

# Report from AENOR

## Verification Statement of AENOR for Abengoa on the Inventory of greenhouse gas emissions corresponding to the year 2014

DOSSIER: 1993/0205/HCO/01

### Introduction

Abengoa (hereinafter the company) commissioned the Spanish Association for Standardisation and Certification (AENOR) to make a reasonable revision of the inventory of greenhouse gases (GHG) for the year 2014 of its activities included in the GHG report of 2014, which is part of this Declaration.

AENOR is accredited by Entidad Mexicana de Acreditación (OVVGEI 004/14) according to ISO 14065:2007, to conduct GHG verifications according to ISO 14064-3:2006 in the Energy Sector.

Inventory of GHG emissions issued by the Organisation: Abengoa, Campus Palmas Altas c/ Energía Solar, 1- Palmas Altas 41014 Seville (Spain).

Representatives of the Organisation: Fernando Martínez Salcedo, Sustainability Secretary, and José Manuel Delgado Rufino, manager of the Corporate Control Department.

Abengoa was responsible for reporting its GHG emissions considered in accordance with the reference standard ISO 14064-1:2006.

### Objective

The objective of the verification is to provide the interested parties with an independent and professional opinion on the information and data contained in the above mentioned GHG Report issued by Abengoa.

### Conflicts of interest

AENOR states that there is no any conflicts of interest between the organization responsible of the GHG inventory and AENOR or any member of the verification team.

### Scope of the Verification

The scope of the verification is established for the activities carried out by the companies belonging to Abengoa represented in 2014 annual report, "Corporate Social Responsibility", available in Abengoa's website (<http://www.abengoa.com>).

During the verification the information was analysed according to Operational control approach. The company reports all the GHG emissions attributable to the operations under its control.

The scope of the activities of the company is identified in accordance with the guidelines of standard ISO 14064-1:2006 in direct and indirect activities.

### Direct, indirect activities and exclusions from the verification.

#### Scope 1- Direct GHG emissions

Direct emissions occur from sources that are the property of or are controlled by Abengoa. These include:

- Stationary combustion sources
  - Mobile combustion sources
  - Emissions of CO<sub>2</sub> from the bioethanol production process
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- Emissions from the composting process
- Process emissions from wastewater treatment plants
- Fugitive emissions of natural gas
- Fugitive emissions of HFC from refrigeration systems
- Fugitive emissions of SF<sub>6</sub> from electrical equipment
- Emissions of HFC/PFC from the use of solvents (not aerosols)
- Emissions of HFC/PFC from the use of aerosols
- Emissions of HFC/PFC from the use of foam blowing agents
- CO<sub>2</sub> emissions derived from the use of lubricants
- CO<sub>2</sub> emissions derived from the use of paraffinic waxes.
- Diffuse emissions derived from the use of greenhouse gases

#### Scope 2 – Indirect GHG emissions

Indirect emissions are those derived from the activity but generated by other entities, including the emissions of the generation of electricity acquired and consumed by the company. These emissions are:

- Emissions associated with generating purchased thermal energy.
- Emissions associated with generating purchased electrical energy.

#### Scope 3- Other indirect emissions

The rest of the indirect emissions are a consequence of the activities of the company, but occur in sources that are not the property of the company or controlled by it. These other emissions are:

- Business trips.
- Employee commuting to the workplace.
- Indirect emissions from losses during electricity transport and distribution.
- Indirect emissions due to the value chain of the fuels employed for the production of the electricity consumed.
- Goods and services purchased.

#### Exclusions

Abengoa companies have been able to exclude from their inventories those sources which imply a value less than or equal to 0,5 % of their total emissions.

#### Greenhouse gases taken into consideration

The greenhouse gases taken into consideration for the inventory are those defined under the Kyoto Protocol which can be divided into the following categories:

- Carbon dioxide.
- Methane.
- Nitrous oxide.
- Perfluorocarbons.
- Hydrofluorocarbons.
- Sulphur hexafluoride.
- Nitrogen trifluoride

**Base year**

Abengoa's inventory is the result of consolidating the inventories of its companies and each one of them define their own base year depending on their characteristics and, in this way, the perimeter variations are carried out at a subsidiary company level.

**Directed Actions**

Reference and information on the directed actions, related with the reduction of GHG emissions, carried out by Abengoa during 2014 have been included in the GHG report for 2014 of the company. The following directed actions were subject to verification:

Directed Action	GHG Emissions reduction (t CO2e)
Installation of a system for capturing CO2 generated during the bioethanol production process in the Abengoa Bioenergy France plant	45.253
Promotion of purchases with a less emissive value chain in Abeima Teyma Infraestructuras Ghan Limited	1.236
Optimization of the operation processes in Helios I & II and Solacor I & II solar plants	2.446

**Materiality**

For the verification it was agreed to consider as material discrepancies those omissions, distortions or errors that could be quantified and result in a difference of more than 5% with respect to the total of emissions declared.

**Criteria**

The criteria and information that have been taken into consideration to carry out the verification were the following:

- 1) Standard ISO 14064-1:2006: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals.
- 2) Standard ISO 14064-3:2006: Specification with guidance for the validation and verification of greenhouse gas assertions.
- 3) Internal Standard of Abengoa NOC-05/003 "Quality and Environment Management. Sustainability Management. Greenhouse gas emissions inventory"
- 4) Technical Instructions and procedures of Abengoa companies.

Finally, the "Abengoa Greenhouse gas emissions report 2014" was subject to verification.

AENOR waives any responsibility for decisions, regarding investment or of any other type, based on this declaration.

**Conclusion**

**As a conclusion and according to the reasonable level of assurance agreed, AENOR states:**

Based on the above, in our opinion *the information on the GHG emissions reported in "Abengoa Greenhouse gas emissions report 2014" is materially correct and is a fair representation of the emissions of its activities.*



Lead Verifier: Raúl BLANCO BAZACO



Environment Manager: José MAGRO GONZÁLEZ

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In consequence with this Declaration below is a list of the emissions data that were finally verified. The information is broken down according to two different criteria:

I) by scope according to Standard ISO 14064-1

II) by activity segment

**I) Verified data broken down by scope according to Standard ISO 14064-1**

Scope 1

a) GHG emissions.

Scope 1 emissions-Greenhouse Gases			
Non biomass emissions (t CO <sub>2</sub> -eq)		Biomass emissions (t CO <sub>2</sub> -eq)	
Mobile combustion	94.339	Mobile combustion	1.957
Stationary combustion	3.607.400	Stationary combustion	1.458.717
Fugitive emissions	8.670	Fugitive emissions	43
Processes	91.788	Processes	1.984.384
<b>Total</b>	<b>3.802.197</b>	<b>Total</b>	<b>3.445.101</b>

b) Emissions per GHG type.

Scope 1 emissions -CO <sub>2</sub> *	
Total emissions (t CO <sub>2</sub> -eq)	
Mobile combustion	94.852
Stationary combustion	5.020.706
Fugitive emissions	912
Processes	1.990.219
<b>Total</b>	<b>7.106.419</b>

\* Emissions from biomass are included

  
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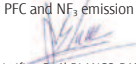
Scope 1 emissions -CH <sub>4</sub>	
Total emissions (t CO <sub>2</sub> -eq)	
Mobile combustion	145
Stationary combustion	6.121
Fugitive emissions	4.048
Processes	8.697
<b>Total</b>	<b>19.011</b>

Scope 1 emissions -N <sub>2</sub> O	
Total emissions (t CO <sub>2</sub> -eq)	
Mobile combustion	145
Stationary combustion	6.121
Processes	4.048
<b>Total</b>	<b>8.697</b>

Scope 1 emissions -HFC	
Total emissions (t CO <sub>2</sub> -eq)	
Fugitive emissions	2.795
<b>Total</b>	<b>2.795</b>

Scope 1 emissions -SF <sub>6</sub>	
Total emissions (t CO <sub>2</sub> -eq)	
Fugitive emissions	958
<b>Total</b>	<b>958</b>

Note: PFC and NF<sub>3</sub> emission sources have not been identified.

  
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Scope 2

Total emissions (t CO <sub>2</sub> -eq)	
Electric energy consumption	462.142
Thermal energy consumption	102.112
<b>Total</b>	<b>564.254</b>

Scope 3

Total emissions (t CO <sub>2</sub> -eq)	
Acquired supplies	3.254.937
Business trips	28.564
Employee commuting	17.502
Electric energy distribution losses	66.533
Value chain of the fuels used to generate the energy consumed	70.525
<b>Total</b>	<b>3.437.861</b>

**II) Verified data broken down by activity segment**

The business of Abengoa is organized into three different activities: Industrial production, Concession-type infrastructures and Engineering and construction. Below is a list of the emissions data that were verified broken down by activity segment according to the ISO 14064-1 scopes.

	Industrial production	Concession-type infrastructures	Engineering and construction	Total
Scope 1	1.599.977	2.160.598	41.622	<b>3.802.197</b>
Scope 2	505.459	45.281	13.515	<b>564.255</b>
Scope 3	2.486.448	155.869	795.543	<b>3.437.860</b>
<b>Total</b>	<b>4.591.884</b>	<b>2.361.748</b>	<b>850.680</b>	<b>7.804.312</b>

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In addition, the emissions from biomass are:

	Industrial production	Concession-type infrastructures	Engineering and construction	Total
Combustion of biomass	1.460.208	11	456	<b>1.460.685</b>
Other emissions from biomass	1.984.426	0	0	<b>1.984.426</b>
<b>Total</b>	<b>3.444.634</b>	<b>11</b>	<b>456</b>	<b>3.445.101</b>

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Madrid, 6 February 2015

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