

environmental protection

Snam Rete Gas stands out for its focus on the environment. What are the strategies and plans for the future?

Disclosure on management approach

The Health, Safety, Environment and Quality Manager responds to key questions

The environmental protection has always been at the center of Snam Rete Gas' attention. Why?

The stakeholders are paying growing attention to our activities. Permit procedures require a greater involvement of the public in the decision-making processes on the subject of the environment, considering that the rules for environmental protection are becoming ever more stringent. Just think of the beginning of 2013, when greater emission reductions will be required to reach the objectives of the third implementation period of the Kyoto Protocol. Snam Rete Gas also pursues energy management activity aimed at optimising and rationalising the consumption of energy. These are all issues that will continue to engage us more and more.

How will Company's changes affect environmental issues?

The HSE [*Health, Safety, and Environment*] function has always had the objective of creating a close connexion between internal and external requirements: legislation and stakeholder requirements on one hand and the company's business needs of on the other. This will be more and more complex and varied with the creation of the new group, but it will also be a way to create greater synergy knowledge exchange between the various entities. Unlike Snam Rete Gas, Stogit has always been subject to the regulations for mining permits, which require complex management of environmental aspects. With a greater Group there is also the increasing in the number of sites subject to the Emissions Trading Directive and to the IPPC Directive. This will allow us greater synergy in managing similar issues and improve the coordination of activities.



Reduction of energy consumption

Among the activities of the Group, the principal energy consumers are the gas turbines used in the compressor stations that supply the gas pressure needed for transportation (transmission consumption) or for storage (storage consumption) and the vaporisers used at the Panigaglia plant to regasify LNG.

The Company has always used the best technology available to limit energy consumption and it has always installed high efficiency turbines. In particular, fuel consumption by the compressor stations is controlled by Dispatching centre by means of optimisation software systems that make it possible, according the requirements for storage and transportation, to manage the arrangement of the individual compressor stations and the transportation network as efficiently as possible.

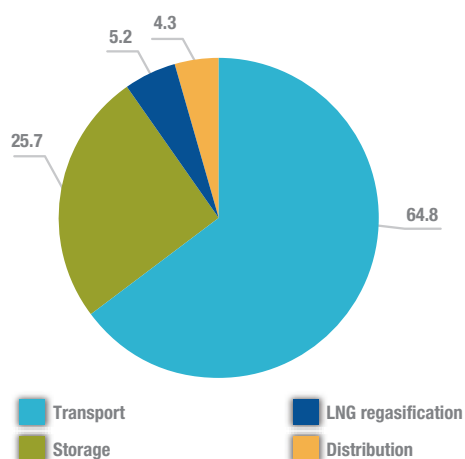
In 2009, total energy consumption was 15,330 TJ. The most-used energy source was natural gas, which covered about 92% of the total energy requirement. Other sources included electrical energy (7%) and other fossil fuels (diesel, petrol, LPG) and thermal energy (1%).

Activities carried out being equal (transportation and regasification), electrical consumption in 2009 dropped by about 20% compared to the previous year. This decrease can be attributed above all to a reduction in the gas introduced into the transportation system by customers, which brought about lower usage of the compressor stations, but also to the initiatives put in operation by the company to contain energy consumption.

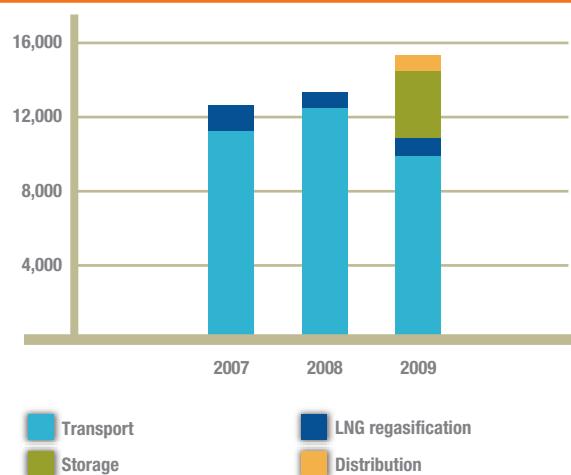
As part of its Energy Management activities, the Company continued activities aimed at identifying possible actions for rationalising and containing energy consumption. Among these initiatives was a new guideline for energy sustainability of company-owned buildings. Aware of the importance of using renewable sources, during the year, the Company installed three 20-kW photovoltaic systems at the maintenance centres for the transportation network of Tortona, Foggia and Palmi with the objective of providing partial coverage of the electrical energy needs of the buildings. These systems were in

addition to the one developed last year in Genoa, which became operational in 2009. Regarding distribution activities twelve pilot photovoltaic systems were also installed, with power outputs between 3 and 6 kW, in the cabins for withdrawal and pressure reduction plants. In addition, the Company installed automation systems to control the power plant in 29 gas pre-heaters in the distribution network still with aim of optimising energy consumption.

ENERGY CONSUMPTION (%)



ENERGY CONSUMPTION (TJ)



RENEWABLE-SOURCE INSTALLATIONS IN 2009

RENEWABLE-SOURCE INSTALLATIONS IN 2009	NUMBER	TOTAL POWER (kW)
Wind generators	2	3
Photovoltaic systems	1,737	199
Total	1,739	202



distribution activity - energy savings through White Certificates

The Ministerial Decrees of 20 July 2004, as amended, promote “energy-saving” through “white certificates”. The Authority has defined technical and economic regulations for implementing the mechanism, and each year specifies national quantitative targets to electricity and natural gas distributors according to the criteria defined in the decrees.

The “white certificates”, also called Energy Efficiency Certificates (Italian acronym TEE), certify the achievement of energy savings through the application of efficient technologies and systems. They are issued by the Electrical Market Manager (Italian acronym GME) based on certification of the savings achieved, performed by the Authority. Each certificate is equivalent to the saving of one ton-equivalent of petroleum (TOE), which is the traditional unit of measure in energy statements to express all sources of energy

by taking into account their heat content.

The decrees require that each year mandatory savings objectives be set for electrical energy distributors and natural gas distribution companies.

These quantitative targets increase over time; to achieve them, distributors may:

- implement projects favouring end-users that improve the electrical efficiency of installed technologies. The projects may be carried out directly, through subsidiaries, or through companies operating in the energy services sectors (ESCO's);
- implement projects designed to save energy in their own manufacturing processes;
- purchase Energy Efficiency Certificates from third parties, covering all or part of their targets. These would confirm the achievement of savings by other parties (other distributors or companies operating in the energy services sector).

The purchase and sale of securities takes place either through bilateral contracts or on the Energy Efficiency Certificates market, organised and managed by the GME using regulations established in agreement with the Authority.

Each year, the Authority determines the size of the contribution to be given to distributors for meeting their obligations. The contribution is financed through a small duty on the distribution rates for electrical energy and gas, established by the Authority in order to ensure that the overall burden on the energy bill of customers is always considerably less than the overall economic benefit from the implementation of the mechanism (between 6 and 12 times). Thus, the contribution helps achieve the actions taken for end-users, by reducing their costs.

In 2009, the Company met the energy -savings objective of 352,108 TOE, by implementing internal projects (about 10% or 33,693 TOE) and by purchases on the Stock Exchange (the remaining 90% or 318,415 TOE).

Air protection

Emissions of polluting substances into the atmosphere come mainly from the processes of combustion. The use of natural gas as the principal energy source by all the businesses of the Group makes it possible to reduce emissions of sulphur oxides and particulates to a minimum.

To reduce nitrogen oxides emissions, the only significant polluting emissions from our activities, some existing turbines have been retrofitted and new ones have been installed with low-emission combustion systems. Specifically, in 2009, two compressor units were converted to low-emission at the compressor stations at Melizzano (BN) and Sergnano (CR) and a new low-emission unit went operational in the compressor station at Malborghetto (UD).

During 2009, total nitrogen oxide emissions were about 1,350 tonnes, of which about 820 tonnes were from transportation and regasification activities (-27% compared to 2008). This reduction

can be attributed both to a decrease in activity, and to continued actions implemented to upgrade the fleet of turbines in the compressor stations.

Atmospheric emissions were determined by direct measurement or if not available, using emissions factors in the reference literature (United States Environmental Protection Agency and the CORINAIR project - COoRdination INformation AIR).

Climate protection

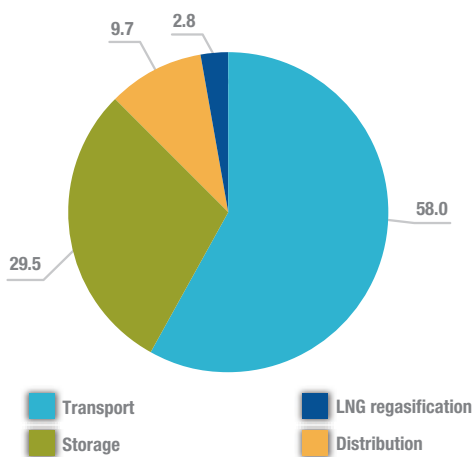
The challenge against climate change is becoming an ever more important topic at the international level, because there is growing scientific proof that greenhouse gases (GHG) emissions affect the climate. Snam Rete Gas is engaged every day in providing our country with an energy source, natural gas, which, thanks to its chemical and physical properties and the possibility to be used in high efficiency technologies in various sectors (civil, manufacturing and thermoelectric), can make an important contribution to the reduction of GHG. Besides using natural gas as its principal fuel, Snam Rete Gas tries to minimise GHG emissions in its operating activities using specific containment programs.

The GHG emitted into the atmosphere deriving from Snam Rete Gas's activities consist of carbon dioxide (CO₂) and methane (CH₄), the main component of natural gas. CO₂ is produced during combustion and is directly correlated to the consumption of fuel, while natural gas emissions originate partly from the normal operation of plants and partly from atmosphere discharges in the transportation and distribution networks when connecting new gas pipelines, during maintenance operations or as a result of accidents.

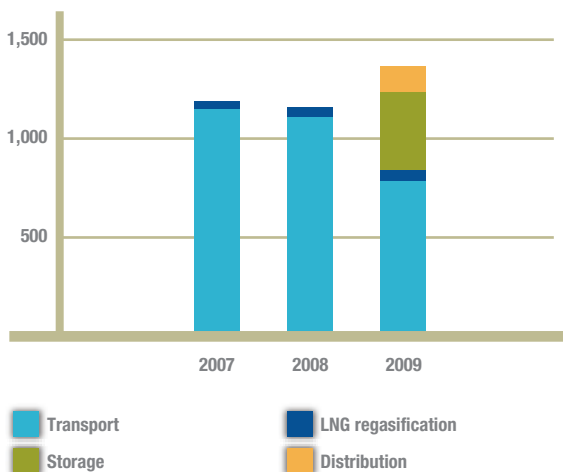
During 2009, direct emissions of CO₂ totalled about 799,400 tonnes, of which about 564,340 tonnes were caused by transportation or regasification activities (-15% from 2008), while emissions of natural gas totalled about 100 million cubic metres (equal to about 64,000 tonnes of methane). To contain the emission of natural gas, the Company continued the replacement of pneumatic equipment and the natural gas in-line operations during the laying down of new pipelines. This has allowed us to recover about 6 million cubic metres. As for the containment of natural gas emissions from the municipal distribution networks, the Company replaced about 55 km of cast-iron pipeline, involving mainly the networks in the cities of Rome and Venice.

Overall emissions of GHG were about 2.4 million tonnes, of which about 1.2 million tonnes were caused by transportation and regasification activities (-15% from 2008) This reduction can be imputed to both a reduction of energy consumption because of reduced activity and to initiatives undertaken to reduce emissions of natural gas.

NO_x EMISSIONS (%)



NO_x EMISSIONS (t)



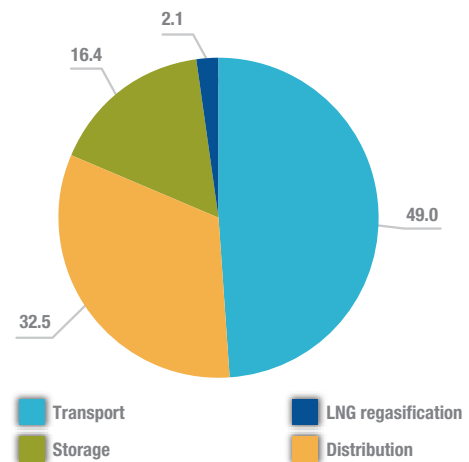
During 2009, indirect emissions of CO₂, caused by the purchase of electrical energy totalled about 49,190 tonnes, of which about 28,420 tonnes were caused by transportation and regasification activities, in line with the emissions last year.

Natural gas emissions were estimated using the methodology prepared by the Gas Research Institute (GRI) in collaboration with the US EPA, applied to the facilities of Snam Rete Gas, with a specific research project and campaigns of field measurements.

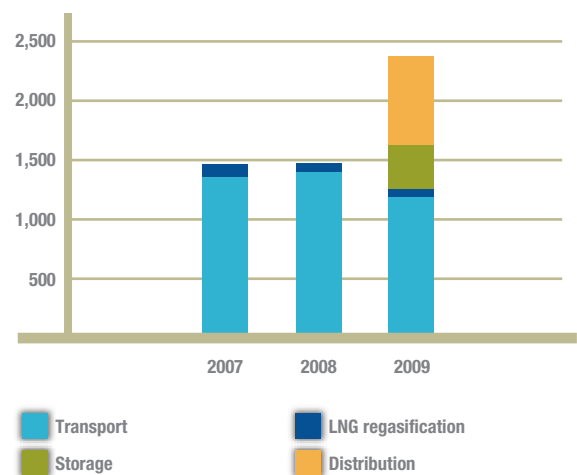
CO₂ equivalent emissions from methane were calculated with a GWP of 25 as indicated in a scientific study by the Intergovernmental Panel on Climate Change (IPCC) "Fourth Assessment Report IPCC of 2007".

Indirect CO₂ emissions were calculated with a national average factor of 0.47 kg of CO₂/kWh.

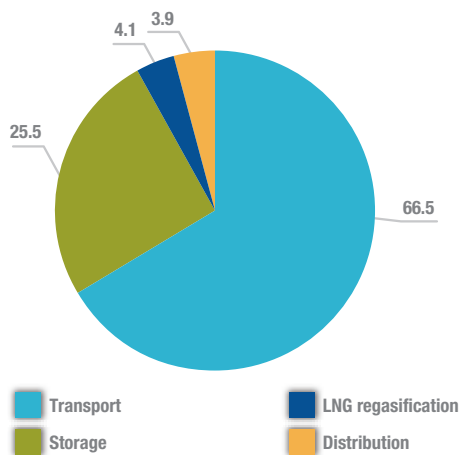
GHG EMISSIONS (%)



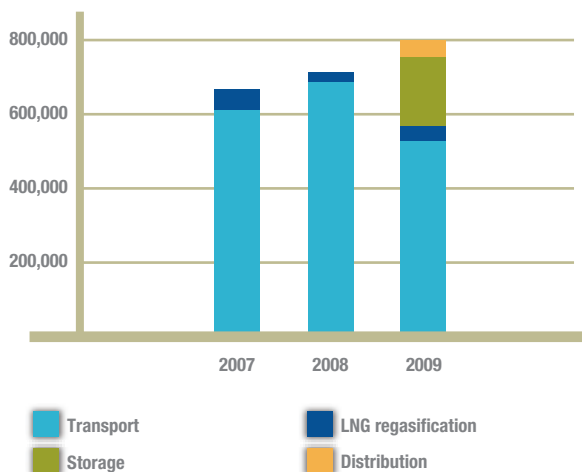
GHG EMISSIONS (10⁵ t)



CO₂ EMISSIONS (%)



CO₂ EMISSIONS (t)



Emission Trading

The Snam Rete Gas installations that fall under the jurisdiction of the Emission Trading Directive as at 31 December 2009 are the 11 compressor stations (Enna, Gallese, Istrana, Malborghetto, Masera, Melizzano, Messina, Montesano, Poggio Renatico, Tarsia and Teranuova Bracciolini), the entry point terminal in Mazara del Vallo, the LNG regasification plant in Panigaglia and 7 of the 8 storage facilities (Cortemaggiore, Fiume Treste, Minerbio, Ripalta, Sabbioncello, Sergnano, Settala).

To our installations were assigned 1,001,577 annual quotas. The values assigned do not include quotas that will be assigned to "new entries".

Concerning the installations covered by the E.T. Regulation, during 2009, we emitted 709,869 tonnes of CO₂, with a positive balance for the year of 291,708 quotas.

Even before the coming into effect of the emission trading regulation on climate change, we had already undertaken initiatives for containing emissions through the use of high-efficiency technologies and by using natural gas as the main fossil fuel in our plants. In particular, in the emissions trading plants, natural gas makes up practically 100% of the fuel used. The combustion of natural gas produces 25-30% less carbon dioxide compared with petroleum products and 40-50% less compared with coal, for the same energy input (Source: National Plan for the Reduction of Emissions of Gas Responsible for the Greenhouse Effect: 2003-2010, Ministry of the Environment and for the Protection of the Territory - Ministry of Economy and Finance).

Our emissions of carbon dioxide are not constant over time but vary from year to year. They are heavily dependent on the transmission programmes of Customers, to whom we provide services of transportation, storage, distribution and regasification.

Protection of nature and biodiversity

Our infrastructure is present throughout almost the entire country. Our activities run into territory with varying morphological features. For this, we design and set in operation suitable measures to safeguard and to restore the environment, in order to recover its natural value.

During the year, environmental restoration activity following the laying down of new pipelines has involved mainly the regions of the North (Friuli Venezia Giulia - Veneto - Piemonte - Liguria and Emilia

Romagna) and of the South (Calabria - Basilicata - Sicily). Specifically, the Company restored about 270 km along pipelines and reforested about 27 km of woods. The purpose of vegetative restoration and reforestation is not only to re-establish the wooded areas affected by the construction of pipelines, but to re-establish in general the landscape and to restore the biological functionality of the planted areas affected by the work, above all their role as a habitat for fauna with specific features of biodiversity.

“Cultivation” (agronomic activity to maintain seedlings set aside) was carried out on about 191 km of areas reforested in previous years. These activities go on normally for about five years after planting.

The Company continued environmental monitoring projects along some pipelines that interfere (even if only marginally) with natural environments having high wildlife or ecological value. The purpose of the monitoring is to verify the re-naturalisation of the areas affected by our work, by comparing environmental conditions after restoration (*post operam*) with the original environmental conditions (*ante operam*). Monitoring is carried out for the most significant habitats identified during the design phase through special investigations to detect and correlate the principal environmental parameters, documenting the actual degree of biodiversity. Monitoring continues during the realisation of the work and after the work is completed. During 2009, the Company conducted monitoring on about 550 km of pipeline.

The table below shows the Environmental Impact Assessment Decrees (EIA) obtained and submitted during the year.

EIA DECREES OBTAINED IN 2009

Name	Power / Length (km)	Regions concerned	Jurisdiction	Decree Date
Montesano sulla Marcellana upgrading compressor station	25 MW	Campania	Regional	09.23.09
Villesse - Gorizia pipeline	23	Friuli - Venezia Giulia	Regional	05.07.09
Villesse - Gonars pipeline	14	Friuli - Venezia Giulia	Regional	09.30.09
Branch pipeline for Diamante and Buonvicino	26	Calabria	Regional	04.23.09
S. Andrea Apostolo dello Ionio - Caulonia pipeline	58	Calabria	Regional	04.23.09
Menfi - Agrigento pipeline	54	Sicily	State	01.22.09
Sulmona - Oricola pipeline	93	Abruzzo	State	01.22.09
Massafra - Biccari pipeline	195	Apulia - Basilicata	State	10.27.09
Biccari - Campochiaro pipeline	74	Apulia - Campania - Molise	State	05.07.09
Poggio Renatico - Cremona upgrading pipeline	149	Emilia Romagna - Lombardy	State	06.15.09
Cremona - Sergnano upgrading pipeline	50	Lombardy	State	09.08.09
Bordolano (CR) new gas storage plant	53.6 MW	Lombardy	State	11.12.09

EIA APPLICATIONS PRESENTED IN 2009 TO THE MINISTER OF THE ENVIRONMENT AND THE MINISTER FOR CULTURAL HERITAGE

Name	Length (km)	Regions concerned	Date Presentation
Pontremoli - Cortemaggiore pipeline	110	Tuscany - Emilia Romagna	05.14.09
Flaibano - Istrana pipeline	86	Friuli - Venezia Giulia - Veneto	05.15.09
Piombino - Collesalveti pipeline	81	Tuscany	06.25.09
Cortemaggiore (PC) project pilot injection CO ₂ in pool A of the storage deposit		Emilia Romagna	09.24.09

EIA APPLICATIONS PRESENTED IN 2009 TO REGIONAL

Name	Length (km)	Regions concerned	Application Date
Bordano - Flaibano pipeline	32	Friuli - Venezia Giulia	01.08.09
Viggiano - Moliterno pipeline	6	Basilicata	05.21.09
Porto Empedocle pipeline connexion at LNG Nuove Energie	14	Sicily	07.21.09

safeguarding and the sustainable use of biodiversity in the design, construction and decommissioning of gas pipelines

In proclaiming 2010 the International Year of Biodiversity, United Nations Secretary-General Ban Ki-Moon published three fundamental messages: "Biodiversity is essential for the well-being of the humanity, because without it we would all be poorer in economic, social and cultural terms. The current rate of biodiversity is extremely serious and the loss of even a single species weakens the capacity of ecosystems to provide their precious support and represents the final loss of a unique and precious asset. Everyone must contribute at various levels to stop the loss of biodiversity. First of all, governments and the scientific community have the responsibility to cooperate to prepared effective strategies to stop the loss of biodiversity" (www.cbd.int/2010/; www.minambiente.it/).

On the occasion of this celebration, sponsored by the United Nations, we wanted to anticipate our contribution by preparing the

Technical Operating Instruction "Safeguarding and the sustainable use of biodiversity in the design, construction and decommissioning of gas pipelines", in late 2009.

The document explains our approach to biodiversity, which is understood to be the ensemble of all genetically different animal or vegetable forms that are present in the Earth and the ecosystems related to them, with reference to current legislation on the subject, compared with the criteria normally applied in some of our operating activities.

The document consists of two parts: the first part explains how the entire life cycle of gas pipelines (planning, construction, dismantling, restoration, monitoring) relates to the issues of biodiversity, highlighting the species and habitats that are most often affected by our operations on the land, even if only potentially. The second part describes the documentation to be produced and the principal actions to take to reach the objectives set to

safeguard biodiversity and sustainable use of the land.

The document also includes four appendices containing:

- conventions, international, European, transnational and national agreements on biodiversity;
- the regulatory frame of reference for the planning and construction of gas pipelines;
- the state of biodiversity in Italy;
- references.

We prepared this document for two purposes: to provide guidelines and direction to carry out the best actions possible to assure the respect and sustainable use of biodiversity by pipeline-related activities, and to provide additional useful knowledge to company personnel, even if they are not directly involved from an operational point of view, in order to help disseminate an ecological culture and environmental sustainability.

The principal collaborations undertaken during 2009 by Snam Rete Gas with local bodies overseeing environmental restoration activities are shown below.

Friuli - Venezia Giulia Region

Following the realisation of the Malborghetto – Bordano pipeline, the Company continued collaborating with the Regional Parks Office concerning a project for planning and international environmental protection, sponsored by the European Union (INTERREG Project 3), monitoring the vegetative restorations done along the pipeline path. Specifically, along the path of the pipeline near Val Alba, the Company continued the 10-year wildlife research and monitoring activity, with the help of international experts. At the end of the year, the Company completed the first five years of monitoring. In addition, thanks to a participation process that involved us with the local population and other operators, the regional planning project for Val Alba was completed with the official establishment of the “Val Alba natural reserve”, which was entrusted to the management of the PreAlpi Giulie Natural Park.

After the realisation of the pipeline that crossed the “Paludi di Gonars”, Site of Community Interest (SCI), in cooperation with local agencies, the Company continued environmental recovery operations within the site on some pieces of public property. It also launched a project to monitor the spontaneous process of renaturalisation of these areas, taking phytosociological samples. During 2009, it carried out the first annual *post operam* monitoring of the five scheduled.

Sicily Region – State Forestry Agency

The Company continued its collaboration with the State Forestry Agency of the Region of Sicily to produce indigenous tree species for replanting woods along the path of pipelines laid within the Nebrodi Regional Park. During 2009, it conducted monitoring on a total of 1.6 km of pipeline.

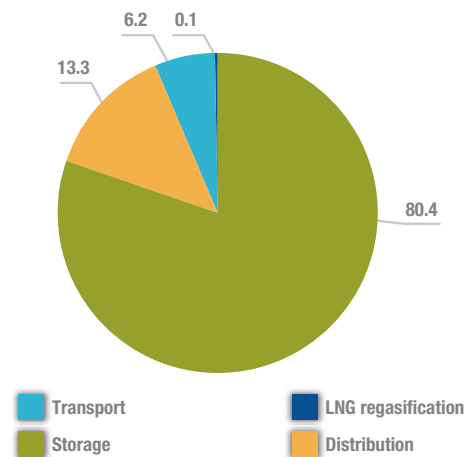
Waste management

Waste management has not been a very significant environmental aspect in the history of Snam Rete Gas, in terms of either the quantity or the type of waste produced. Indeed, the waste produced came mainly from maintenance and operations of the installations; most of it consisted of ferrous material, which was completely recovered. With the acquisition of Stogit and Italgas, the scenario has com-

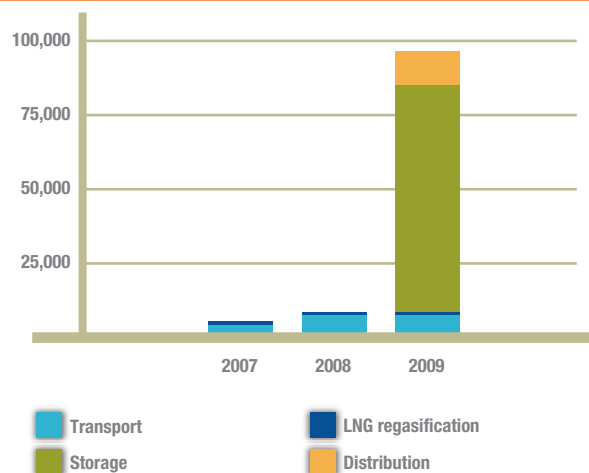
pletely changed compared to previous years, because the two new companies, in addition to producing a limited amount of waste from manufacturing activities, also manage waste produced both by the restoration of some contaminated areas following industrial activity and by drilling wells. Indeed, this latter activity, conducted mainly by Stogit, generates great quantities of waste, consisting mainly of sludge.

During 2009, total waste production was about 96,620 tonnes, of which about 68,890 tonnes belong to the category of non-hazardous waste (71% of the total). The newly acquired companies contributed to produce more than 93% of Group’s waste, for the activities described above. Total waste produced by transportation and regasification activities was about 6,080 tonnes (-7% compared to 2008). Of the waste disposed by these activities, 91% was recycled.

WASTE PRODUCTION (%)



WASTE PRODUCTION (t)



Noise reduction

The main sources of noise from our activities are compressor stations, usually located in rural areas along the gas pipeline network, pressure reduction stations, which connect distribution and transportation gas pipelines at different operating pressures, and the LNG regasification plant.

In order to contain the acoustic impact of our installations, we first pursue a policy of prevention. This consists of correctly sizing the installations during the design phase, and drawing up an acoustic impact forecast. Measures taken consist of installing soundproof cabinets, acoustic flues, low-noise valves, mufflers on operating vents and burying the pipes.

During 2009, the Company also continued specific measurement campaigns to verify the level of sound emitted by our installations, conducted both by specialised internal personnel and by outside companies qualified to provide this service.

Water consumption and waste water management

Water consumption and waste water disposal from our activities has not had a significant environmental impact, in terms of either the quantities or the types of discharges.

During 2009, the Company used about 4 million cubic metres of seawater and 0.79 million cubic metres of fresh water.

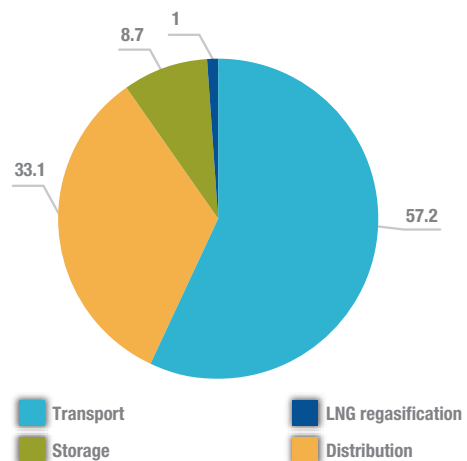
Seawater is used to cool the auxiliary installations at the LNG regasification plant, and the fresh water is used mainly for office activities, fire fighting and irrigating green areas.

During 2009, transportation and regasification activities consumed about 450,000 cubic metres of freshwater (+31% compared to 2008). This increase can be attributed to a greater use of both well water to irrigate green areas and waterworks water for office activities.

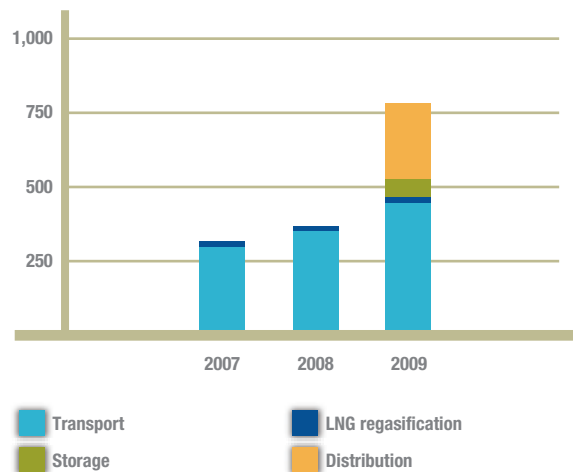
With regard to waste water discharges, the sea water used for cooling is returned to the sea untreated, while the fresh waste water is gathered in the sewer networks (97% of the total) or is treated and discharged into the soil or surface water bodies (3% of the total).

To limit the discharge of domestic waste water from the gas compressor stations, the Company continues to develop closed-cycle reed bed purification plants, which eliminate this type of discharge, because the waste water is treated and entirely absorbed by the planted vegetation, after solid sediment is separated out. During 2009, these installations were developed in the compressor stations of Enna and Terranuova Bracciolini.

FRESH WATER SUPPLIED (%)



FRESH WATER SUPPLIED (10³ m³)



Management of ozone-depleting substances

Ongoing initiatives regarding this issue involve monitoring and checking all air conditioning installations containing substances that can harm the ozone layer, to check for gases leaking to the atmosphere. Modest quantities of these substances are contained in a limited number of installations, and a program is underway to replace them with environmentally friendly fluids.

Pipeline monitoring

When plants and pipelines are in operation, they are subjected to regular checks and maintenance to ensure high safety standards. Special attention is paid to the transmission route, which is inspected regularly with motor vehicles, helicopters and on foot to de-

tect potentially dangerous situations (for example, caused by third parties working near the pipelines), or to discover potential gas leaks along roadways.

It is now standard practice to use advanced inspection technologies such as intelligent pigs to inspect the interior of wide-diameter pipelines. Without interrupting the flow of gas, intelligent pigs run along the inside of the pipelines, detecting and recording information on their characteristics and their condition, for example the presence of any defects.

To detect any gas leaks in the inspection of municipal gas networks, we normally use GPS-equipped vehicles suitably provided with the most modern detection equipment to sample and analyze continu-

ously gas-air mixtures along the surface of the roadway along the upper generatrix of the buried pipeline.

During 2009, we inspected more than 1,600 km of the network with “intelligent pigs” and about 13,700 km of the network using helicopters. We also conducted geological surveys of about 1,200 km of the pipeline network in unstable areas and conducted two inspections of the five undersea lines crossing the Strait of Messina.

With regard to the municipal network, we inspected more than 18,600 km of pipeline, posting qualitative standards in excess of those required by the Italian Electricity and Gas Authority.

