Risk management

Goals set forth in the 2019-2023 SPCSR

Risk management

- Conduct the annual **CSR risk analysis at the company's facilities**, so these can be included in Abengoa's risk map.
- **Use the Risk Management System to identify the potential changes in the environment**, as required to prepare and adapt the company to achieve the global business goals.
- Strengthen Abengoa's risk management systems in relation to **identifying and controlling CSR aspects** (social, environmental, ethical and reputational order).
- Create value through Abengoa's Risk Management System as a competitive advantage and tool that guarantees **excellence in the decision-making process**.

Abengoa considers that the risks that might affect the company need to be managed and treated correctly, with the purpose of ensuring that the goals established in its Strategic Plan and Feasibility Plan can be met, while turning such risk management into a competitive advantage.

To achieve this, Abengoa has implemented a **Risk Management System** that is fully **integrated in the business** and which covers all areas of the company, according to a common awareness-raising culture for all employees, thus ensuring that all risks are managed adequately across all levels of the organisation.

Abengoa's Risk Management System is based on three main pillars: common management systems, internal control procedures (SOX) and the universal risk model. Likewise, it is characterised for having a **comprehensive and dynamic approach**, allowing it to control and identify the risks, create a common culture that helps achieve the goals in this area and have the necessary capacity to act and adapt. *102-11*

Global risk management system

Business risks	**Common Management Systems** Mitigates own business risks of the company's activities and controls them through an internal communication and authorisation system.
Risks associated with the reliability of financial information	**SOX** Mitigates the risks associated with the reliability of financial information through a combined system of control procedures and activities in key areas of the company.
Quantification risks	**Universal Risk Model (URM)** Internal "Enterprise Risk Management" (ERM) methodology, which can be used to measure the level of the main risks affecting Abengoa in each category (strategic, financial, operational, legal and regulatory), according to a series of impact and probability indicators. The tool is used to create the risk maps in real time, allowing the design of efficient responses that are in line with the business goals.

Adequate internal control system

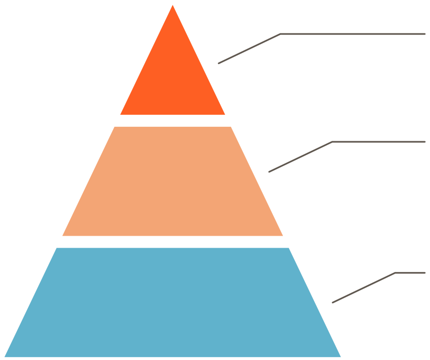
Key elements of the risk management system

1. Business integration	2. Specialisation	3. Continuous measurement	4. Annual external validation	5. Dynamics
All management procedures identify the applicable risks and establish the criteria to mitigate them.	Each procedure is assigned to a specialist ("risk owner"), who is an expert in the area and trained to establish the protection measures.	Using the company's own tools and supporting software to draw up risk maps in all categories, according to the probability and impact of the risks.	System based on the ISO31000, audited once a year at the corporate level and in the different business units.	The system (the procedures) undergoes permanent review to adapt to business evolution.

Risk policy

Abengoa's risk policy has been approved by the Board of Directors and is aimed at **establishing the key concepts, principles and guidelines to design its Risk Management System**. To achieve this, it must be fully integrated in terms of planning and executing the company's strategy, in the definition of the business goals and in the procedures of daily operations, so that the methodology used to apply this system leads to the identification and management of risks in any activity carried out and is established as the basic criteria when taking decisions.

Organisational layout of Abengoa's Risk Management System



Board of Directors

Approval of the risk policy and ensuring the system is operated as expected

Risk management

Definition and development of the strategic approach of the risk system, methodology and preparation of the mitigation measures

Verticals and regions

Implementation of risk plans

The **Board of Directors** approves Abengoa's Risk Management policy and the tolerance levels in relation to Abengoa's risks.

The **Board's Audit Committee** monitors the internal control and risk management functions to guarantee that the Risk Management System is effective and ensures that this system identifies and mitigates the risks within the framework of the policies established by the Board of Directors.

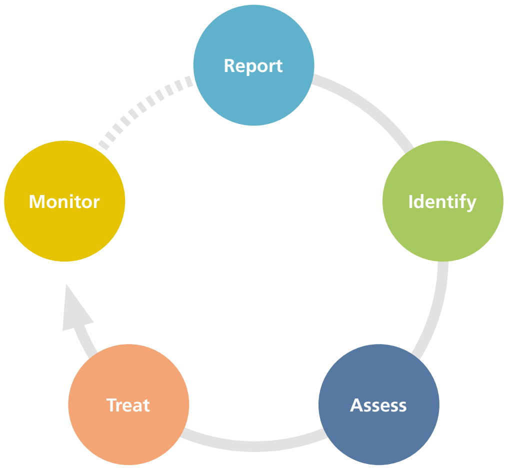
The **Risk Management area** reports directly to the chairman of the Board of Directors, and is responsible for adapting the organisation to the potential changes in the environment, preparing it to ensure such changes do not prevent it from achieving its business goals.

The scope of Abengoa's **Risk Management Department functions** covers three specific areas:

Areas	Roles
Business risk management	› Supporting the chairman in the **definition and development of the strategic focus** of the Risk Management System, as well as in the decision-making processes for the company. › Defining, preparing and updating the **methodology** and the different procedures and analytical support tools to manage the company's risks. › Guaranteeing the **correct dissemination of the risk management policy** across the organisation, as well as ensuring that the organisation develops the correct culture to face risks. › Identifying, analysing, quantifying and drawing up a **risk treatment plan** for all risks to which the company is exposed in the business, at the global level and at the operational level, both during the bid preparation stage and during the execution, operation and maintenance and warranty stages. › Preparing an internal classification to identify the **risks in the countries** in which the activities are rolled out, defining the measures to implement and develop the activities. › Identifying specific **risks of M&A** (Mergers and Acquisitions) operations. › Preparing Abengoa's **risk maps**, as well as defining the action plan to mitigate them. › Negotiating contracts with clients before signing the contract to **guarantee** that the contractual **risk profile** can **be assumed** by Abengoa.
Insurance management	› Identifying the **risk transfer strategy** for the company's insurance market, identifying the most suitable insurance plans, both at the corporate level and in each business unit, project and operation, as well as the adequate coverage, limit and sub-limit details. › **Taking out and renewing the company's insurance policies**, including the negotiation with insurance companies and insurance brokerage firms. › **Managing incidents**, defining the applicable strategy, as well as leading the relationship with insurance companies and appraisers, to maximise the value when recovering the damage caused in the incident.
Special risk management	› **Managing crisis scenarios**, preparing the correct procedure framework and leading the management process with the crisis management committee. The potential crisis management events could include taking staff as hostages, strikes, situations that recommend the evacuation of the staff from a specific country, etc. › Preparing the **safety and evacuation plans** in companies and international projects being executed, as well as the on-going monitoring of the environmental risk levels in the regions in which we operate. › Applying **business intelligence methodologies**.

Applicable methodology of the Risk Management System for the business

Abengoa manages its risks in an **on-going cycle**, based on five key phases: identification, assessment, response, monitoring and reporting. Two-directional, fluid and regular communication is essential in each phase, as well as permanent feedback to incorporate the improvements required.



This process is carried out for all projects in their different stages, from the identification of the business opportunity, going through the bid preparation and presentation, contract, execution and warranty period, and to the operation and maintenance phase.

This methodology has a **preventive and predictive approach**, aimed at anticipating the most adequate mitigation measures for each type of risk and in each phase. *102-11*

Lessons are learned after monitoring how risks unfold and the mitigation measures of each stage, which can be used to generate risk management feedback and apply measures for new projects or businesses, according to past experience. In addition, this information is used as the input for the internal Enterprise Risk Management (ERM) system to update Abengoa risk map.

Relevant new features during 2018

In 2018, the **common management systems** and Risk Management System **were updated and simplified**, according to the requirements set forth in the first restructuring agreement and the guidelines established in the strategy plan approved by the Board of Directors, with the purpose of adapting them to the new reality and strategy of the organisation and aimed at ensuring the processes are carried out more efficiently.

The main specific actions in this area include:

- **New criteria were defined to prepare and submit bids**, guaranteeing that the company's risk profile of all activity bids is within tolerable levels for the organisation.
- The **procedure** followed to prepare and manage the risks assumed when submitting **non-binding bids** of the budgetary type has been defined.
- The risk management, insurance management and **special risk and safety management functions** were **integrated** in a single department.
- The criteria and procedures for the identification, assessment and mitigation of the **risks** in the **projects arising in relation to the Abengoa-AAGES relationshi**p [1] have been defined.
- **Limitation of the risks** during the execution of the activities, focusing the strategy **on smaller projects** and in recurrent markets, increasing the diversification of the activity and reducing the potential impact of the risks to which Abengoa's activities are exposed.
- **The risks were analysed in all relevant projects** and operations, and its decisions were taken by the Executive Committee and/or Board of Directors.
- The **risks associated with the company's asset divestment processes** were analysed.
- The **emergency and evacuation plans** and all safety level, terrorism and specific alert monitoring processes are up-to-date, in relation to those that could have an impact on the assets, operations and staff working in the countries in which we are present, especially in Mexico, the Middle East, South Africa and North Africa.
- **A methodology has been implemented to analyse the financial and technical viability** and possible sources of reputational risks that could be derived in relation to potential partners during the company's activities, especially in relation to those associated with closing agreements and key strategic partnerships.

Note 1 A joint venture created between Abengoa and Algonquin.

Evolution of the company's risks during 2018

Abengoa's activity during 2018 mainly focused on **construction activities (EPC) and on operation and maintenance services for third parties**. Therefore, the main exposure of the company to risks is associated with the inherent risks of these activities.

Operational risks

- There are risks derived from intrinsic **delays and overheads** of the engineering and construction activity, due to the technical difficulties of projects and throughout their execution.
- Some risks are **derived from the failure to meet the contractual obligations** agreed with clients in terms of guaranteed performance and deadlines. The consequences of these obligations might derive in penalties and claims for damages from the client, as well in the enforcement of performance guarantees requested by clients.
- Risks associated with the **backlog**, such as delays in the start of projects due to delays caused by clients in their financial closing processes or in obtaining the permits required for the execution of projects.
- Some risks are associated with **managing the supply chain**, derived from the failure to observe the obligations assumed by suppliers; integrated management of different suppliers and subcontractors is necessary to mitigate such risks, as well as maintaining the adequate risk transfer level.
- Some risks are derived from the **association with third parties** for the execution of specific projects. Given the complexity of Abengoa's projects (usually designed ad hoc), or with the purpose of increasing the competitiveness and value created for the client, it is necessary to ensure the participation of third parties specialising in the processes required to perform certain activities associated with these projects, so there is a risk of potential claims between parties and of the incorrect choice of partner in terms of its technical capacity and viability.
- Some risks are derived from the **rotation in senior management and key employees**, as well as in relation to not hiring the most suitable highly-qualified employees. Most of Abengoa's know-how is in the company's human capital, so Abengoa's capacity to retain and motivate senior executives and key employees and of attracting highly-qualified employees will have a big impact on its capacity to conduct business successfully.

Geopolitical risks

- Some risks are associated with the **internationalisation of Abengoa's activities** and its operations and investments, which can be affected by different types of risks associated with economic, political and social conditions and the safety environment in the countries in which it operates, which can have an impact on the company's financial results and on the staff safety and assets abroad.

  For example, it is worth highlighting the situation in the Middle East, taking into account that it is the main region in which Abengoa operates, and how the economies in Middle Eastern countries rely on crude oil price variations, meaning that reduced price scenarios and tax restrictions in the country could lead to a high increase in taxes, delays or cancellation of projects and an increase in client default risks.

Market risks

- **Market risks** arise when Abengoa's activities are mainly exposed to the financial risks derived from variations in the exchange rates and interest rates. 2018 was a very intense year in terms of the increase in volatility.
- Some risks are derived from the **exposure** of the revenues from the electric power plants **to electricity market prices**. Despite the company's divestment plan associated with its power plants, some of the revenues from Abengoa's operation and maintenance activities partially depend on electricity market prices and part of the costs are affected by different factors, such as the price of raw materials.
- Some risks are derived from the **changes in prices of raw materials** on which Abengoa has a two-fold influence. On the one hand, from the point of view of demand, given Abengoa's presence in different regions, such as Chile or Peru, an increase in the price of raw materials will lead to the growth of the economies in these countries and a higher demand from clients and, on the other hand, the direct cost of the engineering and construction activity will be exposed to the evolution of different materials, such as steel, aluminium, copper or zinc - which have an impact on the determination of the price of many of the units purchased by Abengoa to its suppliers- as well as to the cost of natural gas or electricity, which are usually consumed during the construction of projects or when operating plants and assets by Abengoa.

Risks associated with Abengoa's financial restructuring process

As regards the financial restructuring process carried out by Abengoa in 2017 and to the second financial restructuring process started by the end of 2018, a series of specific risks have been identified, which are summarised below:

- Risks associated with **delays in the implementation of some of the measures** established in the viability plan, in particular, when closing specific divestment processes, which could have an impact on the estimated operational and investment cash-flow established in the feasibility plan.
- Moreover, these restructuring agreements require a series of **covenants to be observed**, which, as of the present date, have been carefully observed with no delays. However, in the case of failure to observe them, this could represent a breach in these agreements.
- In addition, from the reputational point of view, such a long financial restructuring process generates **uncertainty in different stakeholders**, who can request higher guarantees than those established as the market standards. These problems are being solved by creating partnerships with powerful groups with a solid technical and financial structure and by meeting the contractual requirements agreed with clients, which has allowed us to renew the agreements signed with our recurring clients.

Similarly, based on the financial limitations signed in the restructuring agreement, other agreements have been offered to international partners with acceptable conditions according to Abengoa's risk profile, aimed at offering competitive bids. As a result, important contracts are being awarded to the company in different countries. *102-15*

Integration of risk management into the organisation's strategy

Abengoa's focus on its Risk Management System requires the full integration of the risk management goals into the organisation's strategy.

The company has determined the activity and target markets according to the risks that can be assumed by the organisation as the criteria used to prepare the Strategy Plan, establishing the priority in known markets, recurring clients, countries with lower risk levels and an activity based on medium-sized third-party projects, which do not require an investment in Capex and with a lower level of risk assumed.

Moreover, each and every strategic decision taken by the senior management will be supported by an analysis of the risks to which Abengoa is exposed, aimed at minimising the potential impact of these risks.

Risk control by the top governing body in the risk management area

Abengoa's senior management is committed to ensuring that the risk management system is effective and fully integrated with the business, as well as the basic criterion used when taking any strategic decision.

Proof of this commitment and involvement with the function can be seen in the company's organisation, in which the **Risk Management Department reports directly to the executive chairman of the Board of Directors**, allowing him to monitor the efficacy of the risk management processes through a series of regular fortnightly committee meetings. *102-30*

Moreover, the director of the Risk Management Department holds a series of fortnightly risk committee meetings with the company's Managing Director.

In addition, a monthly committee meeting is held between each vertical and region and the Executive Committee, with the participation of the Risk Management Department. The purpose of these meetings is to identify and analyse the evolution of the main risks affecting each one of these units, the assessment of whether the expected financial, environmental, social and health and safety results are being achieved or not, as well as the potential impacts on this unit and on Abengoa as a whole. *102-30, 102-31*