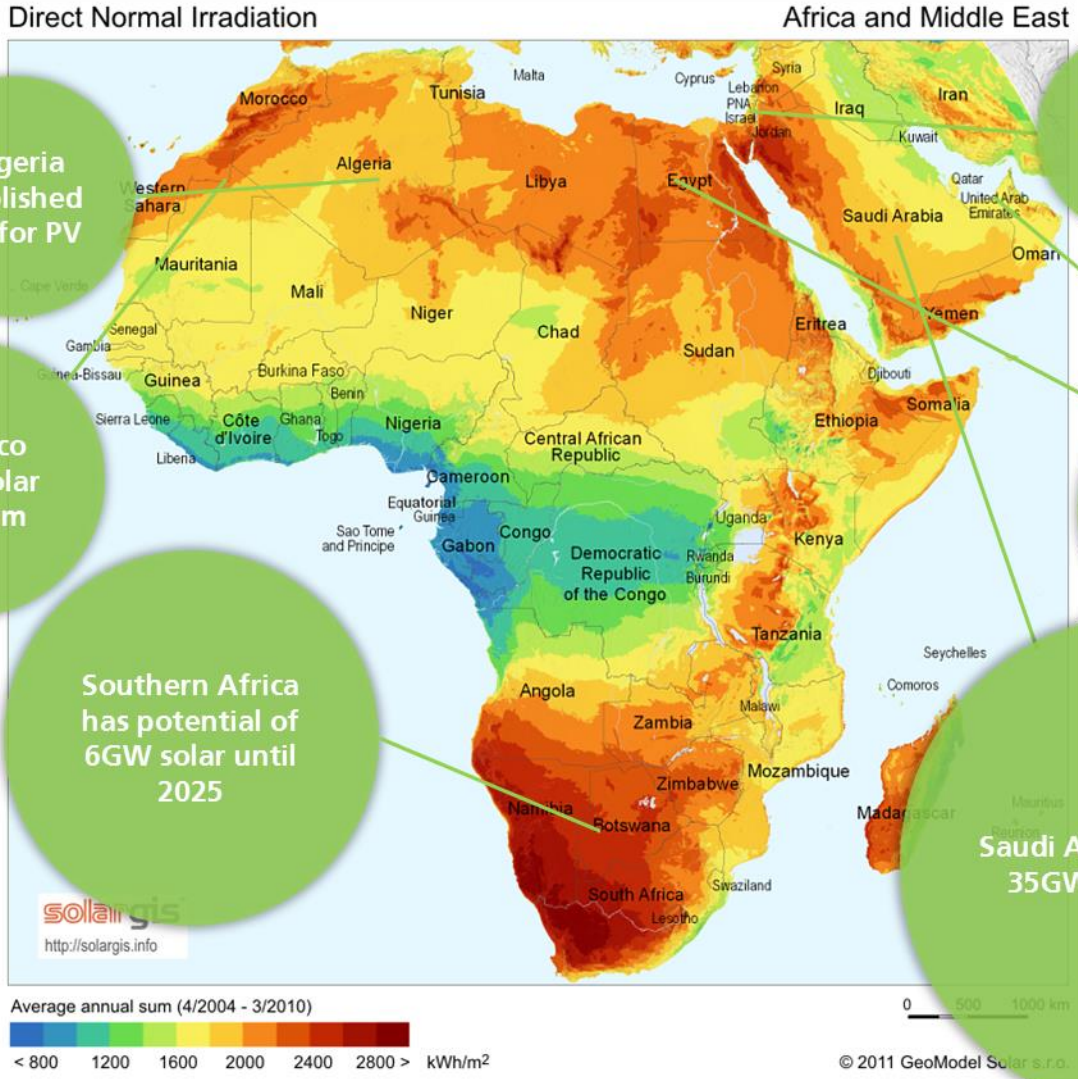
20%
renewables
1.2GW solar
1.6GW wind



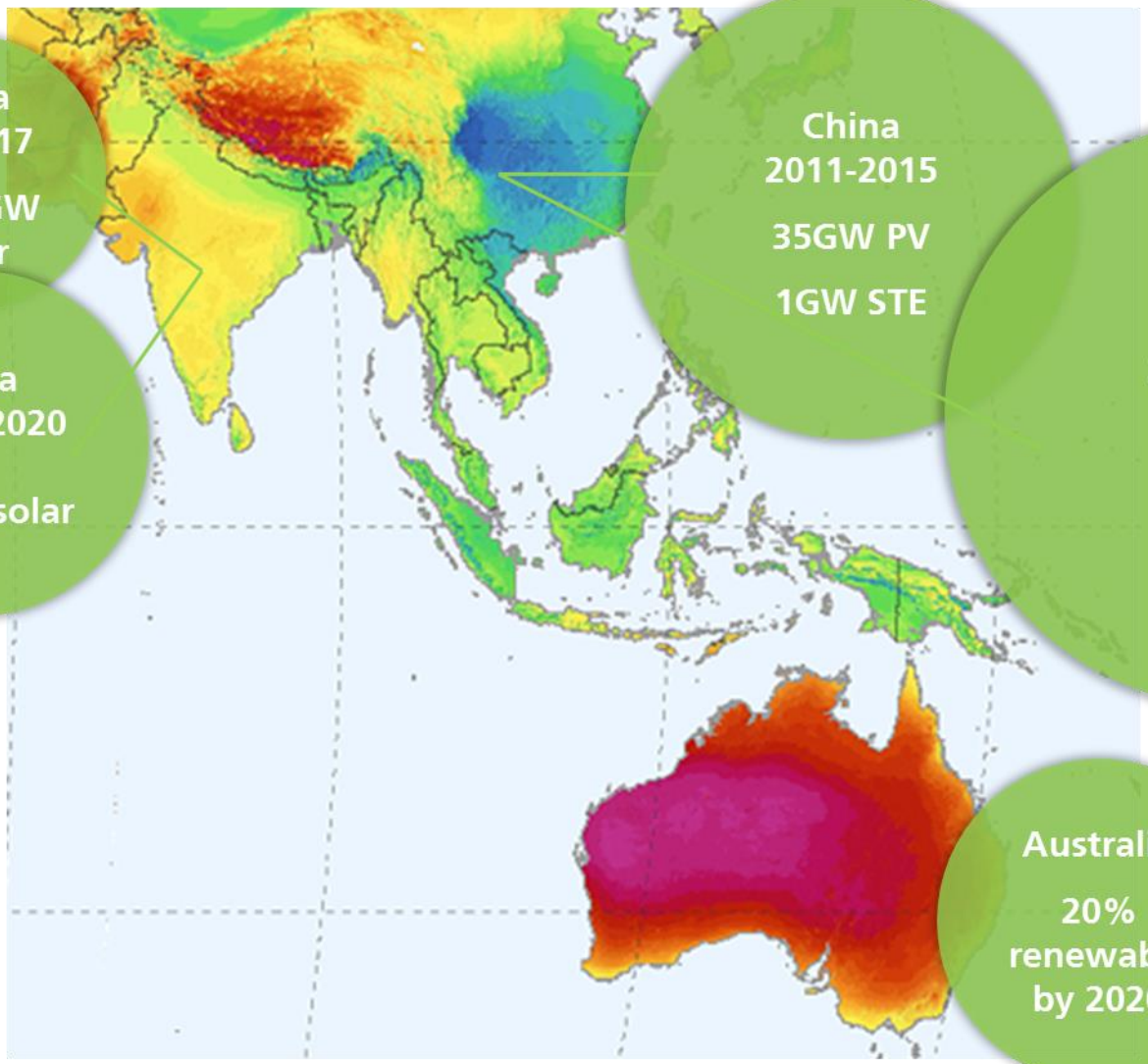

Brazil:
2014-23

3.5GW solar

# Project Opportunities in Africa and Middle East



# Over 120GW solar in Asia by 2020



India
2013-17
4-10 GW solar

India
2017-2020
20GW solar

China
2011-2015
35GW PV
1GW STE

China
2016-2020
47GW PV
3GW STE

Australia
20% renewable by 2020

1. Dispatch ability of STE with storage covers volatility of PV and Wind
2. Abengoa is world leader in STE with Trough, Tower and Storage
3. Power market grows outside OECD countries, majorily in renewables
4. Abengoa is at the forefront of development in those new markets
5. In combining STE and PV, Abengoa is offering most competitive dispatchable power

# ABENGOA

## Thank you

April 7 & 9, 2015

ABENGOA

Innovative Technology Solutions for Sustainability

# ABENGOA

## Concessions: Crystallizing Value

Completing Transformation

**9th Annual Analyst and Investor Day**

**Santiago Seage**

Abengoa Yield CEO

New York City & London, April 7 & 9, 2015

# Forward-looking Statement

- This presentation contains forward-looking statements (within the meaning of the U.S. Private Securities Litigation Reform Act of 1995) and information relating to Abengoa that are based on the beliefs of its management as well as assumptions made and information currently available to Abengoa.
- Such statements reflect the current views of Abengoa with respect to future events and are subject to risks, uncertainties and assumptions about Abengoa and its subsidiaries and investments, including, among other things, the development of its business, trends in its operating industry, and future capital expenditures. In light of these risks, uncertainties and assumptions, the events or circumstances referred to in the forward-looking statements may not occur. None of the future projections, expectations, estimates or prospects in this presentation should be taken as forecasts or promises nor should they be taken as implying any indication, assurance or guarantee that the assumptions on which such future projections, expectations, estimates or prospects have been prepared are correct or exhaustive or, in the case of the assumptions, fully stated in the presentation.
- Many factors could cause the actual results, performance or achievements of Abengoa to be materially different from any future results, performance or achievements that may be expressed or implied by such forward-looking statements, including, among others: changes in general economic, political, governmental and business conditions globally and in the countries in which Abengoa does business; changes in interest rates; changes in inflation rates; changes in prices; decreases in government expenditure budgets and reductions in government subsidies; changes to national and international laws and policies that support renewable energy sources; inability to improve competitiveness of Abengoa's renewable energy services and products; decline in public acceptance of renewable energy sources; legal challenges to regulations, subsidies and incentives that support renewable energy sources; extensive governmental regulation in a number of different jurisdictions, including stringent environmental regulation; Abengoa's substantial capital expenditure and research and development requirements; management of exposure to credit, interest rate, exchange rate and commodity price risks; the termination or revocation of Abengoa's operations conducted pursuant to concessions; reliance on third-party contractors and suppliers; acquisitions or investments in joint ventures with third parties; unexpected adjustments and cancellations of Abengoa's backlog of unfilled orders; inability to obtain new sites and expand existing ones; failure to maintain safe work environments; effects of catastrophes, natural disasters, adverse weather conditions, unexpected geological or other physical conditions, or criminal or terrorist acts at one or more of Abengoa's plants; insufficient insurance coverage and increases in insurance cost; loss of senior management and key personnel; unauthorized use of Abengoa's intellectual property and claims of infringement by Abengoa of others intellectual property; Abengoa's substantial indebtedness; Abengoa's ability to generate cash to service its indebtedness; changes in business strategy; and various other factors indicated in the "Risk Factors" section of Abengoa's Form 20-F for the fiscal year 2014 filed with the Securities and Exchange Commission on February 23, 2015. The risk factors and other key factors that Abengoa has indicated in its past and future filings and reports, including those with the U.S. Securities and Exchange Commission, could adversely affect Abengoa's business and financial performance.
- Should one or more of these risks or uncertainties materialize, or should underlying assumptions prove incorrect, actual results may vary materially from those described herein as anticipated, believed, estimated, expected or targeted.
- Abengoa does not intend, and does not assume any obligations, to update these forward-looking statements.
- This presentation includes certain non-IFRS financial measures which have not been subject to a financial audit for any period.
- The information and opinions contained in this presentation are provided as at the date of this presentation and are subject to verification, completion and change without notice.

# 5.6 B€ Assets in Concessions

€ Millions. December 2014

| | |
|---|---|
| **Abengoa Yield** (market value of 51% stake) | 1,270 |
| **Assets in Operation** (EBV) | 1,483 |
| **Assets in Construction** | |
| ▪ EBV | 874 |
| ▪ NRDP | 1,946 |

**5,573 M€**

**Crystalizing Value:**

ABENGOA → APW1 → ABY

1 Performance of Assets in ABY

2 Growth in ABY and Plans Going Forward

3 Details of the Contracted Assets beyond ABY

# 1 Performance of Assets in ABY

# Solid performance and cash available for distribution for the period

| | 3 months Dec. 14 M$ | FY 14 M$ | FY13 M$ | Variation FY vs FY |
|---|---|---|---|---|
| Revenue | 93.4 | 362.7 | 210.9 | 72% |
| Further Adj. EBITDA[1] | 81.6 | 308.0 | 158.5 | 94% |
| CAFD | 28.4 | 56.5 | - | n/a |
| DPS [2] | 0.259 | 0.555[3] | - | n/a |

(1) Further Adjusted Ebitda includes dividend from preferred equity investment in Brazil.

(2) Dividend per share amounts are in U.S.$ per share.

(3) Includes $0.2592 dividend per share declared by our Board of Directors on February 23, 2015 and payable on or about March 16, 2015.

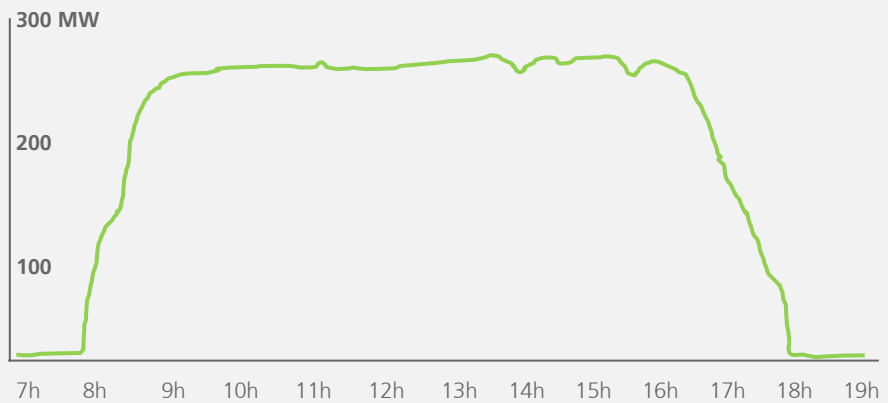
# All Segments Performing in Line with Expectations

| $ Million | North America | | | South America | | | Europe | | |
|---|---|---|---|---|---|---|---|---|---|
| | FY 14 | FY 13 | Δ | FY 14 | FY 13 | Δ | FY 14 | FY 13 | Δ |
| Revenues | 195.5 | 114.0 | 72% | 83.6 | 25.4 | 229% | 83.6 | 71.5 | 17% |
| Further Adjusted EBITDA | 175.4 | 96.7 | 82% | 77.2 | 19.0 | 307% | 55.4 | 42.8 | 29% |
| EBITDA margin | 89.7% | 84.8% | | 92.3% | 74.7% | | 66.3% | 60.0% | |

| $ Million | Renewables | | | Conventional | | | Transmission | | |
|---|---|---|---|---|---|---|---|---|---|
| | FY 14 | FY 13 | Δ | FY 14 | FY 13 | Δ | FY 14 | FY 13 | Δ |
| Revenues | 170.7 | 82.7 | 106% | 118.8 | 102.8 | 16% | 73.2 | 25.4 | 188% |
| Further Adjusted EBITDA | 137.8 | 55.8 | 147% | 101.9 | 83.3 | 22% | 68.3 | 19.4 | 251% |
| EBITDA margin | 80.8% | 67.5% | | 85.8% | 81.0% | | 93.2% | 76.6% | |

- 280MW gross, 250MW net
- Mojave desert, California

- Finished construction in November 2014
- Ramp up as planned
- Reaching 250MW net capacity daily



## Solar

- Solana 280MW gross
- Solaben 2x50MW
- Solacor 2x50MW
- PS 31MW

- Winter maintenance done
- Solar radiation in some regions in Q1 2015 higher than budget

## Wind

- Palmatir 50MW
- Cadonal 50MW

- Wind resource in Q1 2015 lower than budget

## Conventional

- ACT 300MW

- Availability over budget

## Transmission Lines

- ATN
- ATS
- Quadras
- Palmucho

- Availability 99.9%

2

# Growth in ABY and plans going forward

# Guidance for 2015 and 2016

| Million USD | 2014 (1) | 2015E | 2016E |
|---|---|---|---|
| CAFD | 56 | 142 | 171-178 |
| Dividend | 44 | 128 | 154-160 |
| Dividend per share | 0.555 | 1.60 | 1.92-2.00 |

(1) Since IPO (June 2014)

1. Full year effect on cash for existing assets
2. ROFO 2

→ Included in guidance

3. New ROFO/s
4. External M&A opportunities

→ Not included in guidance

3

# Details of the Contracted Assets beyond ABY

# Concessions in Operation as of Dec. 31, 2014

| Sector | Asset | Country | ABG ownership | COD | Current EBV* |
|---|---|---|---|---|---|
| | Chennai | India | 25% | 2010 | |
| | Tenes | Algeria | 51% | 2014 | **55.0 M€** |
| | Skikkda | Algeria | 34% | 2009 | |
| | Honaine | Algeria | 26% | 2010 | |
| | Inapreu | Spain | 50% | 2010 | |
| | Other concessions Spain | Spain | 50-100% | 2008 | **51.0 M€** |
| | Concecutex | Mexico | 50% | 2010 | |
| | ATE IV | Brazil | 75% | 2010 | |
| | AET V | Brazil | 100% | 2010 | |
| | ATE VI | Brazil | 100% | 2010 | |
| | ATE VII | Brazil | 100% | 2009 | **618.8 M€** |
| | ATE VIII | Brazil | 50% | 2014 | |
| | ATE XI | Brazil | 51% | 2013 | |
| | Norte Brasil | Brazil | 51% | 2014 | |
| | Spain PV (Copero, Sev, Linares, etc.) | Spain | >90% | 2006-2007 | |
| | Solnova 1, 3 & 4 | Spain | 100% | 2010 | |
| | Helioenergy 1&2 | Spain | 50% | 2011 | |
| | SPP1 | Algeria | 51% | 2012 | **973.8 M€** |
| | Solaben 1 & 6 | Spain | 100% | 2013 | |
| | Helios 1 & 2 | Spain | 100% | 2012 | |
| | Shams | Abu Dhabi | 20% | 2013 | |
| | *Preferred Equity LAT* | *Brazil* | *n/a* | - | ***(216)*** |
| | **Total** | | | | **1,483 M€** |

(*) Total EBV as of December 31, 2014 includes ROFO 2 assets sold to Abengoa Yield during 2015. The ROFO 2 is comprised of a sale of a 20%, 34% , 26% and 20% stakes in Helienergy 1&2, Skikkda, Honaine and Shams, respectively, and ATN2.

# Concessions under Construction/Development as of Dec. 31, 2014

| Sector | Asset | Country | ABG ownership | ABY ROFO | COD | Current EBV(*) |
|---|---|---|---|---|---|---|
| | Ghana | Ghana | 56% | 56% | Q1 2015 | |
| | Agadir | Morocco | 51% | 51% | 2017 | **27.1** |
| | SAWS | USA | 45% | 100% | 2019 | **M€** |
| | Zapotillo | Mexico | 100% | 100% | 2017 | |
| | A3T | Mexico | 45% | 100% | 2017 | |
| | A4T | Mexico | 45% | 100% | 2018 | **278.6** |
| | Hospital Manaus | Brazil | 60% | - | 2015 | **M€** |
| | Uruguay Penitentiary | Uruguay | 100% | - | 2016 | |
| | ATN2 | Peru | 40% | 40% | 2015 | |
| | ATE XVI-XXIV | Brazil | 100% | 100% | 2016-18 | **368.0** |
| | India T&D | India | 51% | - | 2017 | **M€** |
| | ATN 3 | Peru | 100% | 100% | 2016 | |
| | Kaxu | South Africa | 51% | 51% | Q1 2015 | |
| | Khi | South Africa | 51% | 51% | 2015 | |
| | Ashalim | Israel | 50% | 50% | 2018 | **199.9** |
| | Atacama I | Chile | 45% | 100% | 2016-17 | **M€** |
| | Atacama II | Chile | 45% | 100% | 2018 | |
| | Xina | South Africa | 40% | 40% | 2017 | |
| | **Total EBV of Assets under Construction as of Dec. 31 2014** | | | | | **874 M€** |

ABG ownership for projects to be transferred to APW1 was 100% as of Dec. 31, 2014; however, percentage shown in the table is pro-forma after the APW1 closing

(*) Total EBV as of December 31, 2014 includes ROFO 2 assets sold to Abengoa Yield during 2015. The ROFO 2 is comprised of a sale of a 20%, 34% , 26% and 20% stakes in Helienergy 1&2, Skikkda, Honaine and Shams, respectively, and ATN2.

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## Thank you

April 7 & 9, 2015

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**Javier Garoz**

Abengoa Bioenergy CEO

New York City & London, April 7 & 9, 2015

# Forward-looking Statement

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1 FY 2014 and 2015 market perspective

2 Hugoton

3 2G challenges and opportunities

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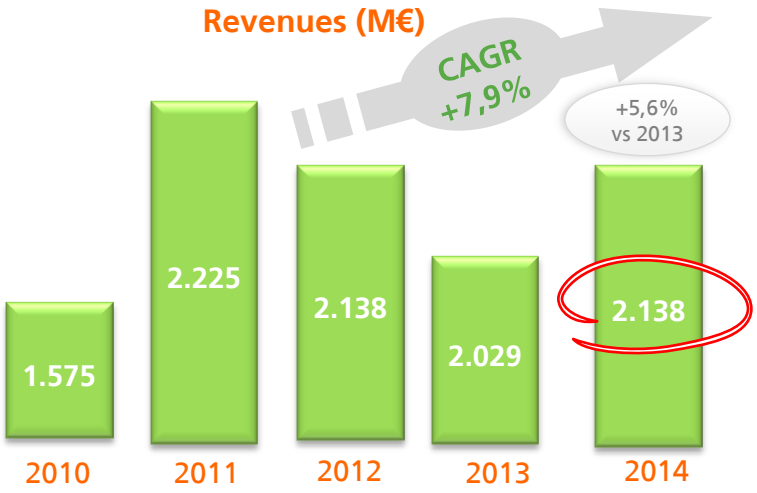
# FY 2014 and 2015 market perspective

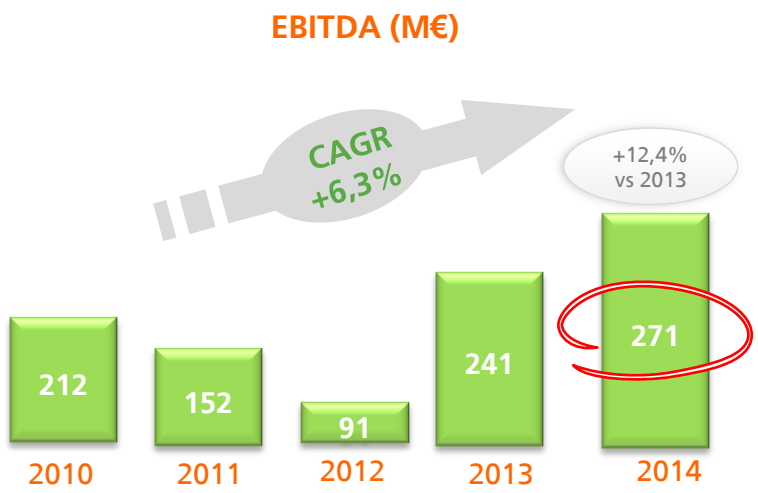
## Main figures

| | 2013 | 2014 | 2014 vs 13 |
|---|---|---|---|
| Sales | 2.029 | 2.138 | +5,6% |
| EBITDA | 241 | 271 | +12,4% |
| Ebitda/ Sales | 11,8% | 12,6% | |

## Production figures

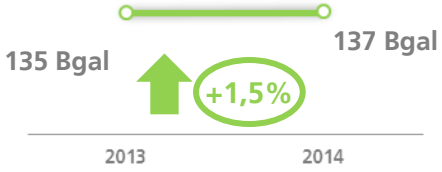
| | 2013 Biofuel (mgal) | 2014 Biofuel (mgal) | |
|---|---|---|---|
| USA | 316 | 319 | +1% |
| Europe | 238 | 308 | +29% |
| Brazil | 41 | 49 | +20% |
| Total | 595 | 675 | +13% |



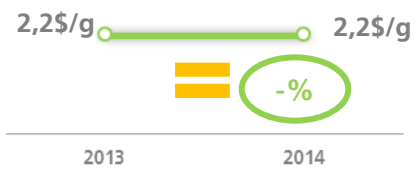



## Commodity prices helped

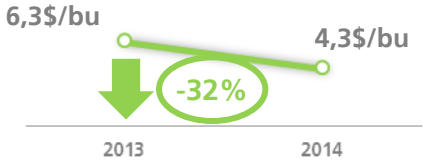
### Gasoline Demand



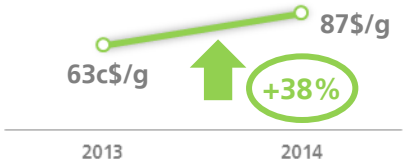

### Ethanol




### Corn




### Crush Margin

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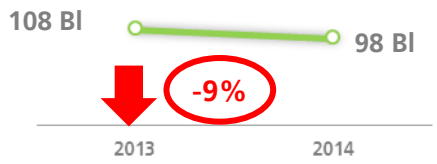
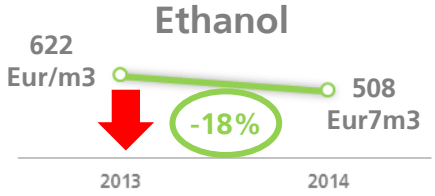
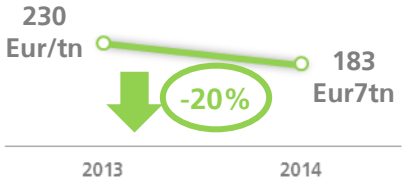



### Ethanol




### Corn

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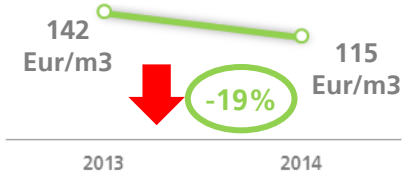
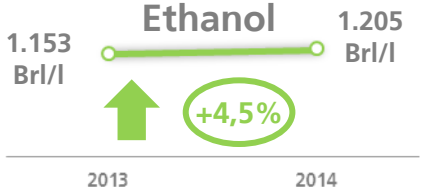
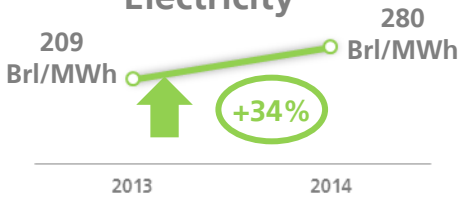



### Gasoline Demand


### Ethanol




### Electricity

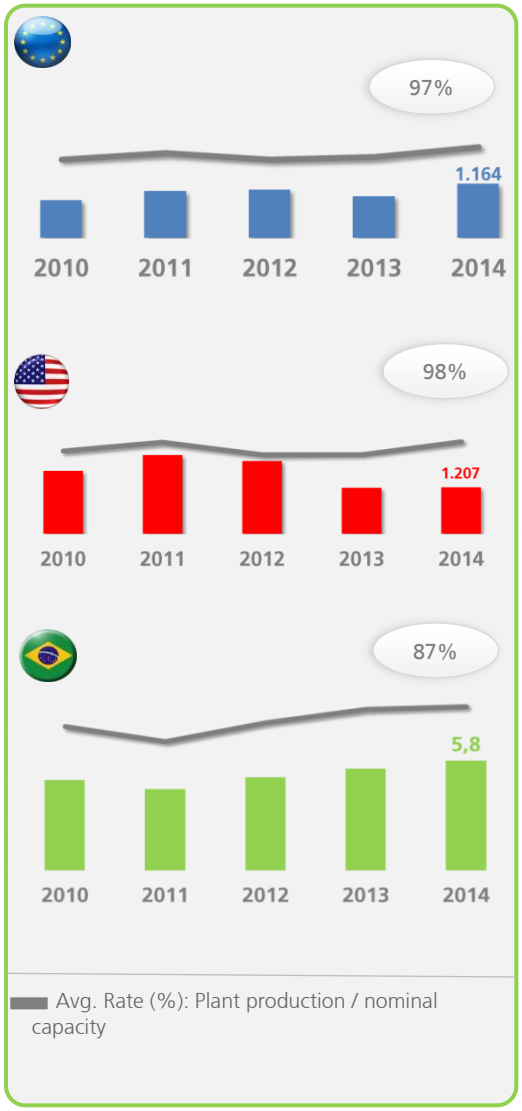



### Sugar

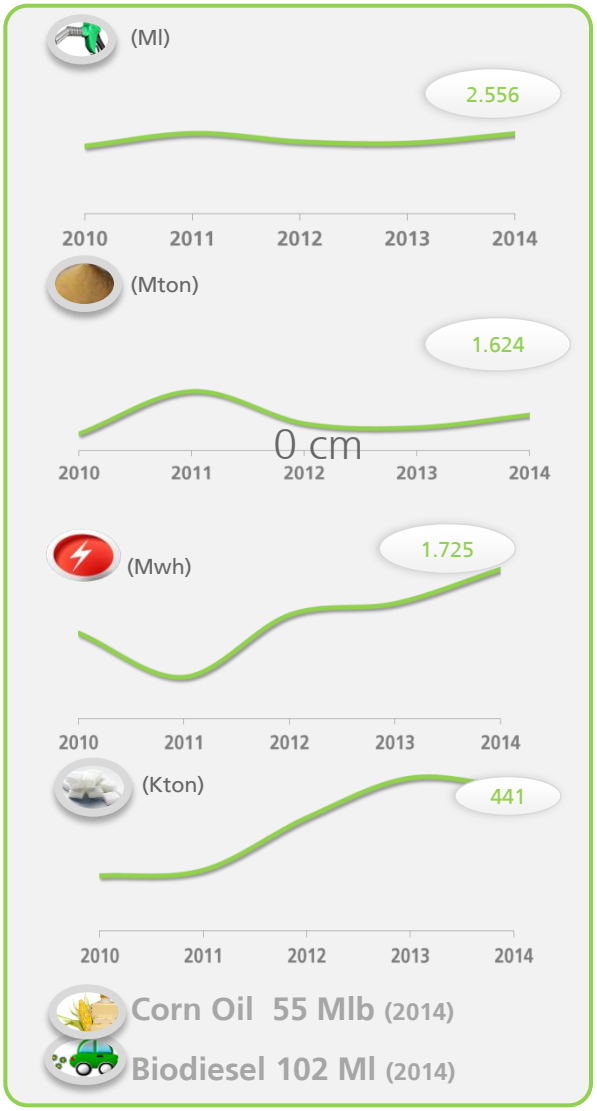

**Margins record in US, lower margins in EU and higher prices of Ethanol and sugar in Brazil**

# Operational excellence achieved

## Avg. Plant utilization 94%




## Highest levels of production




## Optimization & cost reduction

+140MEur of savings through 2012-14

## Brazil turn around

Organization streamlined, agricultural and industrial areas improved.

## Quality and Safety a priority

High international standards of quality and sustainability applied. Record level of safety achieved

## Improved product & market diversification

≈20 Mgal Korea B exported

30% exports to Asia and EMEA

4 Us plants producing corn oil

## US

- ✓ RFS-2 **Waiting for EPA**
- ✓ LCFS – programs are moving forward in all West coast states, and provide great promise for the future of low carbon biofuels

- ✓ Production at **full capacity** (≈15 Bgal)
- ✓ **Low prices** of corn and gasoline

- ✓ Q1 ethanol price down pressed by oversupply
- ✓ **10% consistent blending**

## Europe

- ✓ ILUC amendments to **RED** and FQD **under disscusion**
- ✓ Energy Union Strategy: **Promote 2G post 2020 under discussion**

- ✓ Market **oversupplied**
- ✓ **Low prices** of corn and gasoline

- ✓ Gasoline **demand slightly higher** but ethanol stocks are being built
- ✓ **Ethanol** more **expensive**

## Brazil

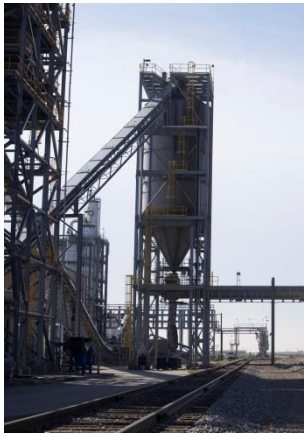
- ✓ **27% blend rate**
- ✓ Higher taxes on gasoline

- ✓ **Sugar** surplus continues with **good perspectives** on 2015 crop will put pressure on NY#11
- ✓ Spot electricity sales at record prices.

- ✓ **New crop** will depend much on **Q1 rains**
- ✓ **Arb** for Ethanol imports is **open** but there is enough ethanol to cover intercrop demand

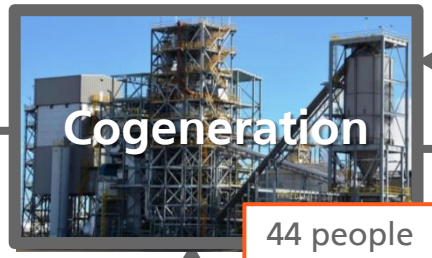
Legislation  Commodities  Supply & Demand

# 2 Hugoton



# The Hugoton plant is actually 4 different plants in one

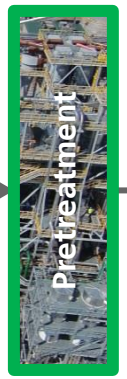
Excess power to grid (2.5 GWh total to date)




44 people

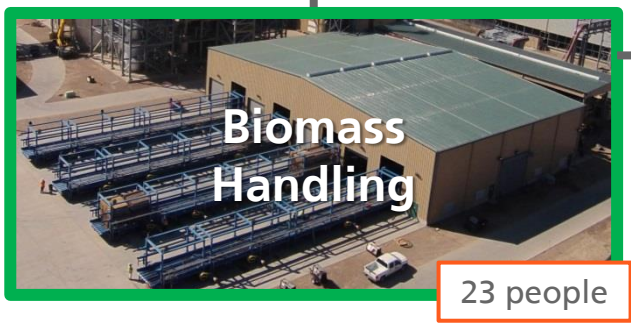
Already achieved a yield of 66 gal/ton at fermentation

2G Ethanol








23 people

105 people


- Close to 200 people from across the company fully dedicated to the start-up of the plant
- Complex synchronization of all 4 plants necessary to achieve nominal capacity
- Strong disruptive innovation across the entire process (as highlighted in green above)


22 people

# Learning important lessons during start-up

## Biomass Handling

- Biomass harvested comes with a high degree of unexpected impurities
- Biomass logistics is still an area with lots of efficiencies to gain
- Processing 1,000 tons per day of biomass with standard equipment becomes a challenge when considering the inconsistencies between bales (size, weight, composition, etc.)

## Biomass Processing

- Scale up to commercial size challenges the specs of the equipment: using much larger amounts of biomass while trying to achieve optimal conditions of cooking
- Some material handling equipment and control systems require revisions to achieve optimal pressure and temperature

## Operations

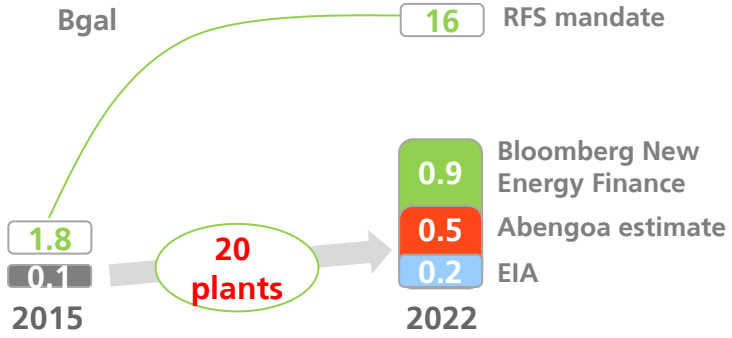
- Biochemical reactions are occurring as expected but continuous operation will depend on proper synchronization of all the parts of the plant
- Operations procedures are being written from scratch for the brand new process
- Talent is tough to attract and retain given the hard work of start-up

3

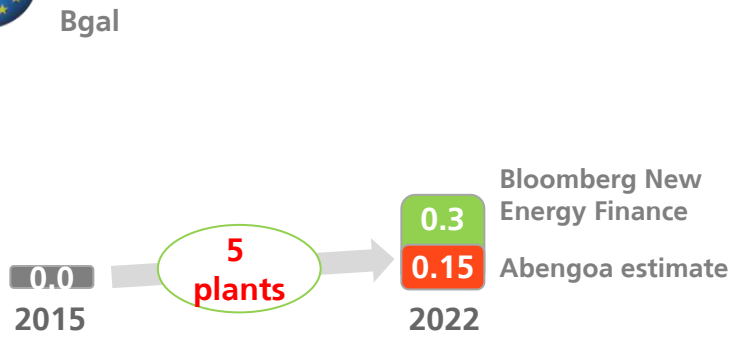
# 2G challenges and opportunities

# Market for 2G ethanol will grow globally, but timing remains uncertain

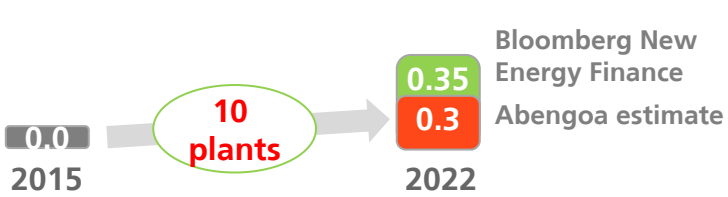
## Projected United States 2G Ethanol output



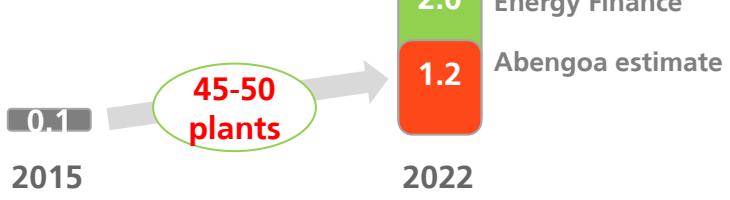

## Projected Europe 2G Ethanol output




## Projected Brazil 2G Ethanol output




## Projected Global 2G Ethanol output




"IEA chief: Low oil prices present opportunities to promote renewables" (December 18, 2014) Forbes

"IRENA report highlights bioenergy growth potential in the U.S." (February 12, 2015) Ethanol Producer Magazine

"Bio-based chemicals on the rise in the United States" (October 7, 2014) USDA

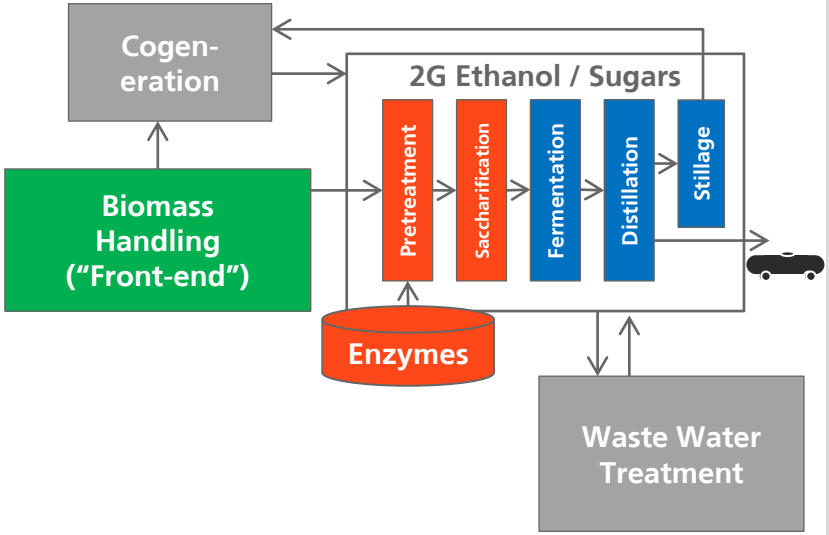


* Bloomberg New Energy Finance (BNEF) projections are included with permission. No further reproduction or distribution is allowed.

# Fine tuning our offering for a new high growth market

| | 2 G |
|---|---|
| Value Proposition | Green biomass to biofuels & cellulosic sugars |
| Potential Clients & Partners | Oil, chemical, and industrial companies |
| Projects in Pipeline | Lacq in planning phase (France) |
| 2022 Total Market Size* (Installed Capacity) | $13 - 19 Billion USD (1.6 B gallons) |
| Business Model | Technology licenses<br>Project co-development with industrial investors (none or minimum equity committed) |

Core underlying technology
W2B product specific
End-market specific (sugars, ethanol)
Site specific





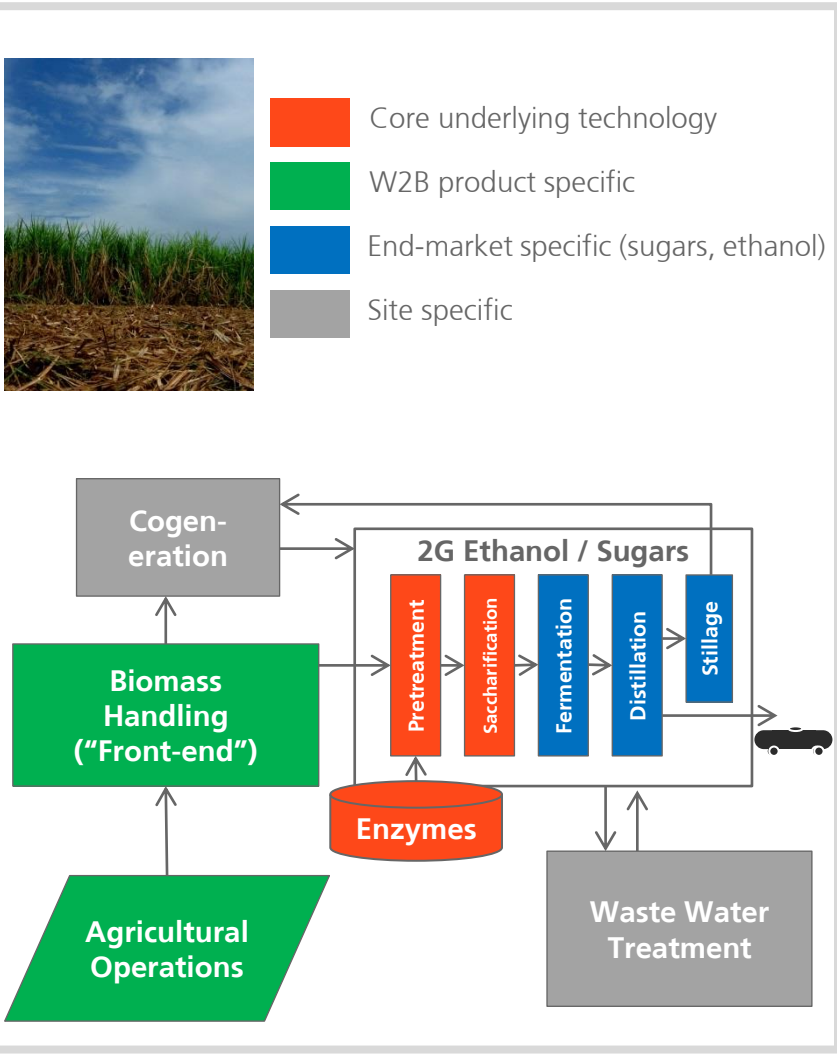

* Total Market Size is based on a capital investment of $8-12/gal, installed capacity is based on BNEF figures from slide 12

# Fine tuning our offering for a new high growth market

## 2G Brazil

| | |
|---|---|
| Value Proposition | Maximizing profitability for the S&E industry |
| Potential Clients & Partners | 1G sugar cane producers |
| Projects in Pipeline | ABSL closing financing |
| 2022 Total Market Size* (Installed Capacity) | $3 - 4 Billion USD (0.35 B gallons) |
| Business Model | Technology licenses<br>Project co-development with industrial investors (none or minimum equity committed) |








* Total Market Size is based on a capital investment of $8-12/gal, installed capacity is based on BNEF figures from slide 12

# Fine tuning our offering for a new high growth market

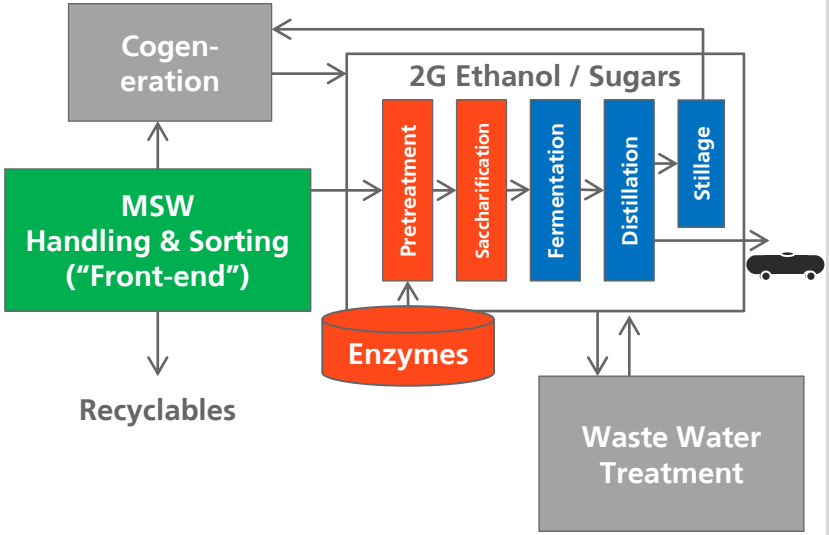
| | W2B |
|---|---|
| Value Proposition | Reduce waste economically and sustainability |
| Potential Clients & Partners | Municipalities worldwide, MSW management companies |
| Projects in Pipeline | 10+ RFQ, RFP, RFI in USA, EU and Asia |
| 2022 Total Market Size* (Installed Capacity) | $10 Billion USD (15 B tons of MSW) |
| Business Model | Concessions |

Core underlying technology

W2B product specific

End-market specific (sugars, ethanol)

Site specific



## Technological

**Biomass**

- ✓ Value added of residues proved for farmers
- ✓ Testing energy crops with positive perspectives

**Processing**

- ✓ Identified key challenges in pretreatment, EH and biomass processing
- ✓ Scale up to commercial level is a reality

Monetizing lignin in high value segments becomes next landmark to achieve

## Regulatory

- ✓ Biofuels will continue as a key source of energy for the transportation
- ✓ Europe debating on mandatory quotas for 2G
- ✓ RFS-2 will remain strong in place
- ✓ Brazil supporting ethanol growth
- ✓ Incentives expected through grants and tax exemptions

1. 2014 was a record year in revenues and profits, operational excellence achieved
2. Enzyme commercial production began
3. Hugoton start-up will continue
4. Good traction growing pipeline of opportunities
5. 2015 shall be a challenging year with so many uncertainties

# ABENGOA

## Thank you

April 7 & 9, 2015