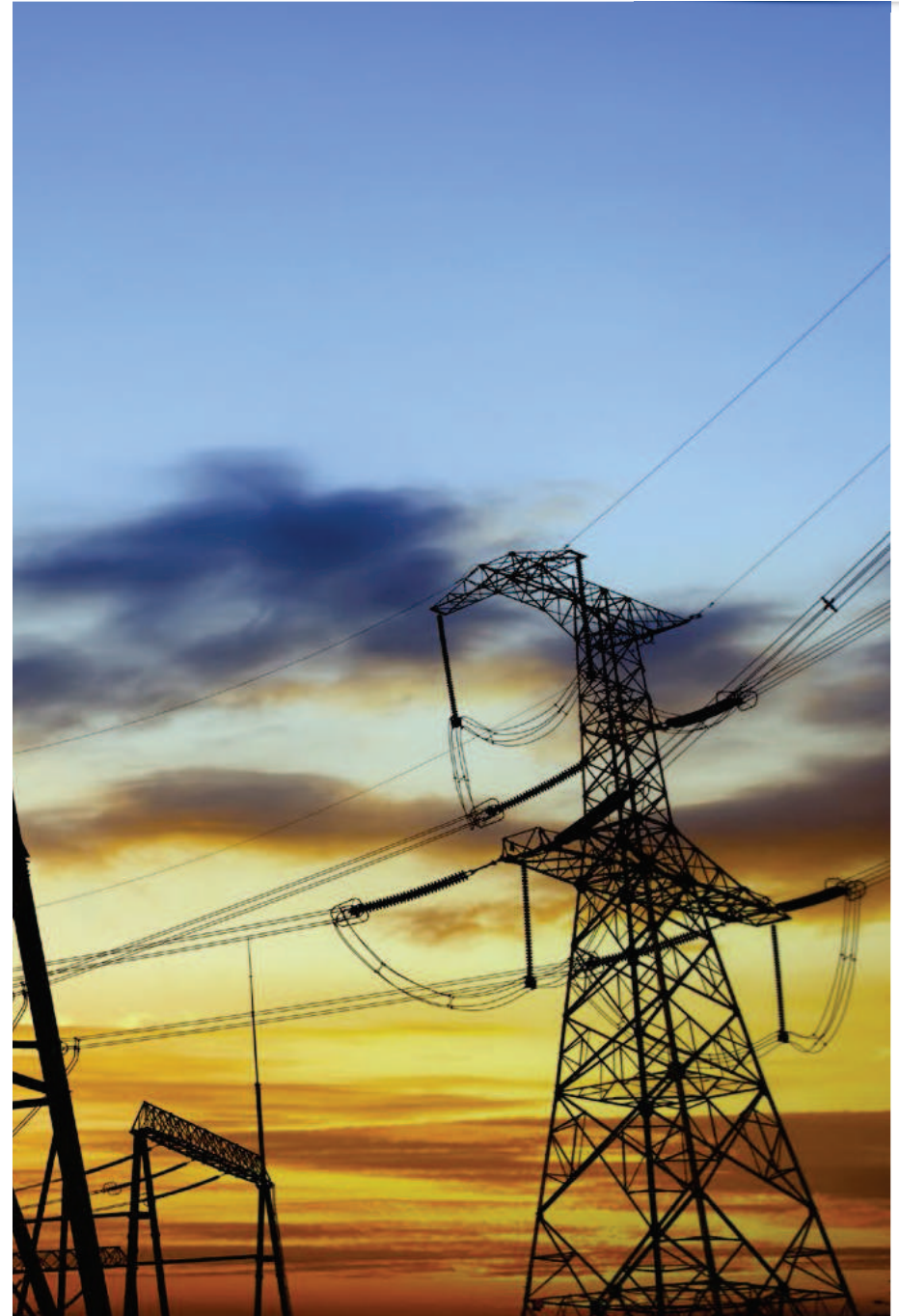




06.3

Responding to the demand for energy and infrastructure



Targets and commitments in 2013	Milestones in 2014	Commitments for 2015	Working areas
No explicit commitment was published in the CSRR 2013	Abengoa recognized as a leader on the Carbon Disclosure Project (CDP) for its transparency in managing climate change. The company obtained a qualification of 99 A	Consolidating position of leadership on the Carbon Performance Leadership Index and the Carbon Disclosure Leadership Index.	Analysis of the company's main risks and opportunities related to climate change as one of the key inputs in reporting information for the CDP.
No explicit commitment was published in the CSRR 2013	Adherence to the "Business Leadership Criteria on Carbon Pricing" as part of the Caring for Climate initiative, and designation of a carbon price.	The economic amount that will be invested in reduction actions is the result of applying the internal price set to 5 % of the total emissions from the annual GHG inventory.	Follow-up on the implementation of the reduction initiatives resulting from the application of carbon pricing.
No explicit commitment was published in the CSRR 2013	Endorsement of the Green Growth Group «Going for Green Growth» initiative.	Addressing recommendations, tasks and information needs to meet group requirements.	Implementing initiatives to promote a low-carbon economy.
Continuing to move forward in CO _{2eq} labelling (CSRR 2013, p. 38)	Development of three new CO _{2eq} labels.	Diversifying the development of CO _{2eq} labeling in all company products and services.	Analysis of product typologies and development of new labeling methodologies.
Systematizing the establishment of emission reduction initiatives through directed actions. (CSRR 2013, p. 38)	Reduction of 459.658 tCO _{2eq} thanks to the implementation of reduction actions (directed actions).	Calculating investment in reduction initiatives based on carbon pricing	Collaboration with business units in drawing up reduction initiatives and monitoring of investment made.
Strengthening the system of risk assessment associated with climate change. (CSRR 2013, p. 38)	Updating of risk analysis in relation to climate change based on the IPCC AR5 Report ⁽¹⁾ .	Objective accomplished and brought to completion.	Not applicable

(1) Intergovernmental Panel on Climate Change (IPCC): body established in 1988 to provide comprehensive assessments on the state of scientific, technical and socio-economic knowledge with respect to climate change, its causes, potential repercussions and response strategies. [\(+ info\)](#)

Photograph taken by Daehyun Kim for the 6th Edition of the Sustainability Photography Contest ⁽¹⁾.

The global demand for infrastructure over the next 15 years is estimated to require an investment of € 57 B, which means an annual average of € 3.2 B ¹, over three times more than Spain's GDP. Around 40 % of this investment will target the energy and water sectors, where Abengoa enjoys a presence and conducts its activity, and linked to investment in infrastructure is the rising demand for energy. According to the International Energy Agency (IEA) ², demand will increase by 37 % from now until 2040 ³.



(1) Photography contest for employees organized annually by Abengoa. The jury awarded the first prize and up to three runners.

Note 1 Unlocking Investment in Infrastructure. Standard and Poor's, McKinsey; June 2014.

Note 2 International Energy Agency (IEA): international organization dedicated to working to ensure reliable, affordable and clean energy for its member countries through its main areas of focus: energy security, economic development, environmental awareness and engagement worldwide. [\(+ info\)](#)

Note 3 [Word Energy Outlook 2014](#)

This chapter of the report describes the manner in which Abengoa responds to the challenges associated with the rising demand for infrastructure and energy and how the company turns these challenges into opportunities by drawing on its business model and R&D and innovation. Abengoa does so under the conviction that the future depends on complete restructuring of the energy model based on the transition to a paradigm based on **energy efficiency, energy saving and the use of clean energy sources**. This section also provides information on the company's performance from the standpoint of the energy it uses and the emissions associated with company activity ⁴.

Main lines of R&D and innovation in the fields of energy

Abengoa is currently engaged in the development of a variety of lines of research in the energy. The company's aim is to make newly developed technologies marketable in the near future and move them into new market niches. Listed below are the most prominent among these technologies.

Thermal energy storage

Abengoa is working to develop new lines of research into technologies that help lower costs, achieve higher efficiency and enhance the manageability of the company's solar plants. The commercial thermal storage technologies the company has developed, which continue undergoing research with a view to improvement, are divided into the following types:

› **Molten salt storage:**

- **Indirect:** employing a heat exchanger to transfer calorific energy from the fluid that absorbs concentrated solar radiation (thermal oil) to the molten salts ([Solana, in Arizona U.S.](#)).

Note 4 Performance in relation to use and production of water resources is described in detail in the chapter titled «Managing available natural resources».

- **Direct:** where molten salts directly absorb concentrated solar radiation and store thermal energy in tanks prepared for this purpose. ([Atacama I, desert of Antofagasta, Chile](#)).
- › **Steam accumulator:** using a thermally insulated tank containing hot water and pressurized steam ([Khi Solar One in Upington, South Africa](#)).

The development of these technologies in different pilot plants enables Abengoa to test their effectiveness to commercialize them while acquiring experience in using the technologies and progressively improving their efficiency.

Photograph taken by Abdellah Boujediane for the 6th Edition of the Sustainability Photography Contest⁽¹⁾.



(1) Photography contest for employees organized annually by Abengoa. The jury awarded the first prize and up to three runners.

Photovoltaic energy

Photovoltaic energy is another of Abengoa's prominent fields of research.

In 2014, Abengoa continued developing **thin film photovoltaic technology, high-concentration (HCPV)**⁵ demonstration high-concentrating photovoltaic technology-based plant was installed in the U.S. (SolarTac in Denver), and a 400 kWp commercial plant was implemented in France-; with regard to **low-concentration photovoltaics (LCPV)**⁶, Abengoa worked throughout 2014 in collaboration with the Fraunhofer Institute, the CSIC⁷, the University of Seville and the University of Cádiz on concept design and development, and on construction of a functional prototype which is currently being monitored and validated at the [Solucar Complex, in Seville \(Spain\)](#).

Additionally, Abengoa Research is working on solar cells based on perovskite, a material with extraordinary properties that is revolutionizing the field of photovoltaics as the result of its 20 %+ efficiency in converting light into electricity. In carrying out these new projects, Abengoa Research collaborates with institutions and universities that include the École Polytechnique Fédérale de Lausanne, the Max Planck Institute for Polymer Research and the University of Castilla-La Mancha.

Note 5 Concentrated photovoltaics (CPV) is a technology that employs lenses, curved mirrors and other types of optical devices to generate electricity by focusing a large amount of sunlight onto the smallest possible number of photovoltaic cells. In comparison with ordinary photovoltaic systems, CPV helps lower costs. High-concentrating (HCPV) systems use optics which concentrate light at an intensity of 1,000 suns or more

Note 6 Low concentration (LCPV) systems have a solar concentration of 2 to 100 suns.

Note 7 CSIC (acronym in Spanish for Spanish National Research Council): largest public institution dedicated to research in Spain and the third largest in Europe; its main objective is to develop and promote research to bring about scientific and technological progress. ([+ info](#))

Power systems

Abengoa is working on the **development of intelligent solar plants** through the **Smart Solar Plant (SSP)** Project. These plants **combine solar thermal and photovoltaic technology** to achieve optimal integration into the electric system. In addition to generating clean energy with a cheaper tariff, these plants will have the capability to provide support services to the electrical power grid and optimize their share in the most competitive electric markets. To this end, the company is analyzing the impact and viability of these new breeds of power plants in diverse electric scenarios, including the U.S., Chile, South Africa and Germany..



Photograph taken by Adriana del Valle Gil for the 6th Edition of the Sustainability Photography Contest ⁽¹⁾.

(1) Photography contest for employees organized annually by Abengoa. The jury awarded the first prize and up to three runners.

Solar energy 24 hours a day

Abengoa was selected in 2014 by the Ministry of Energy of the Chilean government and the Production Development Corporation (CORFO) ⁸ to develop the [largest solar thermal plant in Latin America](#). This contract award is part of Chile's national program for the development of renewable energy sources, whose aim is to provide the country with a **cleaner energy future**. Chile aims to achieve by 2025 the goal of producing 20 % through clean energy.

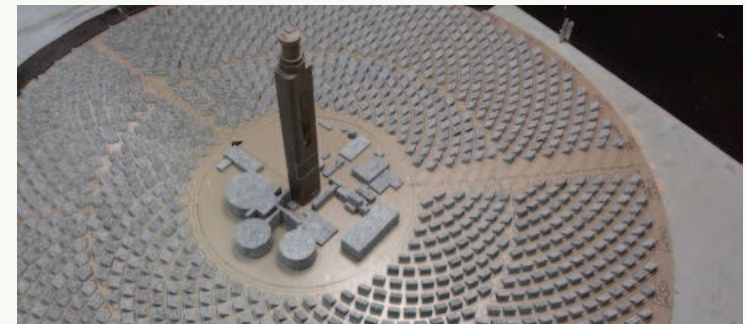
Located in the **Atacama Desert**, the region that receives the highest concentration of solar radiation in the world, the 110 MW tower technology-based solar plants equipped with 17.5 hours of molten salt thermal energy. This will enable non-stop **production of renewable energy 24 hours a day** and a 100 MW capacity photovoltaic plant.

Once it has entered into operation, the plant will prevent the emission into the atmosphere of approximately **870,000 tCO_{2eq}** per annum, and in addition it will respond to community and industry energy demand thanks to the combination of the two technologies.

Construction, operation and maintenance of this complex will serve as a catalyst for regional and national socioeconomic development, generating an average of **1,100 direct jobs**, up to a peak of 2,500. Once the project enters into commercial operation, **60 direct long term positions** will be created.

Project construction began in July 2014, and the plant will be ready to go operational in March 2017.

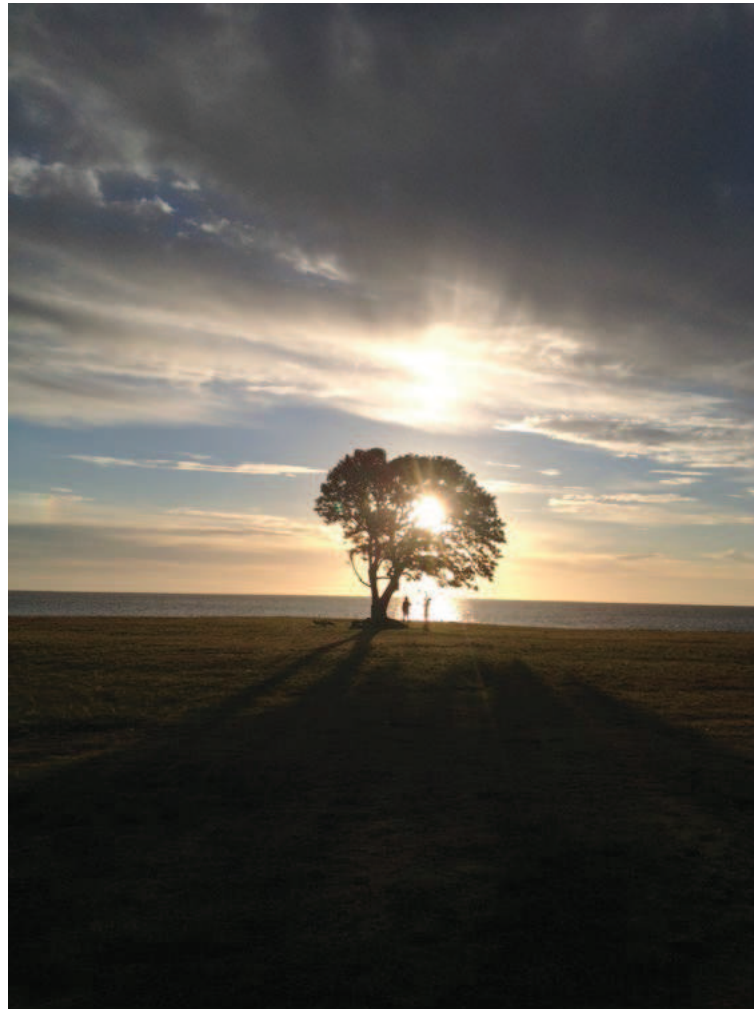
Reconstruction of the solar project being executed by Abengoa in Chile.



Note 8 CORFO (acronym in Spanish for Production Development Corporation): Chilean governmental organization tasked with promoting domestic production activity [\(+ info\)](#)

G4-DMA, G4-EC2

Cristina Cuesta, accésit in the 6th Edition of the Sustainability Photography Contest ⁽¹⁾. *El árbol y la luz.*



(1) Photography contest for employees organized annually by Abengoa. The jury awarded the first prize and up to three runners.

Biomass

Abengoa develops energy crops ⁹ and works through innovation to improve the **energy productivity** of harvested wood products and increase the volume of cultivated energy plantations.

The biomass, pellet ¹⁰ and wood chip ¹¹, chip market is expected to see significant growth in the next few years to meet the demands from different parts of the world. In order to address these needs, Abengoa already boasts a variety of projects that are at an advanced stage in areas comprising energy plantations, biomass transportation and wood chip and pellet plants.

Risks and opportunities associated with climate change

Abengoa's business model and strategy are designed around the creation of innovative technology-based solutions for sustainability, where climate change plays an essential role.

For this reason, Abengoa conducts extensive analysis ¹² of the different aspects associated with climate change, including potential related regulatory or physical changes, with the aim of **protecting company assets, contributing to mitigating inherent risks and exploiting potential business opportunities** that may arise as a result of this phenomenon.

Note 9 Energy crops: fast-growing plants grown for the purpose of energy production.z.

Note 10 Pellets: ground forestry biomass that has been dried and compacted to obtain cylinders with a diameter of just a few millimeters and with the lignin contained therein acting as a natural bonding substance for use as biofuels.

Note 11 Wood chips: small pieces of wood obtained by cutting or chipping forest biomass.

Note 12 In 2014, Abengoa revised its methodology for analyzing risks in relation to climate change based on the reflections of the Intergovernmental Panel on Climate Change (IPCC) in its fifth assessment report, which establishes 1.8°C as the estimate for the low scenario in average temperature rise.

Outlined below are the financial implications of the risks and opportunities linked to climate change and the measures adopted by the company to address the former:

Risks

The current backdrop of uncertainty regarding the continuation of **the Kyoto Protocol** could reduce **capital investments** in emissions reduction and renewable energy projects in developing countries. Given that part of Abengoa’s activity involves acting as an intermediary in the purchase and sale of emission rights, this activity would cease in the event that a post-Kyoto system is not established.

Variations in environmental conditions (changes in temperature, precipitation levels, rising sea level, increase in the number of catastrophes, etc.) can lead to **water scarcity, destruction of facilities or stagnation of company operations** in affected territories.

Financial implications

Abengoa addresses this risk by holding regular meetings with the Spanish Climate Change Office in order to analyze the evolution of carbon markets and monitor national and international policies.

Abengoa addresses this risk by taking into consideration worst-case meteorological and environmental parameters and by raising safety factors in project and process design and analyzing and estimating the chemical products and enzyme consumption established under the contingency plans developed during desalination, water treatment and bioethanol plant construction. The company also analyzes and monitors inputs to thermal processes taking place in solar plants.

Opportunity

Activities involving thermal power will not have any free allowances over the 2013-2020 period. This will present a tremendous opportunity for carrying **out low-carbon activities** with free allowances

According to IPCC forecasts, a rise in temperature and a drop in average precipitation is anticipated in certain geographical areas. A rise in temperatures could mean a **greater demand for water**. Furthermore, a decrease in annual precipitation levels could bring about an increased number of hours of sunlight, which would **increase energy production** by solar plants located in these areas..

Public awareness with respect to climate change presupposes that company stakeholders will pay increasingly more attention to Abengoa’s measures aimed at combating climate change. Therefore, all activities undertaken voluntarily in compliance with rules and regulations pertaining to climate change will have a positive effect on the company.

67 %

of energy produced come from renewable sources

Domestic carbon price, established in

9 € per tCO_{2eq}

Reduction of

459,658 tCO_{2eq}

G4-DMA, G4-EN3, G4-EN4, G4-EN5

Responsibility in relation to company activities with an impact on climate change

The activity carried out by Abengoa is characterized by its potential influence on the **effects occurring from climate change** and therefore the company takes into account all factors involved in the business that may have an impact on our natural surroundings. Keenly aware of its **responsibility**, Abengoa engages in diverse initiatives contributing to palliating these impacts and which involve each and every area of the organization. .

Abengoa's commitment to sustainable development and halting climate change accordingly extends to include all areas of company activity: including employees, through hours of training dedicated to these areas; the supply chain, by means of the GHG emissions inventory for quantifying the emissions of all of the company's products and services; customers, through CO_{2eq} labelling to inform the market on the carbon footprint associated with business development; and the community, through implementation of the Energy Transition and Climate Change Forum. In addition, the company has consolidated its risk assessment system over the past few years. This system includes risks that are directly linked to climate change.

Energy and emissions indicators

Energy

Abengoa seeks to contribute to mitigating the consequences of **climate change** by **producing clean, emission-free** energy and promoting **maximun efficiency** in company operations.



Energy production

Energy production, one of the pillars of the Abengoa business model, enables the company to contribute actively toward climate change mitigation and an emissions-free energy model.

In 2014, energy production from different sources totaled 101,552,784 GJ, distributed as shown below:

Type of energy (GJ)	2014	2013	2012
Biofuels	57,175,927	50,446,231	52,576,933
Electrical	28,371,617 ⁽¹⁾	21,232,968	14,000,671
Thermal	15,882,830	13,232,529	3,117,638
Biomass	122,410	8,770	17,630
Total	101,552,784	84,920,498	69,712,872

(1) Of the total amount of electrical power produced, 38% comes from a renewable source.

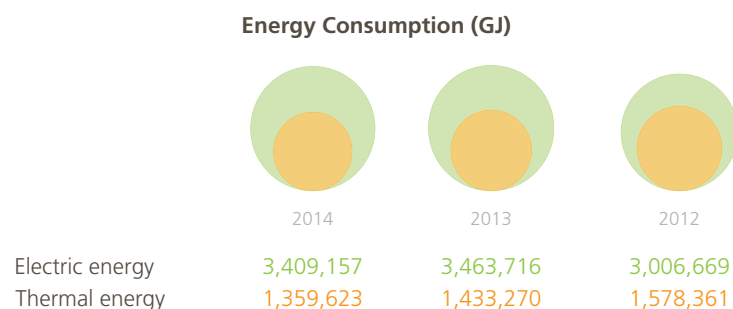
Energy consumption

Abengoa promotes the execution of measures aimed at optimizing energy efficiency in all company operations, as well as the use of renewable energy sources. Direct energy consumption, by source, was as follows:

Type of energy (GJ)	2014	2013	2012
Natural gas	64,897,055	55,074,305	38,872,639
Biomass	16,688,290	15,269,801	14,639,966
Petroleum derivatives	2,241,744	2,168,933	2,362,480
Biofuels	75,887	74,499	267,961
Others	24,560	1,096	1,319
Total	83,927,536	72,588,634	56,144,365

G4-DMA, G4-EN6, G4-EN7

Additionally, installations and work facilities consume intermediate energy in the form of electricity and thermal power. Over the last three years, consumption figures were the following:



In 2014, the percentage of electricity used by Abengoa coming from renewable sources was 21 %.

A breakdown of this intermediate energy consumption according to renewable and non-renewable primary sources shows that most of the energy Abengoa uses comes from hydro, wind and biomass.

Indirect energy consumption (GJ)

	2014	2013	2012
Renewable primary source	1,036,400	1,044,780	748,204
Non-renewable primary source	8,114,322	8,244,417	7,241,435

Note: Further information can be found in Appendix B.

Measures adopted to reduce energy consumption

Another fundamental aspect of fulfilling Abengoa's sustainability policies and objectives involves the implementation of measures to promote energy efficiency and emissions abatement in company operations and processes.

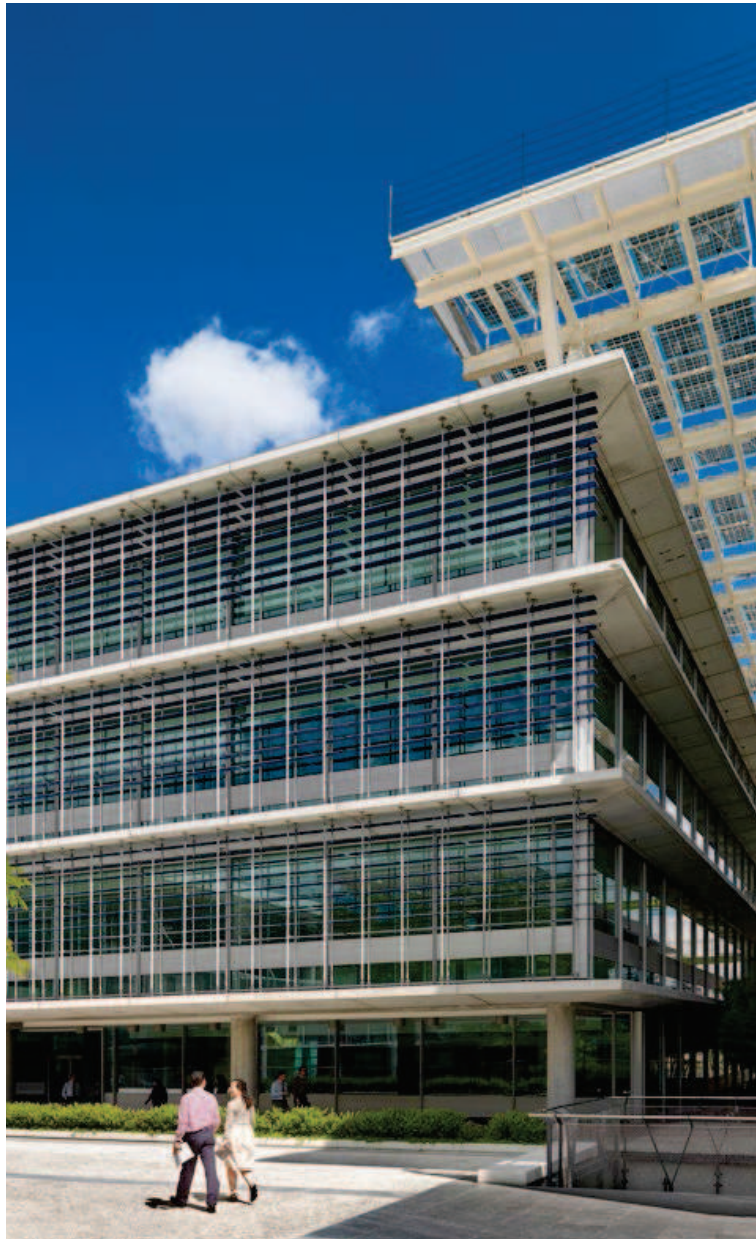
In 2014, Abengoa encouraged group companies to carry out initiatives aimed at achieving higher energy efficiency. Worthy of special mention among such undertakings were the measures adopted at the Solar Power One plant focused on enhanced focalization and reflectivity of the plant's solar field, as well as improved steam turbine performance by means of an improved vacuum system, thereby achieving a reduction in the amount of natural gas used in the process. Investment in the initiative totaled € 90,000.

Also worth noting are the reductions in LNG consumption achieved at the Solucar, El Carpio, Castilla la Mancha, Extremadura and Écija solar plants in Spain. Overall reduction amounted to 38,379 tCO_{2eq}.



Energy production	101,554,798 GJ
— Energy consumption	88,696,316 GJ
Net energy produced	12,858,482 GJ

	2014	2013	2012
Energy consumption revenues (GJ/k€)	12.0	10.5	8.8
Energy consumption workforce (GJ/person)	3,649	3,506	2,603
Energy consumption EBITDA (GJ/M€)	54,248	44,490	55,152



Campus Palmas Altas, Seville (Spain).

Efficient offices

Abengoa promotes energy efficiency in all of its areas of activity, which encompasses projects and company office locations and facilities as well. Along these lines, the company earned LEED certification in three of its singular buildings: Campus Palmas Altas, Seville (Spain), Abengoa’s main headquarters housing 3,000 employees, has **platinum LEED** pre-certification; Castellana, 43, Madrid (Spain), with 700 employees, obtained its **gold LEED** certificate in 2013; and the corporate office in Rio de Janeiro (Brazil), with 600 employees, is currently in the process of obtaining **silver LEED** certification.

LEED (Leadership in Energy and Environmental Design) certification, based on a set of rating systems, is a U.S. assessment method applied to determine the efficiency of **so-called green buildings** by means of objective design guidelines and quantifiable parameters.

These certifications recognize the commitment undertaken by Abengoa to the environment and responsible management, in addition to the company’s engagement in the development of measures and initiatives that contribute to improving efficiency in conducting its activities.



G4-EN15, G4-EN16, G4-EN17

Greenhouse gas emissions

Since 2008, Abengoa prepares its Inventory of Greenhouse Gases (GHG), management of which is handled through an internal application integrated into the ISMS (Integrated Sustainability Management System)¹³. The maturity of the system has enabled the company to draw up **emissions reduction plans** and develop CO2 labeling of the products and services it provides.



The Abengoa emissions management system is verified externally each year in accordance with **ISO 14064**¹⁴. Standard specifications. The information provided below corresponds to the data included in the GHG emissions report verified by AENOR for 2014¹⁵.

Scope 1 emissions

With a breakdown by source type, shown below are the GHG emissions derived from Abengoa sources or those controlled by Abengoa, distinguishing between emissions associated with biomass and those linked to other productive processes.

Generic emissions (tCO _{2eq})		Emissions from biomass (tCO _{2eq})	
Mobile combustion	94,339	Mobile combustion	1,957
Stationary combustion	3,607,400	Stationary combustion	1,458,717
Fugitive	8,670	Fugitive	13
Processes	91,788	Processes	1,984,384
Total	3,802,197	Total	3,445,101

Scope 1 emissions by GHG type

Scope 1 emissions by GHG type	CO ₂	CH ₄	N ₂ O	HFC	SF ₆
Mobile combustion	94,582	145	1,568	-	-
Stationary combustion	5,020,706	6,121	39,291	-	-
Fugitive	912	4,048		2,975	958
Processes	1,990,219	8,697	77,256	-	-
Total	7,106,419	19,011	118,115	2,975	958

Note: no PFC or NF3 emission sources were identified.

Note 13 More information in «External Verification» chapter.

Note 14 ISO 14064: international environmental certification that lends credibility and assurance to reports on greenhouse gas emissions and reduction.

Note 15 More information in «External Verification» chapter.

Scope 2 emissions

Emissions derived from the consumption of electricity and thermal energy, generated by other entities and purchased and consumed by Abengoa across company activities, were as follows:

Scope 2 emissions (tCO_{2eq})	
Electric energy consumption	462,142
Thermal energy consumption	102,112
Total	564,254

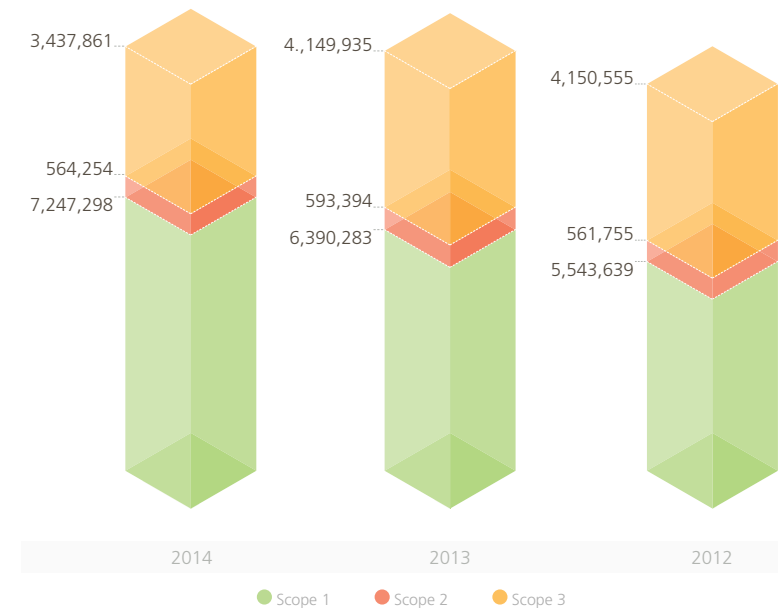
Scope 3 emissions

Scope 3 emissions are indirect emissions resulting from company activities but which occur in sources that are not owned or controlled by the company.

Scope 3 emissions (tCO_{2eq})	
Acquired products and services	3,254,737
Work-related travel	28,564
Work commutes	17,502
Losses occurring in electrical power distribution	66,533
Value chain of fuels consumed in acquired energy	70,525
Total	3,437,861

The graph below shows the evolution of GHG emissions derived from Abengoa activity. A reduction trend can be observed as the consequence of the efficiency measures implemented in recent years:

Historical GHG emissions data



Historical GHG emissions data (tCO_{2eq})

	2014	2013	2012
GHG emissions (tCO _{2eq})	11,249,413	11,132,612	10,255,949

The rise in GHG emissions was due primarily to the operational startup of the Tabasco cogeneration plant in Mexico, with a GHG inventory share of over 1.5 MtCO_{2eq}. The increase in the GHG inventory in 2014 with respect to the 2013 inventory was 1.04 %.

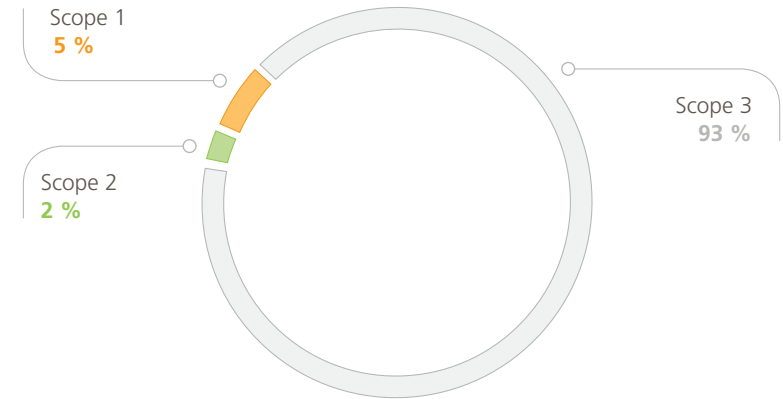
GHG emissions by area of activity

Emissions data by Abengoa activity area in 2014 for the three scopes were the following:

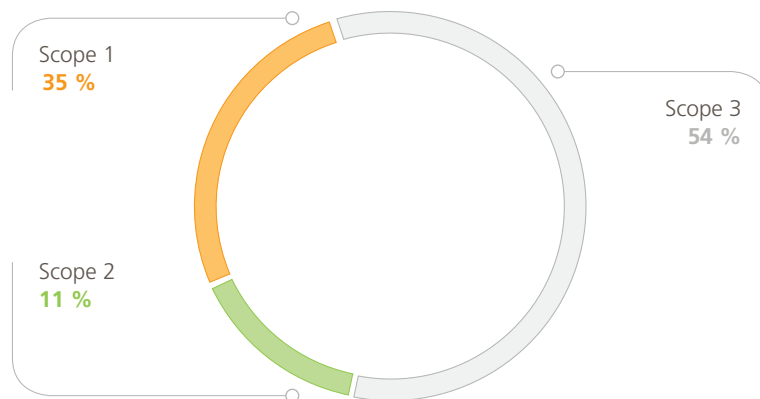
	Industrial production	Infrastructure under concession	Engineering and construction	Total
Scope 1	1,599,977	2,160,598	41,622	3,802,197
Scope 2	505,459	45,281	13,515	564,255
Scope 3	2,486,448	155,869	795,543	3,437,860
Total emissions	4,591,884	2,361,748	850,680	7,804,312

Expressed in tCO_{2eq}

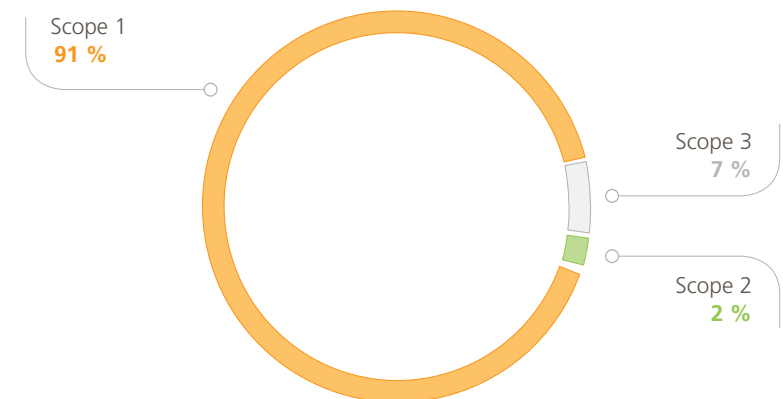
Engineering and construction



Industrial production



Infrastructure under concession



G4-DMA, G4-EN18, G4-EN19

CO_{2eq} emissions due to biomass were as follows:

	Engineering and construction	Concession-type infrastructure	Industrial production	Total
Biomass combustion	1,460,208	11	456	1,460,675
Other sources of biomass	1,984,426	0	0	1,984,426
Biomass total	3,444,634	11	456	3,445,101

Emissions intensity

In order to objectively quantify the evolution of GHG emissions, Abengoa employs ratios, that is, by weighing emissions based on different indicators. Shown below is the evolution of emissions weighted with respect to revenues, EBITDA and employee headcount, over the past three years.

	2014	2013	2012
GHG emissions/Revenues (tCO _{2eq} /€M)	1.5	1.5	1.6
GHG emissions/EBITDA (tCO _{2eq} /€M)	6.9	8.2	10.8
Emissions GHG/workforce (tCO _{2eq} /empleado)	462.8	449.9	428.7

It is important to point out that Abengoa promotes the annual design of emissions reduction programs for all group companies. Since 2011, these reduction plans have been optimized and executed as directed actions in accordance with ISO 14064-1 requirements.

The most relevant initiatives carried out in 2014 were the following:

- › Implementation of a CO₂ capture system at bioethanol plant of Lacq (France) resulting in a reduction of 45,253 tCO_{2eq}.
- › Promotion of procurement with lower emissions in the value chain at the desalination of Accra (Ghan) Limited (Scope 3). This measure consisted of modification of the metal structure with respect to the original project by opting for a structure with a variable profile, thereby reducing the material needed to execute the structures envisaged under the project by 65 %. The initiative rendered a reduction of 1,236 tCO_{2eq}.

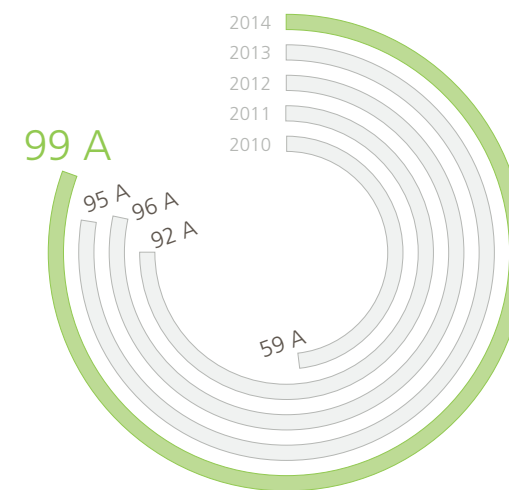
- › Operational optimization aimed at reducing electricity consumption at the Helios I and II and Solacor I and II plants (Spain). Measures focused on changes in programming logic in terms of operation, startups and shutdowns and achieved a reduction of 2,446 tCO_{2eq}.

In Abengoa contributed to the struggle against climate change with an emissions reduction totaling **459,658 tCO_{2eq}** achieved by optimizing productive processes, promoting CO₂ capture systems and driving forward a reduction in CO₂ emissions in the procurement value chain.

Carbon Disclosure Project

The company's effort toward halting climate change was recognized by the **Carbon Disclosure Project (CDP)**, the index which includes Abengoa among the **200 companies with the best performance in the struggle against climate change** in the world ([The A List](#)), and among the components included in the Iberia 125 report, which includes the 125 largest listed companies in Spain and Portugal demonstrating a strategy of commitment to halting climate change. This year, Abengoa consolidated its leading position by obtaining a score of 99 A.

Evolution of Abengoa in CDP



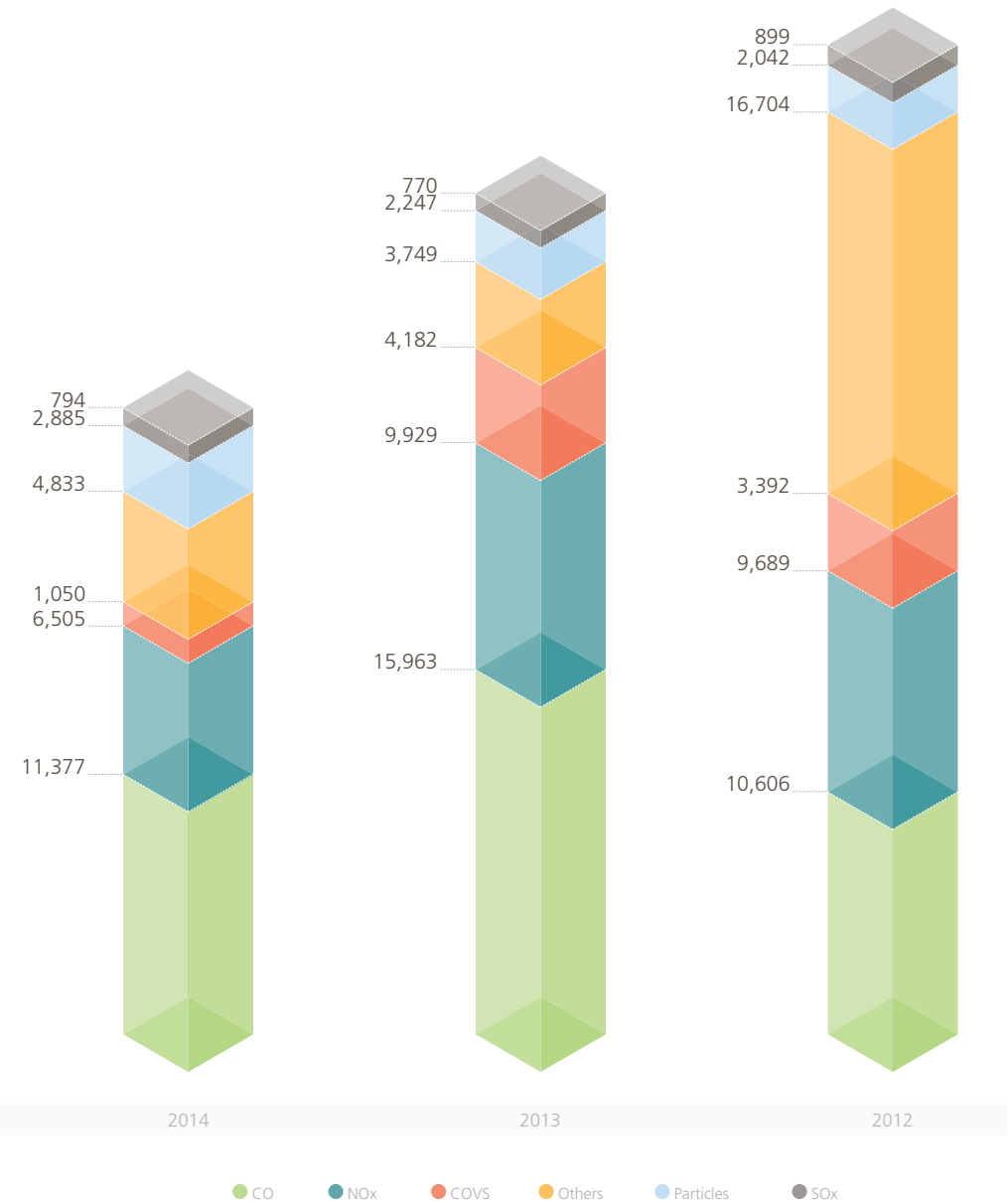
G4-EN21

Other emissions

Having detailed knowledge on its emissions enables Abengoa to establish quantitative reduction targets by evaluating the progress and effectiveness of the measures implemented. Listed below are emissions other than CO₂ and ozone layer-depleting substances.

The emissions recorded for NO_x, SO_x, CO, COVs and particles, according to weight, were the following:

	2014	2013	2012
CO	11,377	15,963	10,606
NO _x	6,505	9,929	9,689
COVs	1,050	4,182	3,392
Otros	4,833	3,749	16,704
Partículas	2,885	2,247	2,042
SO _x	899	770	794



G4-DMA, G4-EN20



Putting price on CO₂

The United Nations Global Compact (to which Abengoa has been signed up since 2002), the United Nations Framework Convention on Climate Change (UNFCCC)¹⁶, the United Nations Environment Program (UNEP)¹⁷ and Abengoa's strategic Caring for Climate¹⁸ partners have driven forward an initiative aimed at putting a value on the cost of emissions as a necessary means to approaching

climate change [The Business Leadership Criteria on Carbon Pricing](#).

Abengoa signed the initiative on September 8, 2014 with the intention of gearing company activity toward a low-carbon economy. Upon doing so, the company undertook a set of commitments, among which are the following:

- › Setting an **internal price on carbon** that is high enough to affect investment decisions and thereby reduce greenhouse gas emissions.
- › **Publicly advocating** the importance of carbon pricing through policies that take into account the particular economic aspects and political contexts of each country .
- › **Reporting on progress** in terms of the two aforementioned criteria in the information disclosed by the company.

These considerations are intended to contribute to reaching the goal of limiting the rise in average global temperature to 2 °C above preindustrial levels.

To this end, Abengoa has established an **internal carbon price for the company of 9 €/tCO_{2eq}**. This price has been calculated using the volume and investment in emissions reduction initiatives, the volume and cost of carbon credits purchased and the cost of green energy acquired.

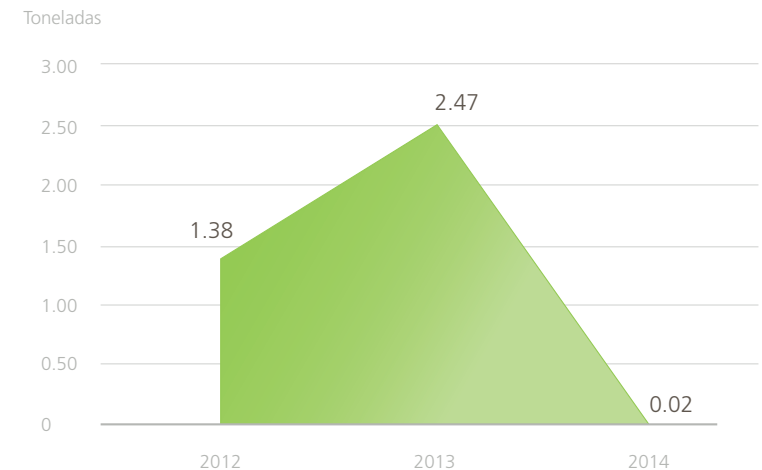
In addition, Abengoa has thereby undertaken **a commitment to reducing its overall CO₂ by 20 %** in 2020 with respect to 2013 emissions levels. To do so, the company will allocate an annual economic volume resulting from the application of the internal price set to the 5 % of the total emissions from the annual GHG inventory.

Note 16 United Nations Framework Convention on Climate Change (UNFCCC): treaty which reflects international reaction to the effects of climate change and its consequences in terms of human activity. [\(+ info\)](#)

Note 17 United Nations Environment Program (UNEP): the voice of the environment under the United Nations system, this agency acts as catalyst, champion, educator and facilitator to promote sound use of resources and sustainable development worldwide. [\(+ info\)](#)

Note 18 Caring for Climate: an international initiative created by the United Nations Global Compact to advance the role of the business sector in addressing strategy for halting climate change. [\(+ info\)](#)

The amount of weight in tons of these atmospheric emissions has dropped by 36 % since 2012. The most significant cuts in 2014 were seen in CO y NOx due to increased use of biomass as a fuel in bioethanol production plants in Brazill. The drop in the emission of VOCs is the result of a change in computation methodology¹⁹.



Despite the reduction in the use of these substances, amounting to **99.2 %** with respect to 2013 and it is fundamentally associated with biofuel production activity, given that the number of reloads of systems containing these types of gases was reduced in 2014.

Note 19 The IPCC emission factor was replaced with the U.S. Environmental Protection Agency (EPA) indicator at the ethanol production plant in Illinois.