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INITIATIVES FOR SUSTAINABLE ANIMAL NUTRITION



2013
Sustainable
Development
Report



Corpondo - 04/14 - Document IMPRIM'VERT



Adisseo's 5 corporate values

RESULTS ORIENTED CULTURE

Which makes our actions effective and measurable. For each of us, success depends on sustaining performance, listening to our customers and continuous improvement.

TEAM SPIRIT

Which unites us in both our successes and our challenges. For us to gain the satisfaction of succeeding together, we share information, efforts and projects.

RESPONSIBILITY

Which makes each of us a contributor to the company's success. We encourage decisiveness, a sense of urgency, courage and delegation.

CREATIVITY

Which opens up new paths and new ways of succeeding together. We place great emphasis on initiatives and innovation, we support new ideas and "pioneers" within Adisseo.

INTEGRITY

Which means our actions always match our words and our values among ourselves, and with our customers and partners. We succeed together with honesty and transparency.

MORE EFFECTIVE NUTRITION FOR PEOPLE AND ANIMALS

Sustainable development is the cornerstone of what we do

At Adisseo, sustainable development is an essential aspect of our business. Our objective is to help bring about improvements to both the efficiency and the quality of the food chain. To do this, we work on maximizing the performance of poultry, pig and dairy farms. This involves two main objectives: first, to improve nutritional performance in order to develop safe high quality products for consumers, and second, to improve environmental performance so that we use less water, less farmland, lower quantities of pesticides, and generate less waste. More effective food safety and better quality food that is more economical to produce and less harmful to the environment-those are our goals!

Naturally, we ourselves have embarked on a sustainable growth initiative. In everything we do, we attach the greatest importance to people's safety as demonstrated at the 2013 World Safety Day, including the safety of our employees as well as those of our partners and clients who handle, transport or use our products. We ensure that protecting the environment is always a priority in all of our industrial projects and in our transport policy, as can be seen in our having acquired ultra-secure railcars for transportation hazardous substances. We invest in improving both our products and our processes to reduce the size of our carbon footprint and use fewer natural resources and non-renewable energies. We are participating to a project to build a biomass energy plant at our Commentry (France, Allier) factory. This will generate employment, reduce the site's environmental impact and increase its competitiveness.

Our growth is fostered by an ongoing research and innovation policy which is implemented in the pro-

duction process, as well as in our working and organizational methods. We are one of the rare companies in our sector to have a farm on which we can carry out nutritional research for poultry, pigs and dairy cows. We have also implemented an active corporate social responsibility policy. This has resulted in a number of initiatives in the areas of governance, staff development, training, the creation of multi-cultural teams, and the development of our corporate values.

We want to excel in everything we do-always bearing in mind that improvements can still be made. For 2014, we have set for ourselves the objective of extending our sustainable development reporting to all of the areas covered by our GRI (Global Reporting Initiative) indicators. This drive for continuous improvement is the best asset that we have to better apply the principles of sustainable development to what we do.



Jean-Marc Dublanc
CEO of Adisseo

A WORLD LEADER

Adisseo is a leading company involved in the production of additives and nutritional solutions for animal feed. The group is the world's third largest in its sector, the second in the production of methionine, and the third in the production of protected methionine. Adisseo's success is underpinned by its industrial and nutritional expertise, as well as its culture of innovation which is behind the design, production and marketing of additives and solutions for animal feeds. The company, whose head office is located near Paris, France generates turnover of more than 1 billion Euros, employs some 1,800 people and has five research and development hubs, as well as seven pro-

duction sites throughout France, Spain and China. Its world distribution network supplies more than 2,500 clients across more than a hundred countries. Since January 2006, Adisseo has been one of the main subsidiaries of China National BlueStar, a leading group in the Chinese chemicals sector.

Industrial and commercial locations



Responsible Care



Adisseo is committed to applying the Responsible Care Global Charter, which implies a policy of continuous improvement in health, safety and environmental protection. Adisseo's operations are regularly audited within this framework by an independent body.

At the core of the world food chain

Our mission: Deliver nutritional solutions to livestock production that results in safe high quality food for consumers while protecting the environment.





SIX FAMILIES OF NUTRITIONAL INGREDIENTS TO IMPROVE ANIMAL LIVESTOCK PRODUCTION

Adisseo designs, manufactures and sells six families of nutritional ingredients for use in animal feed:



Rhodimet®



Rhodimet® is a source of methionine, an amino acid that is essential for all animals. Amino acids are the structural elements of all plant and animal proteins. Adisseo has developed two formulations: Rhodimet® AT 88, a liquid analogue source of methionine that is particularly well-suited to modern, automated feed factories, and Rhodimet® NP 99, methionine in powder form for use in premixes or in non-automated feed factories.

Smartamine® M - MetaSmart®



Smartamine® M and MetaSmart® are unique lines of methionine for dairy cows that have been derived from Adisseo's patented technologies. Smartamine® M is a protected methionine that increases the protein content in milk. Metasmart® is a bioavailable methionine for dairy cows which improves milk production and protein content as well as butterfat content. By using methionine as an essential nutrient in dairy cow rations, Adisseo is able to improve animal performance, health and well-being, while at the same time ensuring high-quality milk and helping to reduce nitrogen pollution.

Microvit®



Microvit® A and E are stabilized vitamin A and E formulations that are adapted to the constraints of animal feed production, where they are used in very small quantities and have to undergo various types of technological processing. Adisseo also has a complete line of certified vitamins for the animal feed industry with Microvit® Portfolio.

Rovabio®



Rovabio® is an enzyme preparation that improves the digestibility of certain raw materials for animals, poultry and pigs, contributing to a better breeding environment. Through Rovabio® Max and Rovabio® Excel, Adisseo offers multi-species, multi-ingredient and multi-application solutions to maximize animal performances.

AdiSodium™



AdiSodium™ is the new standard when it comes to sodium sulphate for use in animal feed. The brand was launched in 2013.

Selisseo®



Selisseo® is Adisseo's most recent product. It is a completely original form of organic selenium—an essential trace element which has antioxidant properties for animals.

Sulphur products and regeneration



Sulphuric acid (H₂SO₄) formerly called vitriol, is an industrial mineral acid, the raw material most produced in the world, which finds numerous applications: the treatment of wastewater, chemical synthesis (pharmaceutical, food, industrial), in the oil industry, the manufacture of fertilizers, etc.

Sulphuric acid recovery is a service for recycling sulphuric acid used in chemical production cycles (spent acid) to produce sulphuric acid without pollutants (fresh acid). Regeneration, by exploiting sulphur, allows to reuse the sulphuric acid instead of destroying it. This sustainable service allows also the optimization of transport and consequently reduces the carbon footprint.

Carbon disulphide (CS₂) is a solvent used as a synthesis mediator in the production of many organic sulphur compounds: rubber vulcanization agents, manufacturing textile viscose replacing cotton, agend for food viscose, phytosanitary products (fungicides, insecticides), flotation agent, etc. For safety commitment, Adisseo transports the CS₂ with high-performance equipments.

HIGH VALUE-ADDED SERVICES

Adisseo is able to provide its clients with a wide range of services alongside its products for optimum nutritional performance:

► **Precise Nutrition Evaluation (PNE)** is a rapid analysis service that works using near-infrared spectroscopy (NIRS). Feed manufacturers use PNE to determine the total amino acid, digestible amino acid and metabolizable energy content of their feed ingredients in real time via a dedicated website. The PNE service won a prize in 2013 at the Information Technology Innovation Awards. It was presented by the American Animal Feed Association, the magazine Feed & Grain and Ag-Gateway, a non-profit consortium of businesses which promote the use of new technologies in the agri-food sector.



Go to <https://pne.adisseo.com/website> or flash this code

► **The Rhodimet Nutrition Guide** is focused towards nutritionists and includes details of the amino acid requirements for poultry and swine at various stages of their development. This interactive guide is now available on-line, and can be downloaded for consultation off-line.



Go to <http://www.adisseo.com/rng-guide.html> or flash this code

► **Methiopedia** is a technical reference book about methionine. It is aimed at both professionals working in animal feed development and students. It contains all the most recent research data about the food values of different forms of methionine, as well as information about how they can be used to manufacture feeds and the benefits that they have for animals.



Go to <https://methiopedia.adisseo.com> or flash this code

► **Serenity Dimension** is a set of services available to Adisseo's clients so that they can easily switch from using methionine in powder form to using it in liquid form.

► **RovaPack** is a set of services designed to support the Rovabio enzyme product range.

NUTRITIONAL INGREDIENTS RECOGNISED FOR THEIR ENVIRONMENTAL CONTRIBUTION

Feed additives, such as methionine, have been meticulously analyzed as part of a study overseen by independent scientists, and the role that they play in helping to reduce environmental pollution on farms has just been acknowledged. Initiated by FEFANA (the European association for the producers of speciality feed ingredients and their mixtures), the study in question demonstrates that fewer quantities of feed are required in order for animals to develop properly. It also shows a reduction in the impact that farming is having on global warming, the eutrophication of rivers and the acidification of rain.



Customer satisfaction: high levels...that have remained high

The 2013 client satisfaction survey targeted more than 250 companies and garnered nearly 400 responses completed, with one in three being provided by a Buyer of Adisseo's products or services. Nearly 80% of Adisseo's clients stated that they were "completely" or "very" satisfied. The results of last year's satisfaction survey are very similar to those obtained from the 2010 survey. Of all its competitors, Adisseo scored the highest as far as business relations and the expertise of its technical team.

RESPONSIBLE PROCUREMENT

Adisseo has adopted a Responsible Procurement charter for all of its purchases. All of its suppliers now have to communicate details of their own policy and describe how it is implemented. At Adisseo's industrial sites, assessments of suppliers and their sustainable development policies are now under way. This is becoming increasingly important when it comes to choosing suppliers-as important as technical criteria, safety and price considerations. Adisseo is also tackling illegal employment, and systematically asks its suppliers to provide all legal documentation for their workers. And a special clause has now been incorporated into all industrial service contracts requiring that service providers commit to managing their waste responsibly.



SAFETY FIRST!

People's safety, whether they are employees, suppliers, clients, neighbors or visitors, is an absolute priority for Adisseo. It is more important than any other consideration. Adisseo has one single goal in this area: "zero accidents".



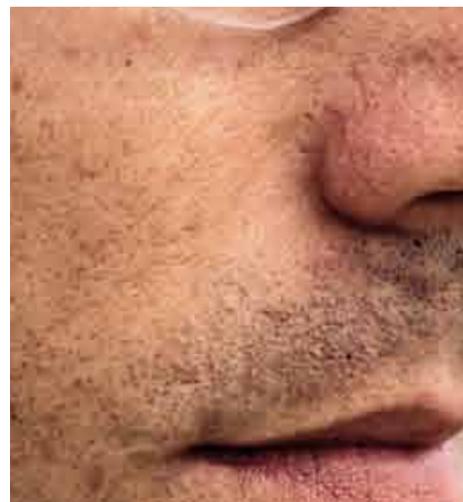
Transport: rail and river

Rail transport, which is safer and more environmentally friendly than any other form of transportation, is being continuously improved at Adisseo. Each new flow is analyzed for the option of using the railroad. As a result, the total tonnage transported by rail has practically doubled in five years. Adisseo was also the driving force behind the opening of a rail container transport line between the port of Le Havre and the centre of France. Now, practically all of the containers that Adisseo ships between its European sites and seaports is transported by rail or by river.



PRIORITY GIVEN TO RENEWABLE ENERGIES

Sustainable development and the energy transition are key considerations when it comes to purchasing energy. Adisseo's initiatives in this area have already been evident for a number of years: our electricity purchase contracts guarantee that 25% of our electricity is generated using a renewable form of energy (wind, solar-power, and-most often-hydroelectric). In 2013, we reached an important milestone, completing negotiations and signing a contract for the purchase of steam generated using biomass at its Commentry plant. Starting in 2015, the Commentry (France, Allier) Biomass Energy plant will use woodchips from locally-grown trees to generate electricity that will be supplied to the French grid and steam that will be purchased by Adisseo's Commentry site.

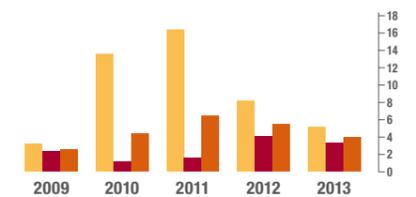


ZERO HUMAN ACCIDENTS: AN EVER-IMPROVING SITUATION

The zero-accident objective is a priority for Adisseo. Our 2013 positive safety results can be attributed to the various action plans and safety initiatives deployed within the company-which include World Safety Day in May (see page 8)-and improved management of technical shutdowns scheduled between July and September.

Risk control
(Rate of accident frequency)

Contractors companies
Adisseo
Global



► Arnaud Montebourg, France's Minister of Industrial Renewal, visited the Adisseo plant at the Roussillon chemical hub in 2013. He took the opportunity to pay tribute to the company's industrial investment policy.





GUARANTEEING OPTIMUM LEVELS OF SAFETY AT THE SITE FACILITIES

Scheduled technical shutdowns lasting several weeks were implemented across all Adisseo sites in 2013. Up to 1000 people were involved in these shutdowns at each site so that they could carry out facility maintenance operations. These technical shutdowns are a means of checking the status of equipment, making improvements, maximizing safety and protecting the environment. They also serve to make investments, as is the case at Roches-Roussillon (France, Isère), where the 2013 technical shutdown enabled 10 million Euros worth of new investments.

INVESTING FOR SUSTAINABLE GROWTH

Adisseo has an active investment policy for its international industrial development and product, service and process innovation. Each major Adisseo investment is designed to support sustainable development, with a focus on economic, social and environmental performance.



Safety Day donations

Following the staff's participation in the Safety Day, Adisseo made donations to three associations: Croix Rouge, Allier's HandiSport and Isère's Protection Civile, totalling 3,700 Euros.



A NEW INNOVATION CENTRE NEAR LYON (CINACHEM)

To pursue its profitable and sustainable growth strategy, in 2013, Adisseo announced its decision to expand its research and development (R&D) resources in Rhône-Alpes, by creating a chemical process innovation and development centre in Saint-Fons, near Lyon. Called CINACHEM, this new innovation centre is sited within the Solvay Research & Innovation Centre Lyon (R&ICL), close to the Saint-Clair-du-Rhône and Roussillon production units. CINACHEM represents an investment of 3 million Euros and will create around fifteen jobs by 2015.



WORLD SAFETY DAY

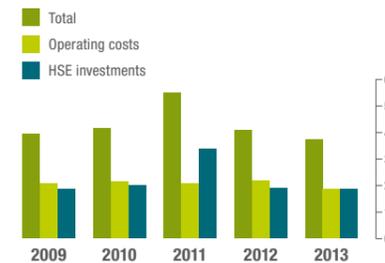
World Safety Day was marked on May 30th, 2013 across all of Adisseo's sites (industrial sites, sales branches and head office). The day involved a number of activities and workshops designed to raise employees' awareness of the importance of practicing safety. The families of Adisseo's employees were also involved in World Safety Day in an original way, a children's drawing competition was organized based on the theme of safety in the workplace.



113 MILLION EUROS INVESTED IN THE ROCHES-ROUSSILLON PLATFORM

Under the Europe 2 programme, a new MMP (methionine production intermediate) production unit was commissioned in 2013. This unit has enabled us to expand our production capacities, ensure long-term employment by creating better working conditions and improve safety and protection of the environment. This initiative has eliminated the use of solvents and reduced the platform's water consumption by 20%.

HSE expenditure changes (in millions of Euros)



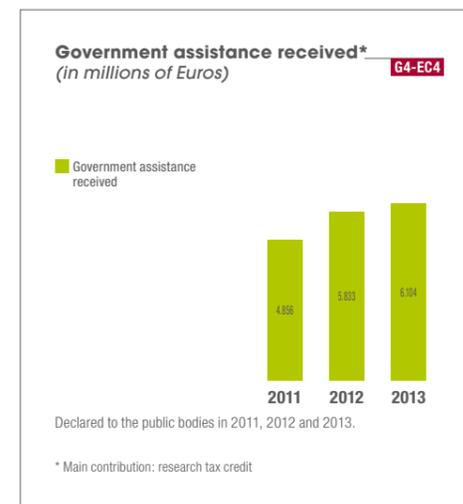
Our HSE operating expenses, integrating an ever increasing number of regulatory constraints (additional studies, tax increases, etc.) have been managed with a voluntary HSE investment policy of 20 million Euros a year over the last five years. We have put our growing industrial projects to good use to strengthen our management of safety and environmental risks even further and to reduce their impacts.





START-UP OF THE NANJING METHIONINE UNIT

A major Adisseo and BlueStar industrial project, the Nanjing methionine manufacturing unit became operational in 2013. This project was an industrial challenge, comprising of 25 different units spread across a surface area equivalent to nearly 15 football fields (45 hectares). Adisseo congratulated all teams and contractors for their excellent safety performance during the 10 million hours worked for construction and the attention they paid to respecting all environmental standards from the Chinese authorities. The first sales of Rhodimet AT 88 manufactured in China were made at the end of July 2013 with the majority of the 2014 production being absorbed by the Chinese market.



A new Smartamine M production facility in Commentry

New production capacity for SmartamineM, a form of protected methionine for ruminants, is being installed at the historic Adisseo plant in Commentry (France, Allier). This added manufacturing unit will have an annual capacity of 10,000 tonnes, housing both formulation and packaging equipment in a single building. This project represents an investment of 30 million Euros, and brings a third major production activity to the Commentry site alongside the Vitamin A and existing Methionine manufacturing units.



A biomass-fuelled plant

Construction work for the Commentry cogeneration plant began at the end of 2013 on the Adisseo industrial platform. Renewable energy specialist Neoen will be investing 77 million Euros in this project, managing it via its subsidiary Biomasse Energie de Commentry (BEC). The plant will be built by Areva and run by Idex, a specialist in providing energy services to the industrial sector. This project reflects Adisseo's desire to make the Commentry site a real multi-company industrial platform. To this end, Adisseo has already undertaken several initiatives including the creation of



a Safety Training Centre (CFSA) and the installation of one of its subsidiaries at the site (Innocap's). To expand the biomass activity in Commentry, Adisseo has agreed to buy the steam generated by BEC under a long-term contract, with a dual objective: to reduce its carbon footprint and improve its competitiveness.



SOCIAL/ COMMUNITY

Adisseo is a company that is involved in its local community: it works closely alongside a wide range of public and private bodies, including universities and laboratories, as well as local residents' and environmental protection associations.



DIVERSITY AND SOLIDARITY

PROVIDING EMPLOYMENT FOR WORKERS WITH DISABILITIES

In France, the proportion of disabled people working at Adisseo rose from 3,3% in 2012 to 3,7% in 2013*. Adisseo has implemented several initiatives to make it easier for those with disabilities to secure employment within the company: it publishes details of job offers on specialized websites, it has entered into partnerships with employment specialists that provide disabled people

with employment, it has organized employee awareness campaigns, and has given funding to schools providing specialized service.

* The employment rate includes recruitments and subcontracting actions awarded to specialist companies.



GOOD HEALTH AND WELL-BEING IN THE WORKPLACE

BEST PROJECT



Since 2010, Adisseo France has put a great deal of effort into developing its policy on health and well-being in the workplace. This initiative, which involves contributions from employees, is supported by prevention committees and focus groups which have been set up to prevent risks and take action as needed. The initiatives implemented in

2013 mainly involved improving working conditions and the ergonomic design of workstations, as well as ensuring a work-life balance.

ADISSEO SPAIN RECOGNISED FOR ITS SUPPORT FOR HUMANITARIAN ASSOCIATIONS

The Association of Employers in the Burgos Industrial Zone paid tribute to Adisseo for the support it has been giving for a number of years now to several charities, including the Food Bank, Secours Catholique/Caritas (which provides the world poorest and most oppressed with help) and Apayas (which provides support for the mentally disabled).



A summer in China for employees' children

The 24th annual summer stay in Beijing for the children of BlueStar employees was held from 20 July until 13 August. In total 120 children, seven of which were children of Adisseo employees, representing six different nationalities enjoyed activities for seven weeks in the heart of Chinese culture.



ADISSEO RUNS ON BEHALF OF CHINESE ORPHANS

Seven employees from the Adisseo site in Nanjing took part in the Shanghai International Marathon in December, with a special goal: for every kilometer they ran, 100 Yuan was donated to the Amity Foundation which is a charity set up to help Chinese orphans. The seven employees ran a combined total of 252 km, raising nearly 3,000 Euros that were donated by Adisseo to the Amity Foundation.





CAREERS AND EMPLOYMENT

BE ABLE TO CHANGE POSITION AND PROGRESS

Adisseo takes great care to provide its employees with the needed support for career development. Adisseo's growth and the scale of its projects have meant that 140 employees have been able to change positions, country, or the site at which they work over the past two years. Adisseo and its employees have benefited from this available career mobility.



MANY PARTNERSHIPS WITH SCHOOLS AND UNIVERSITIES

In September, Adisseo took on a role as sponsor of the next intake at the Clermont-Ferrand Ecole Nationale Supérieure de Chimie-the Graduate School of Chemistry in Auvergne, France. This is an innovative role-Adisseo Commentry will actually be involved in the lives of these student engineers throughout the three years of their course, organizing visits, technical conferences and special training programs, as well as offering placements and end-of-study internships.

This initiative is just one example of the partnerships that have been set up at national and local level with

schools and universities. Other partnerships have involved students being offered professional training internships in Burgos and in Nanjing, around 100 students from Agro-ParisTech visiting the Commentry sites in October, first-year students from Montluçon enrolled in a vocational training course in chemistry visiting the Commentry site and Adisseo taking part in the World Skills conference in the Rhône-Alpes region and within the framework of the Village de la Chimie Job Fair for the chemicals sector in the Paris region.

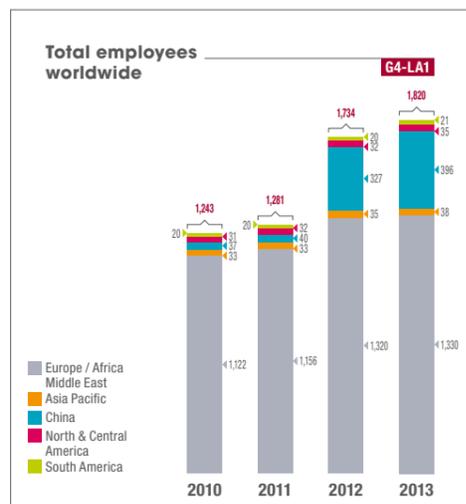
Every year Adisseo supports the Olympiades de la Chimie,

a competition held between general and technical secondary school pupils from different educational authorities designed to assess their knowledge and expertise in chemistry. The event is a joint initiative between France's Ministry for Education and the Chemical Industries Union. Through it, Adisseo helps to promote the teaching of chemistry in schools throughout France, raising industry awareness.



Training investment G4-LA9		
	Europe	
Average number of training hours	2012	2013
Total	46.5	38.5
WETS*	44.5	33
Framework	54	53.5
Number of employees trained	2012	2013
Total	1,034	956
WETS*	845	766
Framework	189	190
Number of training hours	2012	2013
Total	38,619	33,424
WETS*	28,842	25,489
Framework	9,777	7,935

* Worker, Employed, Technician, Supervisor



A skills transfer programme under way in Burgos

The ability to transfer skills between employees is vital for the smooth integration of new employees. And at a broader level, it is a sign that the company is able to retain and further develop its expertise. In Burgos, a skills transfer programme was implemented in spring 2013, with the goal of ensuring that best manufacturing practices could be formalized and passed on to future employees. A team of mentors was established, formed, and

tasked with supervising approximately ten new (or recently joined) employees. Each employee is scheduled to receive nearly 125 hours of mentoring, this in-depth training is just one example of our commitment to this programme. Our objective is to extend this experiment to cover all activities within the company starting in 2014.



ADISSEO, PARTNERING THE ILE DU BEURRE NATURE RESERVE

In 2013, Adisseo became a partner of the association tasked with managing, supervising and running the Ile du Beurre nature reserve and its observation center located in Tupin-et-Semons, a village only seven km from its Roches plant. This site, which straddles both banks of the Rhône River, features an alluvial forest-part of the Rhône Valley's natural environment-and a whole range of associated habitats and species, including the beaver, which has become its mascot. The Ile du Beurre works closely alongside

local authorities (municipalities and groupings of municipalities), striving to open up the region to visitors and showcase its specific local features.



PROTECTING THE ENVIRONMENT

Every year, Adisseo invests an average of 20 million Euros in improving the security of its facilities and reducing the impact that they have on the environment. Each program modernizes or extends the company's production facilities which draws on the very best technology available for protecting the environment.

DUAL SAFETY SYSTEM WAGONS

For transport, Adisseo always gave priority to rail vs road. To secure raw material supply, Roches-Roussillon production site invested in new wagons to transport Carbon Disulphide (CS₂). New wagons include "crash-buffers" with anti-climb sills and roll-over safety structures. These new equipments are worth 4 million Euros, invested by Adisseo to improve the safety of hazardous material transport by rail.



REMOVING DUST PARTICLES FROM SMOKE

The aim of the Rapasse project is to improve the quality of emissions from the Roches sodium sulphate plant. This involves removing dust particles from smoke and organohalogen contaminants from waste water. The exclusive purpose of the project is to meet environmental targets and it has a budget of 1.2 million Euros. The results of the first two campaigns to measure gases as they are released from the plant have confirmed that their dust particle content is lower than the regulatory threshold of 10 mg/Nm³ sec. This is a very good result that confirms

the utility of the process and improves the site's image in the eyes of people living locally.



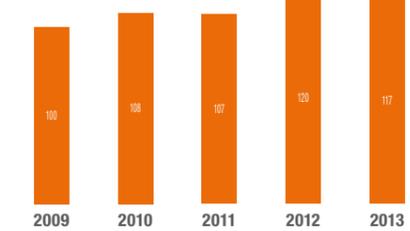
IMPROVING WASTEWATER TREATMENT

Through an effort to keep the output above 90% during the winter period for COD (Chemical Oxygen Demand) treatment which measures organic pollution levels in waste water, two strains, bacterial and fungal, will be developed and introduced into the bioreactors and then introduced into the purification station at the Commentry factory; this initiative was implemented in November of 2013.



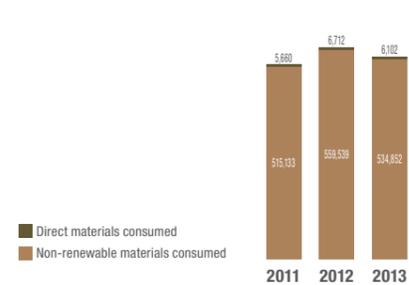
Activity index (reference 2009)

Our activity index remained high, compared to previous years



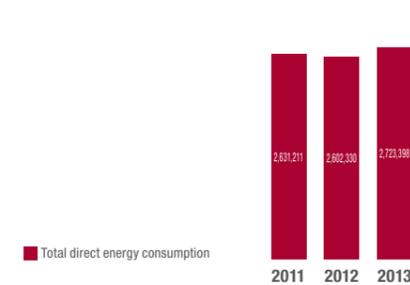
This index reflects changes in the quantities produced in Commentry, Roches-Roussillon and Burgos. The activity remains at a high level, however limited by technical shutdowns for regulatory audits and capacity development. This proves Adisseo's efforts to manage and improve environmental impacts.

Consumption of materials (in tons) G4-EN1



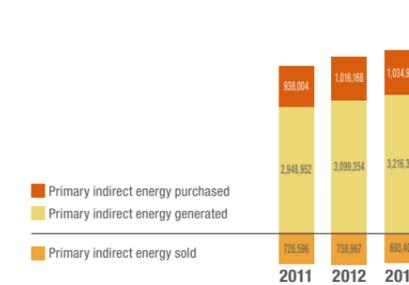
The consumption of materials is directly linked to the slight fall in activity in 2013 resulting from all units being shut down for a month.

Consumption of energy (in giga joules) G4-EN3



Natural gas consumption is linked to a relatively stable level of activity, although levels did fall as a result of the major technical shutdown of units that often consume excessive quantities.

Consumption of energy (in giga joules) G4-EN3



More than 75% of primary indirect energy is generated, a quarter of which is resold.

ADISSEO IS "CHARGEUR VERT"-CERTIFIED

Adisseo was awarded "Chargeur Vert" (environmentally-friendly shipper) certification by the Rhône-Alpes region in February 2013. This certification was awarded in recognition of the company's commitment to improving transportation policy, particularly towards development of river transport and other multi-modal solutions that involve river transport along the Saône-Rhône axis.

Total weight of waste by type and treatment method (in tons) G4-EN23



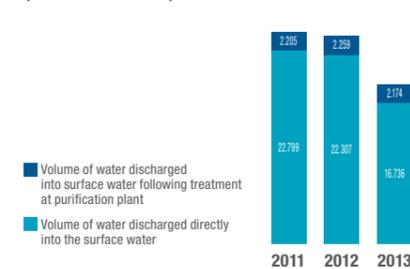
85% of hazardous waste is generated by external incinerating process purges from the Roussillon and Commentry methionine plants. The ACCES investment at the Commentry plant for treating this waste using a liquid-liquid extraction process has significantly reduced their quantities. 90% of non-hazardous waste is generated by sludge from the Commentry site purification station being used as manure in accordance with current regulations and farming.

Total mass of waste by mode of treatment (in tons)

Methods of treatment	2011	2012	2013
Used as fill or foundation (D1)	550.8	243.6	181.9
Technical landfill center (D5)	1,236.5	419.4	169.2
Incinerated (D10)⁽¹⁾	30,121.7	36,486.6	17,036.3
Treatment prior to disposal (D8, D9, D13, D14, D15)	971.1	572.2	1,084.8
Total elimination	32,880.1	37,721.8	18,472.2
Used as fuel (energy recovery) (R1)	40.7	783.2	1,422.8
Recycling organic : Feed, Biogas or Composting (R3)	17.8	161.2	72.2
Metallic recycling (R4)	276.5	3,026.9	214.9
Inorganic recycling (R5)	3.7	2.6	49.2
Oil regeneration (R9)	10.6	9.6	13.3
Spreading in agriculture (R10)⁽²⁾	22,190	30,823	25,459
Exchange for valorization (R12)	179.1	835.9	1,819.6
Offsite storage before valorization (R13)	1,344.1	1,247.4	482.2
Total valorization	24,062.5	36,889.8	29,530.3

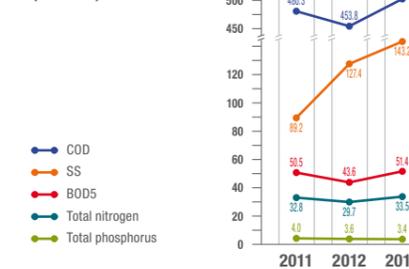
D : Disposal operations R : Valorization operations (1) Mainly purges process incinerated outside. (2) Spreading of sewage sludge for Commentry site according to regulations.

Total water discharge by type and destination (in millions of m³) G4-EN22



Investments in Europe 2 (new production unit located midway along the methionine chain as a replacement for an older one at the Roches site with an increase in capacity) has resulted in a significant fall (nearly 20%) in global process water consumption.

Total water discharge by type and destination (in tons) G4-EN22



The increase in discharges of suspended solids can be attributed to the increase in sulphuric acid regeneration activity at the Roches sites. This activity has a mostly positive effect on the environment (recycling of used sulphuric acid). Investments are being made in equipment to process these discharges.

Eliminating sulphur dioxide from smoke

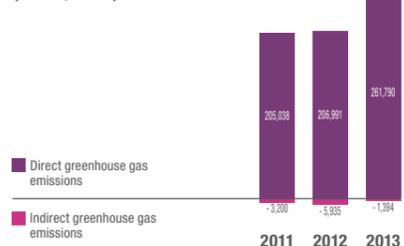
The Burgos factory has started building a facility to eliminate all the sulphur dioxide from the smoke emitted by its oxidation furnaces. This will bring the concentration of SO₂ in the smoke down from 2000 mg/Nm³ to under 300 in 2014.



SUSTAINABLE DEVELOPMENT DAY

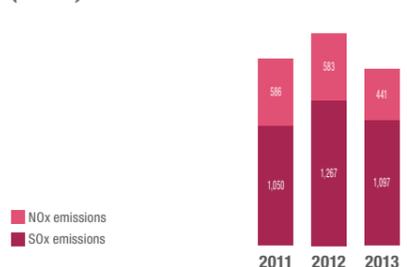
On 7th November 2013, Adisseo held its annual Sustainable Development Day in partnership with the Osiris chemical hub's departments at its Roches-Roussillon sites. Two hundred people attended the event including employees, government representatives, elected representatives, trade union officials, representatives from environmental protection associations, representatives from companies which use the hub, and other local companies. The event revealed that even though there is an increased number of people working at the hub, greenhouse gas emissions have decreased due to the significant investments being made, particularly by Adisseo.

Direct and indirect greenhouse gas emissions (in t_{eq} CO₂)



The start-up period of a new unit at the Roches site had a negative impact on direct greenhouse gas emissions. Seeking to recover energy at its maximum levels means that surplus levels of steam can be produced overall, leading to increases in indirect greenhouse gas emissions. Investing in a brand-new turbo-alternator unit at the Roches site recycles this surplus steam in order to generate electricity.

NO_x, SO_x and other significant atmospheric emissions (in tons)



The significant fall in SO_x and NO_x emissions can be linked to various initiatives undertaken to manage our emissions, as well as the slight fall in activity that resulted from the one-month technical shutdown of all our units.

REGENERATING SULPHURIC ACID: A SUSTAINABLE SERVICE

The recovery of sulphuric acid is a service that is part of a sustainable development approach, allowing the recycling of spent acid under optimized transport conditions. The recovery allows then to recover the acid used in some production cycles rather than destroy it. For sulphuric acid industrial users, the recovery reduces the environmental impact of production activities and products, including their carbon footprint.

The multiplication of laws to better protect the environment has led more industrial actors to recover their spent sulphuric acids. Adisseo is a major recovery actor in France and in Western Europe with its facilities of sulphuric acid recovery based in Les-Roches-de-Condrieu (France, Isère).

GRI INDEX: GLOBAL REPORTING INITIATIVE

Adisseo has chosen the internationally recognised GRI (Global Reporting Initiative) as the means of reporting on the economic, environmental and societal performance of its activities.



ASPECTS	GRI4 REF.	DESCRIPTION	STATUS	PAGE	COMMENTS	
Strategy and analysis	G4-1	Statement of the organisation's highest ranking decision-maker on the relevance of sustainable development	Complete	P. 2		
	G4-2	Description of major impacts, risks and opportunities	Complete	Whole report	The various articles illustrate the main major impacts, risks and opportunities.	
Profile of the organisation	G4-3	Name of the organisation	Complete	P. 1		
	G4-4	Main products and/or services and corresponding brands	Complete	P. 4 and 5		
	G4-5	Place where the organisation's head office is located	Complete	P. 20		
	G4-6	Number of countries in which the organisation has a presence	Complete	P. 3		
	G4-7	Legal form and ownership	Complete	P. 19	The Adisseo Group is made up of 21 legal entities which are controlled by the Bluestar Adisseo Nutrition Group Limited (offices the head office of which is at Level 54, Hopewell center, 183 Queen's Road East-Hong Kong), a wholly owned subsidiary of China National Bluestar (Group) Co., Ltd (China).	
	G4-8	Market served	Complete	P. 3, 4 and 19	Adisseo's teams are located in more than 100 countries and on all the world's continents. Clients: <ul style="list-style-type: none"> Integrators: these are producers of poultry which have integrated the whole production chain from manufacturing complete feeds through to poultry slaughter and transformation. Pre-mixers: these are manufacturers of premixes containing the micro-ingredients (vitamins, micro-nutrients, etc.) to be incorporated by feed mill operators into complete feeds. Feed manufacturers: these are producers of complete feeds for multi-species cattle. Distributors: these are intermediaries which distribute food ingredients (amino acids, vitamins, enzymes, etc.) in a country or on a market segment. 	
	G4-9	Size of the organisation	Complete	P. 3		
	G4-10	Total number of employees	Partial	P. 14		
	G4-11	Percentage of employees covered by a collective labour agreement	Partial	P. 14		
	G4-12	Description of the supply chain	Complete	P. 19	The way in which the supply chain is structured is based on a community run by company managers for each product range. They are supported by local contacts at each manufacturing site and in each sales region. The way in which the network is managed is underpinned by the Sales and Operations planning process.	
	G4-13	Significant changes	Complete	P. 5 and 11		
	G4-14	Strategy or the precautionary principle	Complete	P. 2		
	G4-15	Charters, guidelines and other external initiatives	Complete	P. 2, 5 and 15	Adisseo is a signatory of the UIC's Responsible Care charter and is a member of several associations (FEFANA, etc.).	
	G4-16	Affiliation to associations or membership of national or international advocacy organisations	Complete	P. 15		
	Relevant identified aspects and scopes	G4-17	Organisation's operational structure	Complete	P. 3	
		G4-18	Process for determining the report's contents and in particular:	Complete	P. 19	Based on the GRI.
G4-19		• Identified material aspects	Complete	P. 19		
G4-20-21		• Report scope	Complete	P. 19		
		Indication of any limits	Complete	P. 19	Complete scope except any contrary specifications detailed in the indicators.	
		Methods used to communicate information	Complete	P. 3		
G4-22		Explanation of the consequences of any reformulated information published in previous reports	Complete	P. 5 and 11	Modification of information to fit in with the scope (see G4-13).	
G4-23	Significant changes compared with the periods dealt with in previous reports	Complete	P. 5 and 11			
Involvement of stakeholders	G4-24	List of groups of stakeholders included by the organisation	Complete	P. 19	List of main stakeholders included: clients, employees and trade unions, suppliers, shareholders, public authorities, local and regional communities.	
	G4-25	Basis for identifying and selecting stakeholders with which to engage	Complete	P. 19	Initiatives implemented with stakeholders during the reference period, illustrated in the report's articles.	
	G4-26	Approaches to stakeholder engagement	Partial	P. 19	Creation of a sustainable development QHSE department tasked with developing appropriate means for communicating with all our stakeholders.	
	G4-27	Questions and key concerns raised via engagement with stakeholders	Partial	P. 19		
Report profile	G4-28	Period under consideration	Complete	P. 1		
	G4-29	Date of the last report published, if necessary	Complete	P. 19	Sustainable Development Report: April 2013.	
	G4-30	Cycle considered	Complete	P. 19	Annual.	
	G4-31	Person to contact for any questions about the report or its contents	Complete	P. 19	sustainability@adisseo.com	
	G4-32	GRI index	Complete	P. 19		
	G4-33	Policy and methods used to externally check the report.	Partial	P. 19	No external verification, the advice of a well-known firm sought.	
Governance	G4-34	Provide details of the organisation's governance structure	Complete	P. 19	The organisation's governance is divided into committees (COMEX, management committee). Details of it are provided in our ISO 9001, ISO 14001, OHSAS 18001 and FAMIQS certified management manual.	
Ethics and integrity	G4-56	Organisation's values, principles, norms and regulations	Complete	P. 3		
ECO	Economic performance	G4-EC1	Direct economic value created and non-distributed economic value	Complete	P. 11	
	G4-EC4	Subsidies and important public aid received	Partial	P. 11		
SOCIAL	Employment, labour relations and decent work	G4-LA1	Total number of employees per job type, work contract and geographical area	Partial	P. 14	
		G4-LA6	Rate of accidents at work	Partial	P. 7	
		G4-LA9	Average number of training hours	Complete	P. 14	
		G4-LA11	Percentage of employees who get regular appraisals and career development interviews	Complete	P. 12	
	Company	G4-S01	Nature, reach and efficacy of any programme, assessment method and management of activities' impacts	Partial	P. 2, 5, 8, 15 and 19	Engagement of dialogue with local living population, sustainable development day (discussions with authorities, associations, etc.), environmental and social commitment through partnerships, public meetings, hot-line communications.
G4-S02		Local communities	Partial			
Responsibility associated with products	G4-PR5	Client satisfaction practices	Complete	P. 5		
ENVIRONMENTAL	Materials	G4-EN1	Consumption of materials in weight or in volume	Complete	P. 16 to 18	
	Energy	G4-EN3	Direct energy consumption distributed by primary energy source	Complete	P. 16 to 18	
	Water	G4-EN8	Total volume of water taken by source	Complete	P. 16 to 18	
	Emissions	G4-EN15	Direct greenhouse gas emissions	Complete	P. 16 to 18	
		G4-EN16	Indirect GHG emissions	Complete	P. 16 to 18	
		G4-EN21	NO _x , SO _x and other significant atmospheric emissions	Complete	P. 16 to 18	
G4-EN22	Total water pollution, by type and destination	Complete	P. 16 to 18			
Effluent and waste	G4-EN23	Total weight of waste, by type and treatment method	Complete	P. 16 to 18		

GENERAL INFORMATION ELEMENTS