



**GASUM CORPORATE  
RESPONSIBILITY  
2015**



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## Gasum's reporting documents

Gasum's reporting documents for 2015 comprise the Annual Report, Financial Statements and Corporate Responsibility Report. This publication presents Gasum's corporate responsibility in accordance with the Global Reporting Initiative (GRI) G4 Guidelines and is also published in Finnish. The Annual Report and Financial Statements are available in Finnish and English on the Gasum website and in print.

# GASUM - CLEANLY WITH NATURAL ENERGY GASES

Gasum is a Nordic gas sector (natural gas, biogas and liquefied natural gas (LNG)) expert that is building a bridge to a carbon-neutral society on land and at sea.

Gasum contributes to the creation of a sustainable energy economy by increasing the supply of Finnish biogas, developing the Nordic gas ecosystem and ensuring the price competitiveness of gas. Gasum imports natural gas to Finland, upgrades biogas and transmits and delivers these for a broad range of uses in energy production, industry, homes, and land and maritime transport. Gasum is the leading supplier of biogas in Finland. It injects biogas into the gas network from Espoo, Kouvola and Lahti, and from 2016 onwards also from Riihimäki. The Gasum subsidiary Skangas is a Nordic expert in liquefied natural gas (LNG) that will continue to strengthen the position and infrastructure of LNG and the utilization of new gas solutions more extensively in Finland, Sweden and Norway. Skangas has LNG terminals in Øra, Norway, and Lysekil, Sweden. Finland's first LNG import terminal will be completed in Pori in 2016. The Gasum Group has around

300 employees in Finland, Norway and Sweden. The Gasum Group's revenue totaled €915 million in 2015.

## CORPORATE RESPONSIBILITY DEVELOPMENTS IN 2015

Gasum invested strongly in corporate responsibility issues in 2015. The promotion of sustainable development is at the core of our vision and our strategy employed to reach it that were updated in early 2015. We also raised safety and security as one of our key strategic objectives.

Our organizational reform also involved a reform of our corporate responsibility management, stronger resourcing and the launch of updates to our corporate responsibility themes and objectives. Our research and development (R&D) has included explorations of Gasum's roadmap as regards the transition to a carbon-neutral society by 2050.

(G4-3, G4-4, G4-6, G4-8)

# NATURAL ENERGY GASES

- *Natural energy gas is a generic term for natural gas and biogas.*
- *Natural gas and upgraded biogas both consist of the same substance – methane.*
- *LNG is liquefied natural gas.*

## NATURAL GAS

Consisting of almost pure methane, natural gas is sourced from natural gas and oil deposits as well as shale rock. Its net calorific value (NCV) is 10 kWh/m<sup>3</sup>, which corresponds to the NCV of one liter of light fuel oil. At the moment the natural gas consumed in Finland is imported along a pipeline from Western-Siberian gas fields in Russia to a reception station in Imatra, eastern Finland. After volume measurements and quality analyses, natural gas is transmitted from the reception station to customers and distribution networks via the transmission network owned by Gasum.

Natural gas has a multitude of uses. Finnish industrial facilities utilize natural gas as a fuel as well as a raw material, and gas provides a high rate of efficiency in combined heat and power (CHP) production. Natural gas can also be used instead of electricity in many industrial processes. Residential customers use natural gas for heating and cooking. In compressed and liquefied form, natural gas is also an excellent shipping and road transport fuel.

## LNG

Liquefied natural gas (LNG) is natural gas converted into liquid form by cooling it to -162 °C. As a fuel, the properties of LNG are equal to those of natural gas. In the liquid state, it only takes up 1/600th of the volume of gas in the gaseous state. This is why LNG can be stored, transported and used smoothly and cost-effectively. Using LNG helps cut carbon dioxide emissions by around 25% compared with heavy fuel oil.

LNG is an environmentally friendly energy source that meets the maritime transport emission limits that entered into force in the Baltic Sea in January 2015. LNG is odorless, tasteless and non-toxic, and it does not contain sulfur, fine particulate matter or heavy metals. The LNG production facilities used by Skangas are located in Risavika, Norway, and Porvoo, Finland. LNG is also imported to the Nordic countries via terminals in Northwestern Europe.

## BIOGAS

Gasum biogas is a 100% Finnish renewable energy source. The composition of raw biogas varies depending on the production method and raw materials used. Renewable raw materials of biogas include municipal and industrial waste. Raw biogas is upgraded to a composition that is equal to natural gas and can be used for all the same purposes as natural gas. At the moment it is used in Finland in electricity and heat production, industrial facilities, home heating and cooking and as a transport fuel.

The net calorific value of biogas is around 10 kWh/m<sup>3</sup>. The existing gas pipeline network is used to transmit Gasum biogas from production facilities to customers. Biogas is injected into the Gasum network from biogas facilities located in Kouvola, Espoo and Lahti. Biogas can also be liquefied. In this case it is referred to as liquefied biogas (LBG).

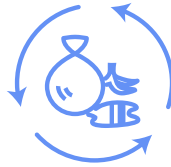
(G4-12)

# HIGHLIGHTS FOR GASUM IN 2015



## 26.0 TWh

NATURAL GAS SALES  
IN FINLAND  
(2014: 29.3)



## 40.8 GWh

BIOGAS SALES  
IN FINLAND



## 5.2 TWh

LNG SALES IN THE  
NORDIC COUNTRIES  
(2014: 3.9)

(G4-9)

### NEW VALUES AS WELL AS NEW STRATEGY, MANAGEMENT MODEL AND ORGANIZATION

Gasum's values and strategy were updated at the beginning of the year. Our values are summed up in our value proposition "Purposefully and responsibly moving towards new opportunities". Our updated strategy is to provide our customers with smart and competitive gas solutions. The Gasum Group's management model and organization were reformed as from September 1, 2015. Our new business units are Natural Gas, Biogas, LNG, and Technical Services. Read more on page 5.

### TOPPING OUT CEREMONY CELEBRATED AT FINLAND'S FIRST LNG TERMINAL IN PORI

In April the topping out ceremony of the Skangas LNG terminal took place in Pori. The first of its kind in Finland, Skangas is constructing the terminal in the Tahkoluoto, Pori, oil and chemicals harbor. The LNG terminal is estimated to be completed in autumn 2016. Read more on page 17.

### GASUM INNOVATION COMPETITION WINNERS ANNOUNCED

Organized for the second time, the winner of the Gasum innovation competition was announced in June. The grand prize went to the BIOBOKSI team representing BioGTS Ltd for its idea on how to facilitate the use of biogas as a road vehicle fuel outside the gas pipeline network. Read more on pages 16–17.

### MORE BIOGAS TO FINLAND FROM WASTE PROCESSED AT EKOKEM CIRCULAR ECONOMY VILLAGE

In September Gasum and Biotehdas announced that they will construct an upgraded biogas production facility at the

Ekokem Circular Economy Village in Riihimäki. Due for completion in 2016, the facility's annual biogas production potential of 50 GWh corresponds to the annual energy need of 4,500 cars or 2,000 detached houses. Biotehdas was acquired by Gasum at the beginning of 2016. Read more on page 17.

### DIGITAL SOLUTIONS FOR PROMOTION OF SUSTAINABLE DEVELOPMENT AND NORDIC GAS ECOSYSTEM GENERATED AT HACKTHEGAS HACKATHON

At the last weekend of October, the #HackTheGas hackathon hosted by Gasum and IndustryHack brought together 40 industrial internet experts to come up with new digital innovations for the development of customer-oriented services. The first prize went to Team Nortal for the development of an app that makes gas vehicle use easier. Read more on page 17.

### BIOGAS LABEL LAUNCHED BY GASUM

The Biogas Label communicates to consumers that the product was made with 100% Finnish biogas. The label was awarded in 2015 to companies including Paulig, Kouvolan Lakritsi, Wigren, Myllyn Paras and Marwe. Kesko grocery trade also started to use biogas in the manufacture of its own-brand Pirkka products. Biowaste from almost 100 K-food retailer outlets in the Uusimaa region as well as the Keslog warehouses in Hakkila, Vantaa, is taken to the Labio biogas plant in Lahti, from where the biogas produced is transmitted via the Gasum gas network to Myllyn Paras and Wursti production facilities and used to make Pirkka brand food products. Read more on page 17.

# CORPORATE RESPONSIBILITY MANAGEMENT AND OPERATING ENVIRONMENT

- *Gasum's values were updated at the beginning of 2015.*
- *Gasum's new strategy was introduced to the personnel in early 2015.*
- *Safety and security was raised as a strategic objective.*
- *A new energy management system (EnMS) was incorporated into our integrated management system (IMS) and certified according to the ISO 50001 standard in November 2015.*

## PURPOSEFULLY AND RESPONSIBLY MOVING TOWARDS NEW OPPORTUNITIES (G4-56)

Gasum's values were updated in cooperation with employees in early 2015. On the basis of the value choices emphasized by our staff, Gasum's values were summed up in the value proposition "Purposefully and responsibly moving towards new opportunities."

The concept of responsibility covers all aspects of Gasum's corporate responsibility and the responsibility that all of us have as Gasum employees. Our corporate responsibility covers economic, social and environmental responsibility.

Gasum's new strategy was introduced to the personnel in early 2015. Our mission is "Cleaner energy with efficient gas solutions" and our vision "promoting sustainability through the nordic gas ecosystem".

Gasum is at the core of the gas ecosystem, but there are also other players involved who can accomplish more by doing things together than any individual player could do alone. The ecosystem evolves over time and generates new opportunities for the players involved.

We will aim toward our vision of the Nordic gas ecosystem by implementing our strategy of providing our customers with smart and competitive gas solutions in Finland, Sweden and Norway. To implement our strategy in practice, we must succeed in four Must-Win Battles (MWBs):

1. We promote sustainability
2. We provide competitive gas solutions
3. We develop a smart gas system
4. We create a new Gasum

During the strategy reform we also raised safety and security as one of our strategic objectives.



## COMPREHENSIVE ENERGY AND CLIMATE SOLUTIONS (G4-1, G4-27)

The competitiveness of gas in energy production has been affected by several factors including Finnish energy taxation, the emissions allowance price level and low price of electricity.

Due to the Finnish energy tax reform of 2011, the emphasis in the burden of tax has shifted from coal to natural gas. The fuel taxes levied on natural gas have increased eightfold in the 2010–2016 period, and this has considerably eroded the price competitiveness of gas, particularly against coal. According to a study conducted by Pöyry for Gasum in early 2016, coal has replaced the use of natural gas in combined heat and power (CHP) production of large Finnish cities. In 2015 the use of gas in large cities was 7.7 TWh lower than in 2010. Around 88% this was replaced by coal.

Finland's new Government Programme proposes that CHP is to be steered toward lower-emission levels by the gradual removal of the CO<sub>2</sub> tax reduction. Gasum has previously proposed a model for the reform of fuel taxation that would provide steering away from coal to existing, lower-emission and more energy-efficient gas capacity and not increase investments in fossil fuels. Gasum's tax model would offer a concrete method for the elimination of most of the use of coal within a rapid timetable and help achieve considerable cuts in emissions.

Electricity price was low throughout the year, and market quotes for electricity price are low all the way up to 2021. This resulted in poor profitability in CHP production, which also had a direct impact on natural gas demand. Finnish investments in renewable energy and the utilization of waste in heat and power production continued, replacing the use of natural gas. The recent steep fall in the price of oil has also been a contributing factor affecting the price of natural gas due to the oil-linkage of gas pricing. Consequently, the energy charge of natural gas decreased by more than 30% in 2015.

The updating of Finland's National Climate and Energy Strategy began in spring 2015 and is due for completion during 2016. Gasum seeks to ensure that natural gas and biogas as well as LNG will play a major role in the strategy.

The new Sustainable Development Goals and Agenda for Sustainable Development were adopted by the UN in September 2015. In December, the Paris climate talks were completed successfully. These sent a strong message of a global commitment to the creation of a sustainable, carbon-neutral society.

Changes in Gasum's operating environment are best illustrated by the following key megatrends:



### RESOURCE WISDOM

The need for food, energy and natural resources is increasing in the world due to continuous population growth and rise in living standards. The threat of climate change calls for increased efficiency in resource use as well as carbon neutrality. The aim is to achieve considerable cuts in the use of fossil fuels by 2050. Resource wisdom is represented by energy efficiency, efficient use of raw materials, circular economy, utilization of local resources, and a change in consumption habits towards a resource-saving direction.



### CONSUMER POWER

People have a stronger view of their decision-making power and the uniqueness of their lives than ever before. As consumers, individuals and communities want to and can decide on their type of energy production and control their energy consumption. This strengthens the trend towards an increase in the energy technologies available and the diversification of energy production.



### DIGITAL REVOLUTION

Automatization, global industrial products, information and communications technology (ICT) and mobile technology as the latest arrival have brought the humankind together in a unique manner into one system. Digitalization has taken the number of choices available to a new level. The industrial internet enables communication between devices and systems (Internet of Things). The energy sector is being transformed by digital services.



# Corporate responsibility management and objectives

## MANAGEMENT AND AREAS OF RESPONSIBILITY

The realization of corporate responsibility in Gasum's operations is steered and monitored by the Group Management Team (GMT). Corporate responsibility issues are considered by the Gasum Board of Directors as well as the GMT and the Management Groups of the business units. The GMT provides the strategic policies for corporate responsibility and monitors their implementation. Corporate responsibility management is incorporated into the GMT's work. The schedule for the GMT's work is laid down in the Gasum Management Year Clock, which specifies the matters considered regularly by the GMT.

The Vice President for System Responsibility, Ari Suomilampi, is responsible for corporate responsibility management and reporting to the GMT. The HSEQ Manager is responsible for safety and security, supply security and environmental indicator monitoring and compilation for the corporate responsibility report. The financial indicators for the corporate responsibility report are produced by the Group Controller. The HR Manager is responsible for the monitoring and compilation of indicators relating to social responsibility.

## PRINCIPLES GUIDING OPERATIONS (G4-56)

Gasum's principles were updated into a single document in 2014. Entitled Gasum's Code of Conduct, the document applies to every Gasum Group employee. The update process took place in a working group comprising employees from the various areas of corporate responsibility. The work involved consultation of the Guidance on Social Responsibility, the GRI G4 Guidelines, the Global Compact initiative and the Government resolution on ownership policy. In addition, Gasum's own strategy, systems and commitments were taken into consideration in the update. The principles were updated into a single entity, and more specific documents were turned into operational guidelines. The Code of Conduct was adopted by the Gasum Management Team on November 10, 2014 and can be found in full on the Gasum website under Responsibility.

We comply with the following corporate responsibility principles in our activities:

### OUR ETHICAL CODE

Our ethical principles support our business activity and success, forming a shared foundation for our values and operations. Our operations are governed by a broad range of legislation and regulations, and we are committed to full compliance with them in our operations. Our value

proposition is "Purposefully and responsibly moving towards new opportunities."

### WE WILL CONTINUOUSLY IMPROVE OUR ACTIVITIES

Operational quality and compliance with environmental, energy and safety aspects are monitored regularly on the basis of audits conducted by an external partner as well as an internal audit team. Our safety and security objective is that no damage or accidents take place in our activities or the end use of natural energy gases.

### OUR COMMITTED PERSONNEL

The core of our human resources management lies in the fair treatment of our employees and harmonized managerial work that supports our strategic goals. Gasum's human resource policy, internal and external policies and approaches as well as leadership and operating models are based on gender equality and the absolute prohibition of discrimination on the basis of age, health or other grounds specified in the Employment Contracts Act.

### WE OPERATE RELIABLY AND TAKE RISKS INTO CONSIDERATION

Gasum operates reliably, takes risks to consideration and has profitable growth at the core of its strategy. Gasum subjects its procurements to competitive tendering in accordance with applicable procurement regulations. In public procurements we comply with the Government decision-in-principle on the promotion of sustainable environmental and energy solutions (cleantech solutions) in public procurement. Gasum's comprehensive risk management covers the management of strategic, financial and operational as well as accident and damage risks.

### WE COMMUNICATE ACTIVELY TO OUR STAKEHOLDERS

The goal of Gasum's communications is to support the implementation of the company's strategy and objectives. The objective of our communications is to communicate in a speedy, open, effective, active and interactive manner. The aim of our sponsorship and support activities is to support Gasum's strategic objectives, marketing and responsible business.



## Gasum's main corporate responsibility objectives and achievements

OBJECTIVES	MEASURES	ACHIEVEMENTS 2015
<b>Safety</b>		
Using natural energy gases is safe; accidents in the gas transmission, distribution, production and filling-up systems and related tasks are eliminated.	<ul style="list-style-type: none"> <li>• Safety and environmental observations and corrective measures</li> <li>• Zero Accident Forum</li> <li>• Applying ISO 9001, ISO 14001, OHSAS 18001, ISO 50001 in our IMS</li> </ul>	<ul style="list-style-type: none"> <li>• There were no accidents.</li> <li>• We continued as a member of the forum.</li> <li>• Our IMS was also externally audited. ISO 50001 certified as part of our IMS.</li> </ul>
There are zero accidents at work.	<ul style="list-style-type: none"> <li>• Zero Accident Forum</li> <li>• Safety and environmental observations and corrective measures</li> <li>• Promotion of safety and security raised as a strategic objective</li> </ul>	<ul style="list-style-type: none"> <li>• A total of 7 accidents at work (2014:11)</li> <li>• A total of 260 observations reported, resulting in 76 corrective or preventive measures</li> <li>• Our safety and security culture was systematically improved</li> </ul>
No unforeseen delivery disruptions in gas supply.	Careful planning of network servicing and maintenance	Amount of energy not delivered was 0.014 GWh (2014: 0.00 GWh).
<b>Environment</b>		
Reducing methane emissions from the gas network by 30% from the 2010 level (1,473 t) by 2020 (1,031 t).	Gasum identified fugitive methane emissions from the natural gas transmission network more specifically in 2015 and obtained a quantitative assessment of them. A repairs plan has been drawn up for the most significant leak sites, with repair work to begin in 2016.	Gasum's methane emissions in 2015 totaled 827 t (2014: 979 t). The target was already reached in 2014, but measures to reduce methane emissions are still taken.
We are fully informed of the life-cycle environmental impacts of natural energy gases and seek to contribute towards reductions in the impacts of our own activities.	<ul style="list-style-type: none"> <li>• Gasum commissioned a study from Neste Jacobs on the environmental impacts of the supply chain of natural gas imported to Finland from Russia on the basis of 2014 figures.</li> <li>• Gasum developed life-cycle models for the assessment of the environmental impacts of pipeline gas as well as LNG in cooperation with the Finnish Environment Institute (SYKE).</li> <li>• We improved the energy-efficiency of our own operations by integrating an ISO 50001 energy management system (EnMS) into our integrated management system (IMS).</li> </ul>	<ul style="list-style-type: none"> <li>• Data on the environmental impacts of the natural gas supply chain updated.</li> <li>• Gasum now has a tool for the assessment of life-cycle environmental impacts of biogas, pipeline gas and LNG.</li> <li>• Gasum's ISO 50001 EnMS was certified as part of the IMS in 2015.</li> </ul>
<b>Business and Responsibility</b>		
Together with our customers and stakeholders, we create partnerships for the efficient development of new natural energy gas solutions for a sustainable tomorrow.	<ul style="list-style-type: none"> <li>• Sustainable development part of Gasum's strategy</li> <li>• Cooperation launched between Gasum and Kesko: biogas made from K-Group retailers' food waste utilized in the manufacture of Pirkka own-brand products</li> <li>• Gasum innovation competition</li> <li>• HackTheGas innovation weekend event hosted by Gasum and IndustryHack</li> <li>• Gasum Gas Fund</li> </ul>	<ul style="list-style-type: none"> <li>• Steps forward made in improving access to LNG in the Nordic countries</li> <li>• Progress made in the project to develop new types of LNG, LBG and LCNG refueling stations</li> <li>• Gasum Biogas Label launched</li> <li>• News and information website about low-emission transport (Vihreä kaista) developed in cooperation with Plugit Finland Oy</li> <li>• Innovations generated in innovation cooperation taken forward</li> <li>• Grants from Gasum Gas Fund given out for research at €49,000 (2014: €95,000)</li> </ul>
<b>Responsibility Management</b>		
We are fully informed of the impacts of our activities, monitor measures taken and report on them annually in our Corporate Responsibility Report.	<ul style="list-style-type: none"> <li>• Harmonization of Skangas and Gasum functions relating to corporate responsibility management</li> <li>• External assurance of four indicators for the 2014 corporate responsibility report</li> <li>• External assurance of six indicators began for the 2015 corporate responsibility report</li> <li>• Material indicators checked</li> </ul>	<ul style="list-style-type: none"> <li>• Corporate responsibility cooperation between Skangas and Gasum launched and harmonized</li> <li>• Carbon-Neutral Roadmap completed</li> <li>• The first corporate responsibility report in accordance with the G4 Guidelines completed for 2014</li> </ul>

# Integrated management system

## THE CONTINUOUS IMPROVEMENT OF OUR PERFORMANCE IS SUPPORTED BY OUR INTEGRATED MANAGEMENT SYSTEM (IMS)

The Gasum Group adheres to a single integrated management system (IMS) that covers our certified quality (ISO 9001), environmental (ISO 14001), energy (ISO 5001), and safety and security (OHSAS 18001) management systems as well as the sustainability scheme for the transport use of biofuels. The IMS consists of systematic approaches that translate decisions made by our top management into practical operations. The system is applied to the Gasum Group companies (excluding Skangas and associated companies Manga LNG Ltd, UAB GET Baltic and, for 2015, Biovakka Suomi Oy) and operations as well as products and services sold by the Group and is audited annually by an external organization. Recertification takes place every three years. A new energy management system (EnMS) was incorporated into our IMS and certified according to the ISO 50001 standard in November 2015.

The key content and objective of the IMS is the continuous improvement of our operations. Its functioning, effectiveness and progress made toward the targets set is monitored regularly through audits conducted by our internal audit team in addition to the external evaluations. Any nonconformities detected as well as other observations are reported and addressed at management reviews in which the IMS is regularly reviewed by the Gasum management to make sure the IMS remains relevant and effective as well as being consistent with the organization's strategy.

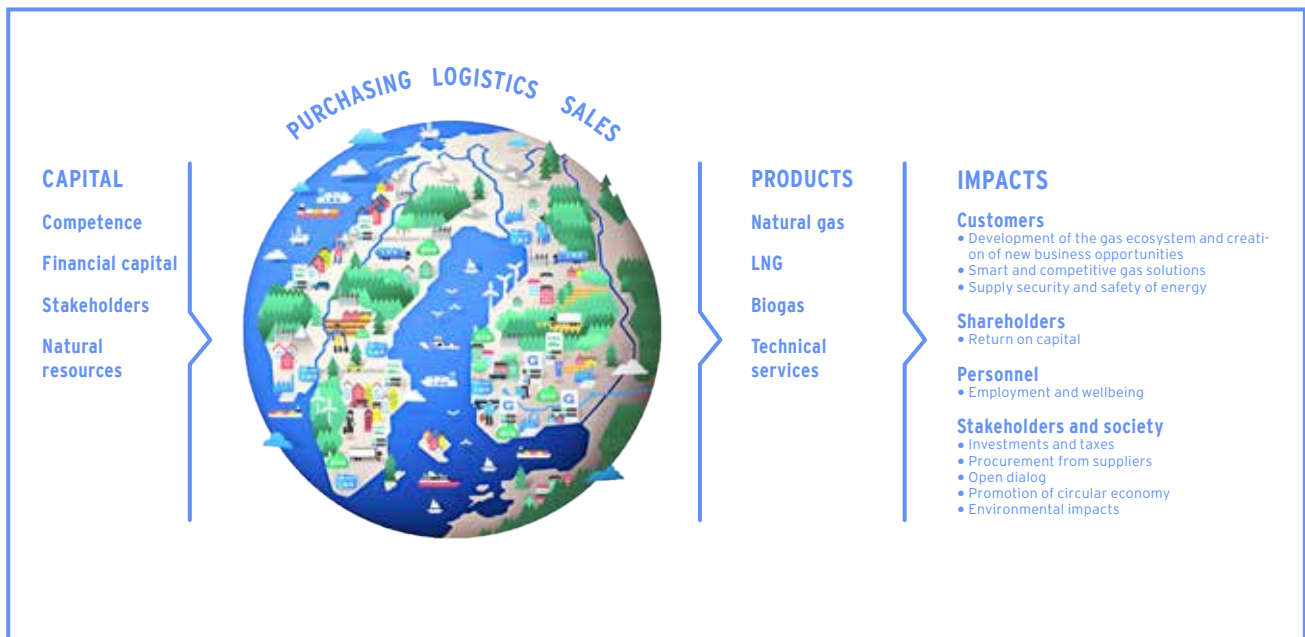
Gasum's operating environment has undergone many internal as well as external changes in the past few years. The IMS is also updated and developed in response to the changing circumstances and our reformed management model. Based on our strategy, this development work takes place specifically for each business unit, with the requirements set by the renewed management system standards published by ISO in 2015, ISO 14001 and ISO 9001, as well as the new ISO 45001 that replaces OHSAS 18001 in 2016 also taken into account.

# GASUM'S OPERATIONS CREATE VALUE

- *Gasum's corporate responsibility reporting aims to describe our company's capability to create value as well as to present the issues that are material to our value creation in one document.*

Gasum imports natural gas to Finland, upgrades biogas, and transmits and delivers these to customers in energy production, industry, homes, and land and maritime transport. Gasum operates responsibly, taking social, economic and environmental impacts into account.

Gasum is a financially sound company that creates value for customers and generates added value for shareholders. We are a societally important player as an employer and taxpayer. The description of Gasum's value creation illustrates how we create value for our stakeholders and society while building a bridge to a carbon-neutral society.





# DEFINITION OF MATERIALITY AND CORPORATE RESPONSIBILITY THEMES

- *The material themes and aspects were reviewed and updated to correspond to Gasum's strategy and business.*
- *Two new aspects from the G4 guidelines were included in our reporting: Emergency Preparedness and Fossil Fuel Substitutes.*

## MATERIAL ASPECTS IN CORPORATE RESPONSIBILITY DETERMINED (G4-18)

In 2014 a materiality analysis was performed to identify the key responsibility aspects of Gasum's activities. The material aspects determined are significant for our economic, social or environmental impacts or for our various stakeholders. The materiality analysis was conducted in compliance with the principles of the GRI G4 guidelines through identification, prioritization and validation of material aspects. In autumn 2015 the material themes and aspects were reviewed and updated to correspond to our strategy and business.

## DEFINITION OF MATERIALITY (G4-18)

Material responsibility aspects were identified on the basis of background material, G4 aspects, other responsibility publications of our sector as well as stakeholder inclusion and interviews, while external as well as internal stakeholders were represented diversely in the stakeholder workshop. In addition to these, our stakeholder survey was taken by 221 respondents including representatives of residential and enterprise customers, personnel, authorities and Gasum's suppliers. These three stages provided a comprehensive picture of stakeholder expectations regarding our responsibility work.

In the next stage, stakeholders' ideas were processed further and aspects were prioritized in an expert workshop.

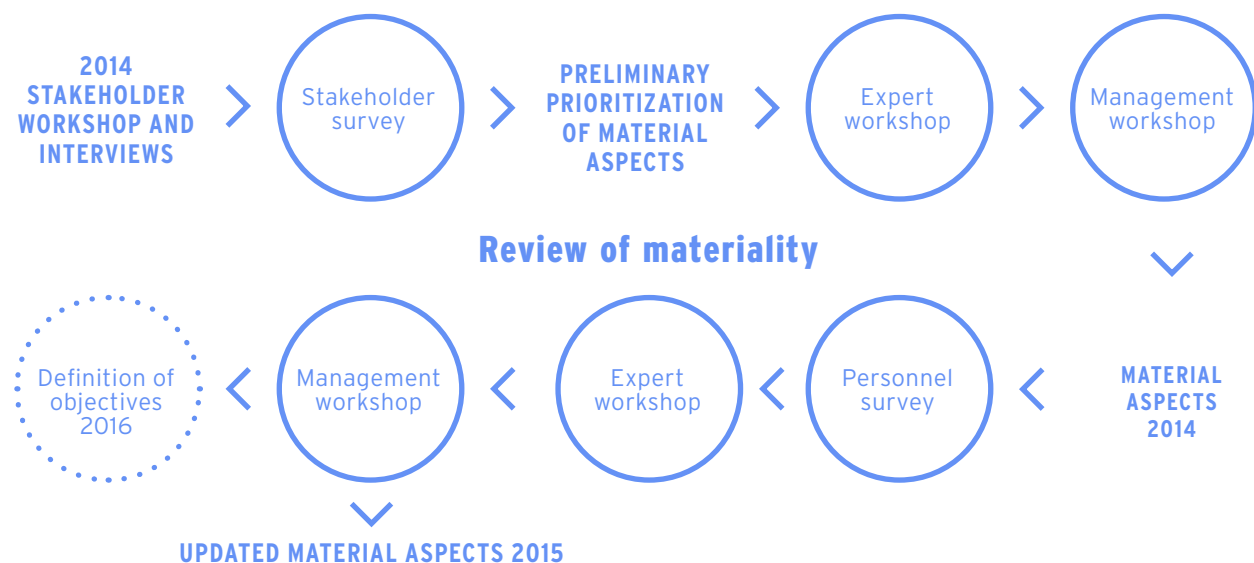
Gasum personnel from various units participated in the workshop.

The final stage was a Gasum Management Team workshop where the aspects brought up were examined from the perspective of Gasum's strategy and risk assessment and where the prioritized aspects were validated. This resulted in the selection of four themes covering 13 material aspects.

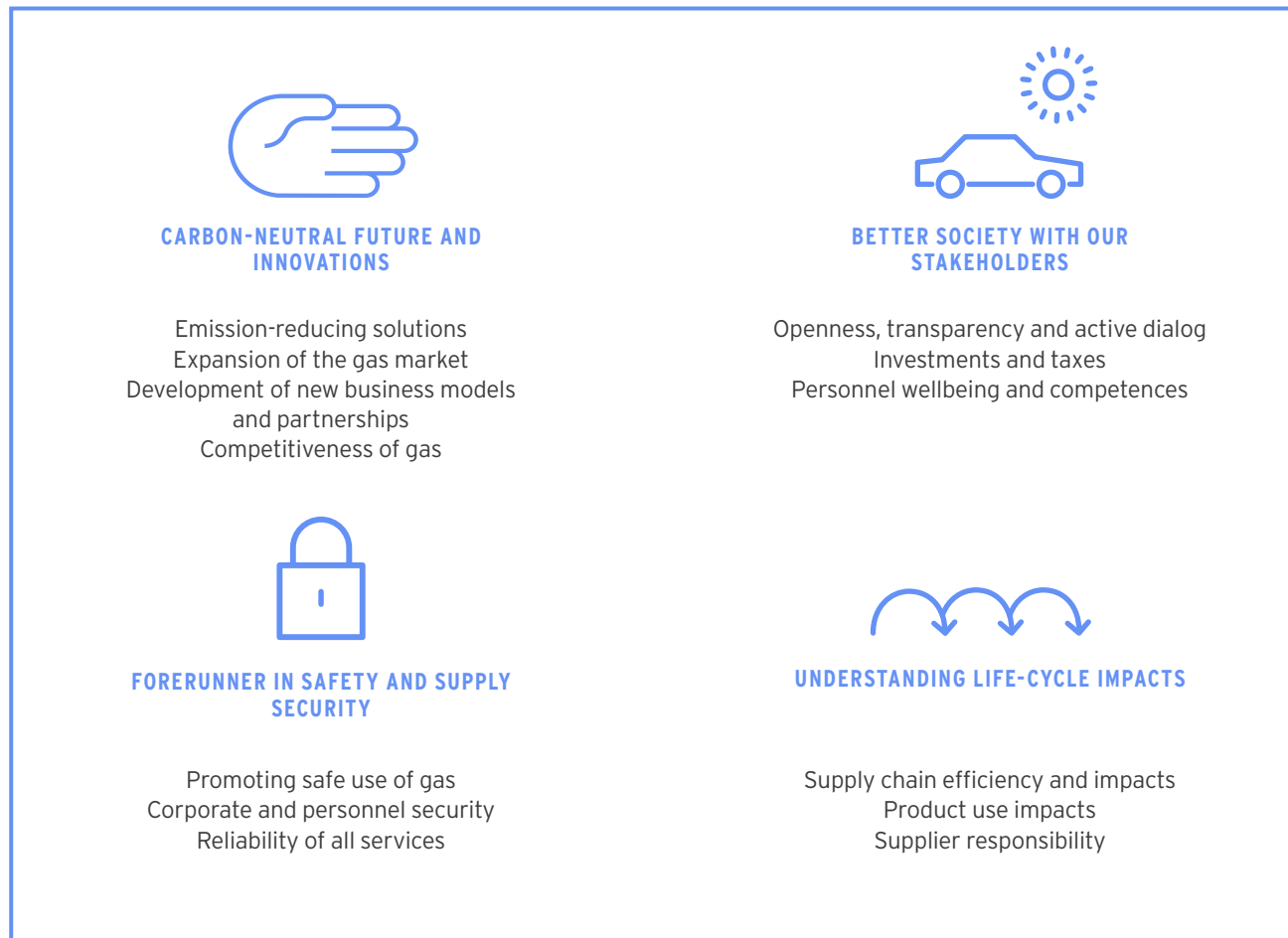
Due to our new strategy and the changes that had taken place in Gasum, in autumn 2015 we decided to update our Corporate Responsibility Program, including the reviews of the corporate responsibility themes and aspects. The links between strategy and corporate responsibility became clearer in the updating process, which consisted of personnel surveys and expert and management workshops. The review process resulted in minor changes in our materiality issues. The outcome was four themes consisting of 13 material aspects. The themes and aspects are presented on the following page.

The process employed in the determination and review of materiality is illustrated in the figure below. Our work to update the Corporate Responsibility Program will continue further in 2016 and include a review of our corporate responsibility objectives. Our corporate responsibility themes and aspects will be taken into account in the updating process.

## Definition of materiality



## Gasum's corporate responsibility themes



### ASPECT INDICATORS (G4-18, G4-19)

In 2014 we determined our material corporate responsibility themes as well as the related aspects and indicators in line with the Core level of the GRI G4 Sustainability Reporting Guidelines. Material aspects were evaluated on the basis of how each aspect affects our ability to generate value through our business and of our own views and the views of our stakeholders concerning materiality. We selected a total of 20 indicators for our material aspects. In the 2015 review we

included the Oil and Gas Sector Disclosures indicator G4-OG14, Volume of biofuels produced and purchased meeting sustainability criteria, in our reporting.

The following table summarizes our material sustainability themes, aspects and related indicators. The table presents the material aspects in accordance with the G4 guidelines, the grounds for their selection, reporting boundaries and indicators.

## Aspects and selected indicators for Gasum's corporate responsibility (G4-18, G4-19)

CARBON NEUTRAL FUTURE AND INNOVATIONS	BETTER SOCIETY WITH OUR STAKEHOLDERS	FORERUNNER IN SAFETY AND SUPPLY SECURITY	UNDERSTANDING LIFE-CYCLE IMPACTS
<b>Emission-reducing solutions</b> <ul style="list-style-type: none"> <li>OG3 Total amount of renewable energy generated by source</li> </ul>	<b>Openness, transparency and active dialog</b> <ul style="list-style-type: none"> <li>S06 Total value of political contributions by country and recipient</li> <li>S08 Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations</li> <li>PR5 Results of surveys measuring customer satisfaction</li> </ul>	<b>Promoting safe use of gas</b> <ul style="list-style-type: none"> <li>No indicator – reported in another manner on pp. 27-29</li> </ul>	<b>Supply chain efficiency and impacts</b> <ul style="list-style-type: none"> <li>EN3 Energy consumption within the organization</li> <li>EN8 Total water withdrawal by source</li> <li>EN15 Direct greenhouse gas emissions (Scope 1)</li> <li>EN21 NOx, SOx and other significant air emissions</li> <li>EN23 Total weight of waste by type and disposal method</li> <li>EN29 Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations</li> <li>EN34 Number of grievances about environmental impacts filed, addressed and resolved through formal grievance mechanisms</li> <li>OG14 Volume of biofuels produced and purchased meeting sustainability criteria</li> </ul>
<b>Expansion of the gas market</b> <ul style="list-style-type: none"> <li>OG3 Total amount of renewable energy generated by source</li> </ul>	<b>Investments and taxes</b> <ul style="list-style-type: none"> <li>EC1 Direct economic value generated and distributed</li> <li>EC4 Financial assistance received from government</li> <li>EC7 Development and impact of infrastructure investments and services supported Tax footprint</li> <li>Tax footprint</li> </ul>	<b>Corporate and personnel security</b> <ul style="list-style-type: none"> <li>LA5 Percentage of total workforce represented in formal joint management-worker health and safety committees that help monitor and advise on occupational health and safety programs</li> <li>LA6 Type and rates of injury, occupational diseases, lost days and absenteeism and total number of work-related fatalities, by region and by gender</li> <li>LA16 Number of grievances about labor practices filed, addressed and resolved through formal grievance mechanisms</li> </ul>	<b>Product use impacts</b> <ul style="list-style-type: none"> <li>No indicator – reported in another manner on pp. 34-35</li> </ul>
<b>Development of new business models and partnerships</b> <ul style="list-style-type: none"> <li>No indicator – reported in another manner on pp. 16-18</li> </ul>	<b>Personnel wellbeing and competences</b> <ul style="list-style-type: none"> <li>LA1 Total number and rates of new employee hires and employee turnover by age group, gender and region</li> <li>LA9 Average hours of training per year per employee by gender and by employee category</li> <li>LA12 Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity</li> </ul>	<b>Reliability of all services</b> <ul style="list-style-type: none"> <li>No indicator – reported in another manner on p. 29</li> </ul>	<b>Supplier responsibility</b> <ul style="list-style-type: none"> <li>No indicator – reported in another manner on p. 34</li> </ul>
<b>Competitiveness of gas</b> <ul style="list-style-type: none"> <li>No indicator – reported in another manner on pp. 16-18, 6</li> </ul>			



Material aspects in accordance with G4 guidelines identified, grounds for selection, boundaries and reported indicators (G417, G4-21)

MATERIAL ASPECTS IN ACCORDANCE WITH G4 GUIDELINES IDENTIFIED	GROUND FOR ASPECT SELECTION, FOCUS AREAS	ASPECT BOUNDARY WITHIN THE ORGANIZATION	ASPECT BOUNDARY OUTSIDE THE ORGANIZATION	REPORTED INDICATORS
<b>Economic responsibility</b>				
<b>Economic Performance</b>	Competitiveness, supply security, profitability, investments and economic impacts	Gasum Group		G4-EC1, G4-EC4
<b>Indirect Economic Impacts</b>	Competitiveness, supply security, profitability, diversification of gas infrastructure and expansion of gas use	Gasum Group		G4-EC7
<b>Environmental responsibility</b>				
<b>Energy</b>	Emission-reducing solutions	Gasum Group excl. Skangas, excl. rental properties		G4-EN3
	Emission-reducing solutions	Gasum Group, excl. Skangas, excl. volume of biogas injected into Gasum network		G4-OG3
<b>Water</b>	Efficiency and environmental impacts of the supply chain Emission-reducing solutions	Gasum Group excl. Skangas		G4-EN8
<b>Emissions</b>	Efficiency and environmental impacts of the supply chain Emission-reducing solutions	Gasum Group, excl. Skangas, excl. rental properties	Supply chain and use	G4-EN15, G4-EN21
<b>Effluents and Waste</b>	Efficiency and environmental impacts of the supply chain	Gasum Group excl. Skangas		G4-EN23
<b>Compliance</b>	Efficiency and environmental impacts of the supply chain Compliance with legislation in all of our activities	Gasum Group		G4-EN29
<b>Environmental Grievance Mechanisms</b>	Efficiency and environmental impacts of the supply chain Grievance mechanism channel for our stakeholders to report any irregularities	Gasum Group		G4-EN34

MATERIAL ASPECTS IN ACCORDANCE WITH G4 GUIDELINES IDENTIFIED	GROUNDS FOR ASPECT SELECTION, FOCUS AREAS	ASPECT BOUNDARY WITHIN THE ORGANIZATION	ASPECT BOUNDARY OUTSIDE THE ORGANIZATION	REPORTED INDICATORS
<b>Social responsibility</b>				
<b>Employment</b>	Responsible employer and respected employer that attracts employees and achieves their commitment	Gasum Group, excl. contractors, consultants and other service providers		G4-LA1
<b>Occupational Health and Safety</b>	Safety and security of personnel and partners Workplace providing personnel with safety and wellbeing	Gasum Group, excl. Skangas, excl. contractors, consultants and other service providers		G4-LA5
	Safety and security of personnel and partners Workplace providing personnel with safety and wellbeing	Gasum Group, excl. Skangas, excl. contractors, consultants and other service providers		G4-LA6
<b>Training and Education</b>	Interesting career and development opportunities for continuous competence development Competencies required for strategy implementation	Gasum Group, excl. Skangas, excl. contractors, consultants and other service providers		G4-LA9
<b>Diversity and Equal Opportunity</b>	Responsible employer: diversity and equality	Gasum Group, excl. contractors, consultants and other service providers		G4-LA12
<b>Labor Practice Grievance Mechanisms</b>	Responsible employer, safety and security of personnel and partners Channel for reporting any irregularities	Gasum Group, excl. contractors, consultants and other service providers		G4-LA16
<b>Public Policy</b>	Openness, transparency and active dialog in society	Gasum Group		G4-S06
<b>Compliance</b>	Openness, transparency and active dialog Compliance with legislation in all of our activities	Gasum Group		G4-S08
<b>Emergency Preparedness</b>	Safety and security of personnel and partners Workplace providing personnel with safety and wellbeing Supply security	Gasum Group, excl. Skangas		
<b>Product and Service Labeling</b>	Openness, transparency and active dialog Customer satisfaction is the prerequisite for our business	Gasum Group		G4-PR5
<b>Fossil Fuel Substitutes</b>	Efficiency and environmental impacts of the supply chain	Gasum Group, excl. Skangas	Supply chain and use	G4-OG13

# CARBON-NEUTRAL FUTURE AND INNOVATIONS

- *The focus of our research and development (R&D) in 2015 was on explorations of Gasum's roadmap as regards the transition to a carbon-neutral society by 2050.*
- *Open innovation was promoted through the Gasum innovation competition and the #HackTheGas hackathon.*
- *Kesko grocery trade, Gasum, Myllyn Paras and Wursti entered into cooperation where biogas produced from biowaste collected from retail outlets is utilized as energy in the manufacture of new Pirkka food products.*

The objective of Gasum's research, development and innovation (RD&I) activities is to promote sustainable development and the creation of a Nordic gas ecosystem. Our key long-term RD&I goal of is to promote the transition to a carbon-neutral society. We want to stay involved in solutions that play a role in action against climate change.

This will take place through the provision of sustainable gas solutions. These include the production of bio- and waste-based fuels, provision of energy-efficient solutions to customers, and the diversification and expansion of the gas market. We are developing a smart gas system in the Nordic countries and continuously looking for new types of business models and partnerships. It is through measures like these that we seek to improve the competitiveness of gas in the energy market.

## OPPORTUNITIES PROVIDED BY GAS

The focus of our R&D in 2015 was on explorations of Gasum's roadmap as regards the transition to a carbon-neutral society by 2050. This has involved work including mapping out various technology routes. On the basis of the Carbon-Neutral Roadmap, opportunities as well as development needs were identified in Gasum's operations.

Gas can facilitate society's transition into carbon neutrality by replacing more polluting fuels. Opting for gas in the right uses helps reduce society's total greenhouse gas emissions. For example, reversing the fuel dispatch order in heat and power generation by using natural gas instead of coal results in positive action for carbon neutrality and energy efficiency without any additional investments. Gas also provides potential for emission cuts in transport and industry. LNG is the most competitive and cleanest shipping fuel and enables a cleaner future for shipping as well as in uses outside the natural gas pipeline network. Produced from a variety of raw materials, renewable biogases make a carbon-neutral and local gas ecosystem a reality. Renewable gas can be transmitted using the existing energy-efficient gas system and used for the same purposes as natural gas without any alterations required. Renewable biogas is key to our achievement of carbon neutrality.

## ACTIVE INNOVATION

Gasum maintains active internal and external innovation processes. The development of new business models and solutions is supported by several innovation channels. Our most important in-house innovation forum is the INTO blog where our personnel can post ideas, observations, problems and questions as well as examples about opportunities presented elsewhere. In 2015 we developed and introduced 'From idea to profitable reality', an in-house process and way of working that aims to maximize efficiency in the evaluation and execution of ideas. It provides everyone at Gasum an open channel to submit their ideas for two-tier evaluation, with the ideas regarded as feasible taken into use in compliance with the Gasum project management process.

## INNOVATION WITH STAKEHOLDERS

Gasum is seeking solutions through open innovation. In 2015 open innovation was promoted through the Gasum innovation competition that focused on gas solutions for road transport and with the #HackTheGas hackathon themed on digital services.

In spring 2015 Gasum organized two workshops for the further processing of solutions shortlisted in the innovation competition launched in 2014 to which a total of 130 ideas were submitted. In June the jury selected the winner: the BIOBOKSI team's idea facilitating the use of biogas as a road transport fuel outside the gas network. Representing BioGTS Ltd and comprising Anni-Mari Lehtomäki and Mika Rautiainen, the BIOBOKSI team's winning innovation is based on patented biogas reactor technology where bioeconomy is combined smoothly with reductions in road transport emissions. The innovation features a business model where the production, upgrading and distribution of biomethane is taken directly to sites alongside transport routes.

The winning team received the grand prize of €75,000. The idea also won the public online vote. The second prize and €25,000 went to the ProGas team for the idea on how to facilitate the gas conversion of gasoline-fueled cars in order to make a less expensive and more ecological road vehicle option accessible to more people. In addition, an honorary



mention was given to the Weegas team for its idea on how to increase the use of gas carpooling.

The members of the jury were Chairman of Gasum Supervisory Board Juha Rantanen, Professor Petri Parvinen (Helsinki University and Aalto University Department of Industrial Engineering and Management), Professor Kalevi Ekman (Aalto University Department of Engineering Design and Production), Mighty Eagle Peter Vesterbacka (Rovio Entertainment), Board Member Jaakko Lehtonen (Dodo) and, representing Gasum, CEO Johanna Lamminen, Vice President Sari Siitonen and Business Development Manager Jussi Vainikka.

In autumn 2015 Gasum and the innovation platform startup IndustryHack hosted the #HackTheGas hackathon where 40 coders in 13 teams developed digital products and services based on Gasum's in-house data. The event brought the coders together in the Kouvola Natural Gas Centre to learn about Gasum's operations and compete in the development of the best solution. #HackTheGas sharpened the Gasum objective to utilize digital solutions efficiently in practical applications.

The winning team, Nortal, developed a solution called Filling it Up. The application makes it easier for gas vehicle users to monitor and optimize their gas consumption, reduce their carbon footprint and find the nearest gas filling station while on the road. The winning team received a prize of €2,000. The hackathon jury comprised Ville Riikkala and Pekka Sivonen from IndustryHack and Teemu Helistekangas, Sari Siitonen and Ari Suomilammi from Gasum.

#### STEPS FORWARD IN BUSINESS AND STRATEGY DEPLOYMENT (G4-OG3)

Gasum has made determined efforts in strategy deployment by developing the natural gas, biogas and LNG business. An upgraded biogas production facility, gas network connection and around 9 km of gas pipeline will be constructed in cooperation between Gasum and Biotehdas at the Ekokem Circular Economy Village in Riihimäki, Finland. To be completed in 2016, the Riihimäki biogas facility will have an annual production potential of 50 GWh, which corresponds to the annual energy need of 4,500 cars or 2,000 detached houses. Renewable and 100% Finnish, the biogas produced at the Circular Economy Village will be easily accessible in the area covered by the gas network. This investment by Biotehdas and Gasum will enable the direct network injection of renewable and 100% Finnish biogas from the Ekokem Circular Economy Village for use by a variety of customers in sectors such as transport, heat production, industrial processes, property heating and gas cooking. The investment will increase the annual volume of biogas injected into the Gasum gas network considerably from the current level to around 130 GWh.

The Ministry of Employment and the Economy (MEE) listed the Riihimäki biogas facility project as one of the Government's key projects aimed at bringing the Finnish economy to a path of sustainable growth and rising employment. During the construction phase the Circular Economy Village will provide around 100/120–160 full-time equivalents of employment and, once completed, will have 20–30 employees, with 4–6 of these working at the biogas production facility. In early 2016 the MEE granted energy support at

#### Gasum's key research and development themes:

**RENEWABLE GAS** • Key areas in this theme include biogas produced using anaerobic digestion, its raw materials and pre-treatments, wood-based biogas produced using gasification (bio-SNG) and power-to-gas (P2G) economy (hydrogen and methane).

**NEW OPPORTUNITIES OF GAS** • Key areas in this theme are the flexibility required by the use of renewable energies, such as storage issues, and changes in energy systems, such as increasingly distributed energy production.

**ENERGY EFFICIENCY AND ENVIRONMENTAL FRIENDLINESS** • Key areas in this theme are the energy efficiency issues of the supply chains of gases and the environmental impacts of the supply chains.

€1.45 million for the Gasum contribution to the project – an entity covering the upgrading of biogas and the connection to the gas network with a gas pipeline that is around 9 km in length.

In October the Biogas Label was launched by Gasum. The label communicates to consumers that the product was made with 100% Finnish biogas. The right to carry the Biogas Label will only be awarded to products and product groups made with biogas or services in the production of which Finnish biogas is utilized. Kesko grocery trade, Gasum, Myllyn Paras and Wursti have entered into cooperation where biogas produced from biowaste collected from retail outlets is utilized as energy in the manufacture of new Pirkka food products. Biowaste from almost 100 K-food retailer outlets in the Uusimaa region as well as the Keslog warehouses in Hakkila, Vantaa, is taken to the Labio biogas plant in Lahti, from where the biogas produced is transmitted via the Gasum gas network to Myllyn Paras and Wursti production facilities and used to make Pirkka brand food products. The Biogas Label was awarded in 2015 to companies including Paulig, Kouvolaan Lakritsi, Wigren, Myllyn Paras and Marwe.

A total of 76 GWh of renewable and 100% Finnish biogas was injected into the Gasum gas transmission network in 2015 (2014: 34 GWh). The volume of biogas increased considerably as the latest biogas plant at Kujala, Lahti, was operational throughout the year.

In April the topping out ceremony of the Skangas LNG terminal took place in Tahkoluoto, Pori. Skangas is constructing an LNG terminal in the Tahkoluoto, Pori, oil and chemicals harbor as well as a natural gas connection pipeline from the terminal to a nearby industrial park. Due for completion in August 2016, the terminal will be the first LNG import terminal in Finland. The employment effect of the construc-

tion project is estimated to be 250 full-time equivalents of employment.

Following negotiations conducted for almost two years, Gasum and the Russian gas company Gazprom Export reached an agreement on the supply of gas in December 2015. According to the agreement, the price linkage of the supply price of gas to oil will be lessened, resulting in a slight decrease of the basic price used in price calculations from the level applied before. This will increase the predictability of the price of gas imported to Finland and ensure that it will remain price competitive in the European context.

#### IMPORTANT ROLE PLAYED BY RESEARCH NETWORKS

Gasum is an active player in national research networks. Research has taken place in several research programs of CLIC Innovation Ltd (formed through the merger of the Cluster for Energy and Environment, CLEEN Ltd, and the Finnish Bioeconomy Cluster, FIBIC Ltd). In the Measurement, Monitoring and Environmental Efficiency (MMEA) program Gasum developed a method for the assessment of the environmental impacts of the gas supply chain, while the Sustainable Bioenergy Solutions for Tomorrow (BEST) program identifies opportunities and new solutions for the bioenergy economy. The objective of the Efficient Energy Use (EFEU) program is to explore energy-efficient energy systems of the future.

As a member of the Climate Leadership Council (CLC), Gasum participates in the working groups on communica-

tions, transport, construction, renewable energy and carbon footprint. Gasum has also worked on the business opportunities relating to the biogas ecosystem with the Finnish Innovation Fund Sitra.

Gasum is also involved in other research consortiums. Launched in 2014, the Neo-Carbon Energy project looks into the opportunities to achieve an emission-free energy system without nuclear power and carbon dioxide capture. One of the key areas is research into power-to-gas (P2G) technology to generate information on how methane can be produced with solar and wind power and the gas system could be used for energy storage.

#### GASUM GAS FUND

We support national research, development and innovation every year through the Gasum Gas Fund. The Gas Fund is one of the special funds administered by the Finnish Foundation for Technology Promotion (TES). In 2015 seven grants were given out from the fund, totaling €49,000 (2014: 95,500).

#### INTERNATIONAL NETWORKS

Gasum also keeps up-to-date on international research in the gas sector. In 2015 Gasum was a member of organizations including the European Gas Research Group (GERG) and European Pipeline Research Group (EPRG).

# BETTER SOCIETY WITH OUR STAKEHOLDERS

- In February 2015 Gasum proposed an alternative tax model for Finland's fuel tax reform that would steer towards the use of low-emission fuels and reduce the use of coal, take Finnish combined heat and power (CHP) production in a more energy-efficient direction and promote self-sufficiency in electricity generation.
- Gasum received 11.7 million in investment support from the Ministry of Employment and the Economy for the construction of the Pori LNG terminal in 2015.
- Gasum's Management Team, organization, management system and meeting practices underwent reforms during 2015.

## Active stakeholder cooperation

Cooperation with stakeholders is key to Gasum's success. We communicate actively, transparently and through active dialog and seek to highlight the benefits of gas.

### STAKEHOLDERS (G4-24, G4-25)

All of our stakeholders play a major role in the development of our operations and operational capacities. Gasum's most important stakeholders were identified during our strategy formulation process and are shown in the figure.

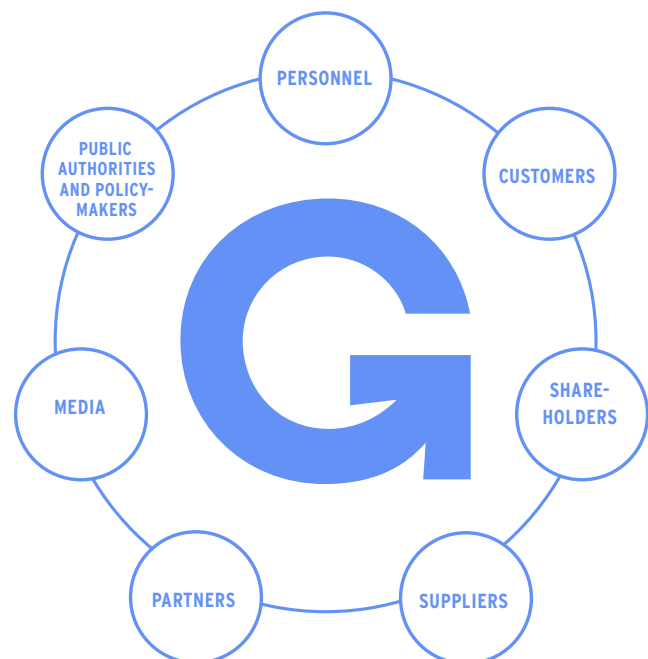
The most important one of these groups is our customers. Public authorities and policy-makers relevant to us can be found at various levels from local and national to EU institutions. Research and development organizations, startups, consultants and subcontractors are important partners for us. Information about our company and activities is also requested by several educational institutions and students, with whom we cooperate in various ways.

We seek to ensure continuous stakeholder cooperation by organizing meetings, seminars, visits, press conferences and neighborhood events as well as by participating in trade fairs. Our representatives also speak at seminars and other events about the gas sector and the opportunities provided by it.

### OPEN AND EFFECTIVE COMMUNICATIONS (G4-26)

The objective of Gasum's communications is to achieve speedy, open, effective and interactive communications. Both our external and internal communications take place in a planned and target-oriented manner. The strategic goal of our communications is to support the implementation of Gasum's strategy and objectives. In addition, it is also important to increase the attractiveness of the gas sector and Gasum as an employer as well as related awareness. The strategic objective of our internal communications is to achieve personnel commitment to Gasum's objectives and change-oriented projects by providing enough information about our activities and objectives as well as to strengthen our corporate culture and increase a sense of community among our staff. Our use of

## Our most important stakeholder groups



diverse communication channels ensures our stakeholders', customers' and personnel's opportunities to obtain information about all issues that are current and interesting to them.

In 2015 Gasum Communications published almost a hundred media releases and news items in our news stream via channels including websites, social media and press release distribution service. We engaged in active media work during the year.

Our company's communications are two-directional processes that, in addition to information provision, also consist of active and diverse interaction with our various stakeholders. Our communications organization consists of Communications, Marketing, Public Affairs and Customer Service, with the synergies created increasing communications efficiency and supporting each other.

#### CUSTOMER SATISFACTION SURVEY IMPORTANT PART OF SERVICE DEVELOPMENT (G4-26, G4-27, G4-PR5)

At Gasum we study stakeholder opinions about our operations using a customer survey to find concrete and hands-on ways to improve the customer experience and service quality. The 2015 customer satisfaction survey was an online questionnaire for the customers of our energy services company, Gasum Energiapalvelut Oy, where the focus was on installation services in particular. Our Net Promoter Score (NPS) is quite high, which means our current customers are prepared to recommend Gasum as a cooperation partner. Customers have been very satisfied with the ease of contacting us and the quality of our customer service. Gasum's installation staff have received a lot of positive feedback about the good quality of their work and their competence in providing customers with guidance about new appliances installed. According to the survey findings, residential customers hoped to be also able to book installations for weekday evenings and to get more information about changes relating to delivery times. The studies were conducted in 2015 by MainIdea.

Customer satisfaction among Gasum's largest customers is studied around once every two years. The latest survey is from autumn 2014, and the next one will take place in autumn 2016. Our sales managers keep in touch with the largest customers around the year. Customer satisfaction and feedback is monitored in many ways, including through customer service and one-to-one contacts between the surveys. All customer feedback is entered into the CRM system.

Skangas commissions a customer satisfaction survey among all of the customers of its operating area every year. According to the 2015 survey, the level of customer satisfaction was good and improved in comparison with 2014. Customers provided feedback on issues including the development of information provision. The results of the customer satisfaction survey will be taken into account in product and service development.

#### GAS IS BUILDING A BRIDGE TO CARBON-NEUTRAL SOCIETY (G4-26)

Gasum engages in active dialog with various stakeholder groups. Our key message has been to communicate about the opportunities offered by gas and gas infrastructure when moving toward a carbon-neutral society.

One of our societal advocacy themes has been the need to reform Finnish energy taxation. In February 2015 Gasum proposed an alternative tax model drawn up in cooperation with Gaia Consulting for Finland's fuel tax reform that would steer towards the use of low-emission fuels and reduce the use of coal, take Finnish combined heat and power (CHP) production in a more energy-efficient direction and promote self-sufficiency in electricity generation. Gasum discussed the tax proposal actively with the various stakeholder groups throughout the year.

Renewable 100% Finnish biogas plays a key role in one of today's megatrends – resource wisdom – represented by developments such as circular economy. Increased biogas production will create new jobs in Finland and opportunities for the development of Finnish environmental technologies and expertise. In the transport sector biogas is an efficient way to cut down carbon dioxide emissions from transport and reduce harmful fine particulate emissions, especially in urban

environments. The production of and opportunities provided by biogas have played a key role in Gasum's advocacy work.

Liquefied natural gas (LNG) is diversifying the Finnish gas market and offers a competitive and low-emission alternative to oil-based fuels for industrial operators outside the gas pipeline network and for road and maritime transport. Together with Skangas, Gasum has informed stakeholders actively about the LNG infrastructure being constructed in Finland and its positive impacts on the Nordic energy market.

We have also communicated to stakeholders about the smart energy solutions enabled by the gas infrastructure. In the future the Finnish gas infrastructure can be used increasingly for storage of renewable energy and for load leveling for consumption peaks.

We have continued our participation in the drafting of the new Natural Gas Market Act and the regulatory framework. We have also been included in working groups led by Finnish ministries to consider issues relating to transport and biofuels.

#### POLITICAL CONTRIBUTIONS (G4-S06)

Gasum and Skangas do not provide support to political parties or contribute to election campaigns of individual candidates. In 2015 Gasum carried out advocacy work in Finland and Brussels with Miltton. The total value of this advocacy cooperation in Brussels was around €50,000. The amount is based on figures reported to the EU Transparency Register.

#### GASUM IS INVOLVED IN SOCIETAL UNDERTAKINGS (G4-15, G4-26)

Gasum has made a commitment to programs promoting sustainable development and energy efficiency and projects supporting environmental protection. In 2015 we continued our participation in the activities of the Climate Leadership Council (CLC). Members of the CLC share a will to take action to curb climate change and set an example for other enterprises to do the same. This consortium of leading Finnish companies was founded by the Finnish Innovation Fund Sitra, Caverion, Fortum, KONE, Neste, Outotec and St1.

In 2014 Gasum joined the Blue and White Footprint campaign for Finnish work implemented by the Association for Finnish Work, K-Group retailers (K-citymarkets, K-supermarkets, K-markets and K-extras as well as Rautia and K-rauta building and home improvement stores), Finnish food manufacturers, non-food industry as well as building and renovation companies. The campaign reminds consumers about the importance of their consumption choices for the Finnish economy. Gasum will continue to take part in the campaign with the Gasum Biogas Label in 2016.

Gasum has made a commitment to improve the state of the Baltic Sea through the Baltic Sea Action Group (BSAG). Gasum's commitment is to create opportunities for the use of a clean fuel – liquefied natural gas (LNG) – as a shipping fuel. In addition, Gasum is a member of the Climate Partners network of the City of Helsinki and local businesses. The Climate Partners make a commitment to reduce their greenhouse gas emissions by increasing their operational efficiency and offering better products and services to curb climate change. Gasum made a commitment to move towards a carbon-neutral society and produce, market and sell biogas for transport, industry, heat and power production, and homes. We also made a commitment to promote opportunities to utilize



renewable biogas in energy production and public transport in the Helsinki Metropolitan Area in cooperation with our partners. As a member of the Zero Accident Forum we are committed to developing workplace health and safety.

We have also made a commitment to the voluntary Energy Efficiency Agreement for Industries under the Energy-Intensive Industry Action Plan. Enterprises implementing the Action Plan are committed to increasing the efficiency of their energy use and incorporating the energy efficiency system into their management systems. The Responsible Care Initiative of the Chemical Industry Federation of Finland is an international program supporting sustainability. Its key themes are the sustainable use of natural resources, the sustainability and safety of production and products, the wellbeing of employees, and open dialog and cooperation.

All types of Gasum biogas were awarded the Nordic Ecolabel in 2015, while previously the label had only been awarded for transport use of biogas. The Nordic Ecolabel is the official ecolabel in the Nordic countries. It indicates that biogas is among the best in the market from the environmental viewpoint and is used to steer consumers and other buyers towards making choices that are wise from the environmental perspective. All Gasum biogas has also been awarded the Made in Finland Key Flag Symbol of the Association for Finnish Work, which helps consumers opt for the Finnish choice. The criteria and requirements set for the labels as regards the product's environmental friendliness in comparison with other corresponding products are reviewed every year.

#### ACTIVE INVOLVEMENT IN FINNISH AND INTERNATIONAL ORGANIZATIONS (G4-16, G4-26)

Gasum is a member of the Finnish Gas Association and the Bioenergy Association of Finland. As an employer Gasum is also a member of the Chemical Industry Federation of Finland. Gasum is a cooperation member of Finnish Energy Industries (ET). We are represented in the World Energy Council WEC Finland and the Energy Committee of the Confederation of Finnish Industries (EK).

Gasum also participates in the activities of international organizations in the energy and gas sector, including Eurogas, European Network of Transmission System Operators for Gas (ENTSO-G), Gas Infrastructure Europe (GIE), International Gas Union (IGU), European Federation of Energy Traders (EFET) and European Gas Research Group (GERG). Our membership in the European Pipeline Research Group (EPRG) ended at the end of 2015.

#### SPONSORSHIP AND DONATIONS

Our sponsorship activity mainly supports our regional visibility and cooperation with local actors. The aim is for Gasum to be regarded as a company that demonstrates local responsibility and is a good partner. Support funding was granted to several different recipients. These included junior activities of sports clubs in areas where Gasum has operations, and individual events. Students of universities and vocational education and training institutions received Gasum support through advertising on student attire and support to student guild activities. In 2015 the recipient of our biggest individual donation was the biogas project supported by UFF and the Finnish Ministry for Foreign Affairs in India, which received a Christmas donation from Gasum.

## Value generated and impacts on society

At Gasum economic responsibility means emphasizing profitability and competitiveness to implement corporate responsibility. By implementing economic responsibility we are able to generate economic value for shareholders in our countries of operation and be a reliable employer, investee and partner. Through investments and taxes we have an influence on the surrounding society.

#### FINANCIAL REPORTING AT GASUM

The economic impacts of Gasum's operations are analyzed by operating country – Finland, Norway and Sweden. Gasum provides quarterly financial reports and acts in compliance with legislation and general agreements. Gasum reports in compliance with the International Financial Reporting Standards (IFRS). Data for Skangas is included in the economic disclosures of this Corporate Responsibility Report.

#### ECONOMIC VALUE FOR STAKEHOLDERS (G4-EC1, G4-13)

Gasum is a major economic player in Finland, Sweden and Norway. We monitor the impacts and wellbeing generated by our activities continuously. The most significant direct cash flows in our operations arise from sales revenue, energy purchases including energy taxes, purchases of goods and services from suppliers, payments to providers of capital and shareholders, growth and maintenance investments, personnel expenses, and taxes paid.

Gasum has an average of 319 employees. Salaries and remuneration affect private consumption, and taxes paid by personnel also contribute towards the generation of wellbeing in society.

Gasum is a fully state-owned company. On December 18, 2015 an agreement was signed between the State of Finland and OAO Gazprom on the transfer of Gazprom's 25% shareholding in Gasum to the State of Finland. The transaction was completed on January 15, 2016, which raised the State's ownership in Gasum to 100%. Our contributions to society include through paying dividends and taxes. These help safeguard the basic functions of the Finnish society and create further wellbeing. Capital expenditures as well as purchases of goods and services provide employment locally as well as outside our operating areas.

The table on the following page presents Gasum's cash flows to various stakeholders, such as personnel, providers of capital, suppliers, shareholders and the public sector. The years are not in all respects comparable with each other. Gasum sold its subsidiaries Gasum Paikallisjakelu Oy and Helsingin Kaupunkikaasu Oy in June 2015. The figures for them are included for the period they were still part of the Gasum Group. In May of the comparison year, 2014, Gasum acquired Skangas, a company operating in Sweden and Norway. Skangas is included in the comparison year figures for the period it was part of the Gasum Group. Gasum Eesti was disposed of in 2014. Its figures are not included in the disclosures for 2013 and 2014 as the impact on the figures is not material.

## Direct economic value generated and distributed

Economic value generated and distributed		TOTAL		
Economic value generated, € thousand		2015	2014	2013
Customers	Earnings from sales and purchases of products and services, including energy taxes	915,456	1,079,042	1,149,702
<b>Total economic value generated</b>		<b>915,456</b>	<b>1,079,042</b>	<b>1,149,702</b>
Economic value distributed				
Suppliers	Purchases of products and services	790,602	966,681	1,036,499
Personnel	Salaries, remuneration and employer's contributions	27,854	28,318	19,776
Financial institutions	Interest and other financial costs	24,653	11,042	6,309
Shareholders	Dividends*	20,002	17,914	40,015
Public sector	Taxes payable for the period and energy taxes of purchases	61,726	76,484	63,077
Community	Donations	18	20	16
<b>Total economic value distributed</b>		<b>924,856</b>	<b>1,100,459</b>	<b>1,165,692</b>
<b>Economic value retained</b>		<b>-9,400</b>	<b>-21,417</b>	<b>-15,990</b>

\*Dividends are presented on the basis of the financial statements for the previous period.

#### FINANCIAL ASSISTANCE RECEIVED FROM GOVERNMENT (G4-EC4)

Gasum received €11.7 million in investment support from the Ministry of Employment and the Economy for the construction of the Pori LNG terminal in 2015. Granted on September 18, 2014, the full amount of support totals €23 million. In addition, Gasum has received investment support at €2.2 million from the Finnish Ministry of Employment and the Economy for biogas investments and at €1.1 million from the European Union for the development of LNG refueling stations. Support received from Tekes - the Finnish Funding Agency for Innovation totaled €83,000 in 2015 (2014: €100,000).

#### DEVELOPMENT AND IMPACT OF INFRASTRUCTURE INVESTMENTS AND SERVICES SUPPORTED (G4-EC7)

Gasum supports development in society by paying taxes and employer contributions. Taxes paid by Gasum totaled €41.7 million in 2015. We also support research and development in the gas sector through the Gasum Gas Fund, focusing on the following areas in particular: renewable gas, new opportunities of gas, energy efficiency and environmental friendliness. Our R&D focus is particularly on support to forms of energy production that have low environmental impacts. In 2015 the Natural Gas Fund gave out seven grants, totaling €49,000 (2014: €95,500).

Total capital expenditure in 2015 amounted to €42.9 million (2014: €35.9 million) in Finland, €0.7 million (2014: €5.6 million) in Norway, and €2.0 million (2014: €10.0) in Sweden. Our total capital expenditure on fixed assets in 2015 amounted to €45.6 million (2014: €51.5 million). The figures include tangible and intangible assets. The majority of the capital expenditure focused on LNG terminal construction in Pori, Finland, and Lysekil, Sweden. The Gasum Group's capital expenditure is related to solutions supporting the gas sector and projects increasing the use of gas, and all outlays are evaluated from the sustainability perspective.

#### GASUM AS A TAXPAYER AND OUR TAX STRATEGY

Gasum's operations in the various countries and companies are managed on the basis of commercial principles with a view to business efficiency and profitability. We seek to manage and reduce any uncertainties relating to taxation.

Our aim is to manage tax issues in a manner enabling us to respond in time to future challenges and avoid any surprises. Taxation-related uncertainties are assessed on an annual basis. The Group's tax matters are managed and organized by the chief financial officer.

#### TAX FOOTPRINT

Gasum complies with the legislation in force concerning the payment, collection and remitting of and reporting on taxes. In our communications we wish to report transparently and reliably on taxes as well (see the table next page for quantitative tax data). In our internal tax monitoring we monitor taxes paid for Gasum as well as indirect taxes remitted. This classification is also applied in the table next page as regards taxes.

The tax footprint illustrates the taxes and tax-like payments received by society from our operations. Taxation-related responsibility is derived from Gasum's management principles.

We seek to increase transparency in our tax reporting and facilitate a good understanding of our tax footprint. We make sure all tax-related information required is reported on time and correctly to the tax authorities, shareholders and other parties. We participate continuously in the development of tax legislation and policies and want to be involved in the development of a fair, clear and consistent tax system. In February 2015 we published our tax model relating to the fuel tax reform to achieve emission reductions more cost-effectively.

The years are not in all respects comparable with each other. In June 2015 Gasum sold two of its subsidiaries, Gasum Paikallisyakelu Oy and Helsingin Kaupunkikaasu Oy, and in May 2014 Gasum acquired a majority holding in Skangas, a group operating in Sweden and Norway.

## Tax footprint

€ 1,000	FINLAND			NORWAY			SWEDEN			TOTAL		
Taxes paid	2015	2014	2013	2015	2014	2013	2015	2014	2013	2015	2014	2013
Corporation taxes	464	8,850	5,872	0	0	-	13	0	-	477	8 850	5,872
Asset-related taxes*	93	473	83	0	0	-	0	0	-	93	473	83
Employer's contributions	4,931	4,536	3,097	610	306	-	604	143	-	6,144	5,399	3,097
Other taxes and charges**	34,598	40,118	34,984	395	1,488	-	0	0	-	34,993	41,606	34,984
<b>Total taxes paid</b>	<b>40,086</b>	<b>53,978</b>	<b>44,036</b>	<b>1,005</b>	<b>1,794</b>	<b>-</b>	<b>617</b>	<b>143</b>	<b>-</b>	<b>41,708</b>	<b>56,329</b>	<b>44,036</b>
<b>Taxes collected</b>												
Value-added tax, sales	186,900	268,058	318,045	38,920	56,611	-	0	0	-	225,820	324,669	318,045
Value-added tax, purchases	30,124	42,315	50,735	35,836	27,094	-	24	0	-	65,985	69,410	50,735
<b>Value-added tax, net</b>	<b>156,775</b>	<b>225,743</b>	<b>267,310</b>	<b>3,084</b>	<b>29,517</b>	<b>-</b>	<b>-24</b>	<b>0</b>	<b>-</b>	<b>159,835</b>	<b>255,259</b>	<b>267,310</b>
PAYE deductions from salaries	5,978	5,869	5,892	1,003	684	-	438	34	-	7,418	6,588	5,892
Employee's social security contributions	1 211	1,103	1,062	407	0	-	377	247	-	1,994	1,350	1,062
Energy taxes, sales	60,154	64,238	55,884	0	0	-	0	0	-	60,154	64,238	55,884
Energy taxes, purchases	26,163	25,554	22,138	0	0	-	0	0	-	26,163	25,554	22,138
<b>Energy taxes, net</b>	<b>33,990</b>	<b>38,684</b>	<b>33,746</b>	<b>0</b>	<b>0</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>-</b>	<b>33,990</b>	<b>38,684</b>	<b>33,746</b>
Taxes at source	8	555	1,218	0	0	-	0	0	-	8	555	1,218
<b>Total taxes collected</b>	<b>197,962</b>	<b>271,954</b>	<b>309,228</b>	<b>4,493</b>	<b>30,201</b>	<b>-</b>	<b>791</b>	<b>282</b>	<b>-</b>	<b>203,247</b>	<b>302,437</b>	<b>309,228</b>
<b>Total taxes paid and collected</b>	<b>238,049</b>	<b>325,932</b>	<b>353,264</b>	<b>5,498</b>	<b>31,994</b>	<b>-</b>	<b>1,408</b>	<b>424</b>	<b>-</b>	<b>244,954</b>	<b>358,765</b>	<b>353,264</b>
Revenue by country	716,450	972,867	1,149,702	198,997	104,809	-	9	1,366	-	915,456	1 079,042	1,149,702
Profit before tax	127,412	26,534	23,823	-14,326	-25,689	-	-4,654	2,113	-	108,431	2,958	23,823
Personnel on average	274	281	273	31	31	-	15	7	-	319	319	273

\*Real estate tax and asset transfer tax

\*\*Includes strategic stockpile fee and carbon dioxide tax.

At December 31, 2015, the Gasum Group companies by country are as follows: Finland: Gasum Ltd, Gasum Energiapalvelut Oy, Gasum Tekniikka Oy, Skangas Ltd, Gas Exchange Ltd. Norway: Skangas AS. Sweden: Skangas Terminal Ab, Skangas Terminal Gävle Ab, Skangas Business Services Ab.

## Personnel wellbeing and competences

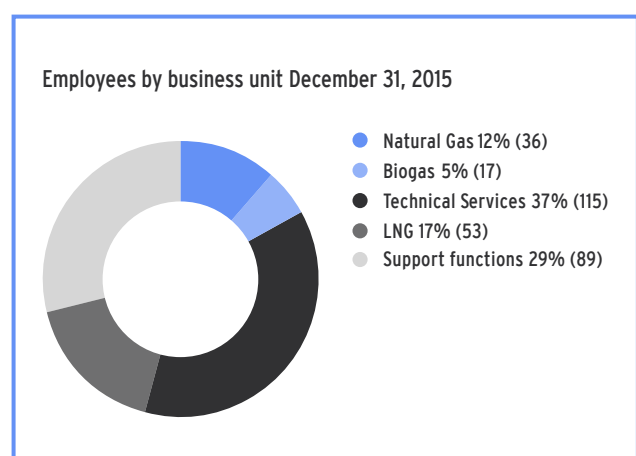
Our personnel is a key resource for us. Personnel wellbeing and competences are key factors in our promotion of social responsibility.

### MOST SIGNIFICANT PERSONNEL ISSUES IN 2015

Gasum's new strategy, vision and mission as well as our way of working, the Gasum Way, were introduced to our personnel in early 2015. After the summer changes also took place in our Group Management Team, organization, management system and meeting practices. The clarification of our direction and the setting of personal targets derived from that for each employee as well as their active monitoring have a major impact on wellbeing at work and therefore affected every Gasum employee in 2015.

### GOOD EMPLOYER (G4-9, G4-10)

Gasum wishes to be a respected and attractive employer. We are going through major changes in our operating environment as well as in terms of our business areas. Our operations



must be even more efficient and our employees' competencies must be enhanced continuously due to the changes taking place in our operating environment. We are investing in our employees' wellbeing and encourage personal competence development.

The purpose of human resources management is to make sure the company has competent, responsible and motivated employees. Gasum and Skangas had a total of 310 employees at the end of 2015: 88 were female and 222 male. Of these, 286 had a permanent contract and 24 had a fixed-term one.

Our business units are Natural Gas, Biogas, Technical Services, and LNG. Our support functions comprise Strategy, System Responsibility, Finance, Communications, and Legal Affairs and HR. A total of 221 employees work in our business units.

#### Number of employees by employment type and contract, region and gender

Number of employees by employment type and employment contract Dec 31	FEMALE		MALE		TOTAL	
	2014	2015	2014	2015	2014	2015
Number of employees	83	88	186	222	269	310
Permanent full-time	61	76	168	208	229	284
Permanent part-time	5	1	1	1	6	2
Fixed-term full-time	15	9	17	10	32	19
Fixed-term part-time	2	2	0	3	2	5

Total workforce by country and gender Dec 31, 2015	FINLAND	NORWAY	SWEDEN	TOTAL
Female	77	10	1	88
Male	187	18	17	222

#### Composition of governance bodies and breakdown of employees per employee category according to gender and age group

Composition of governance bodies Dec 31	FEMALE		MALE		TOTAL	
	2014	2015	2014	2015	2014	2015
Gasum Management Team <sup>1</sup>	3	4	5	7	8	11
Board of Directors <sup>2</sup>	2	2	3	2	5	4

<sup>1)</sup> With 5 aged 30-50 (2014: 6) and 6 aged 50+ (2014: 2)

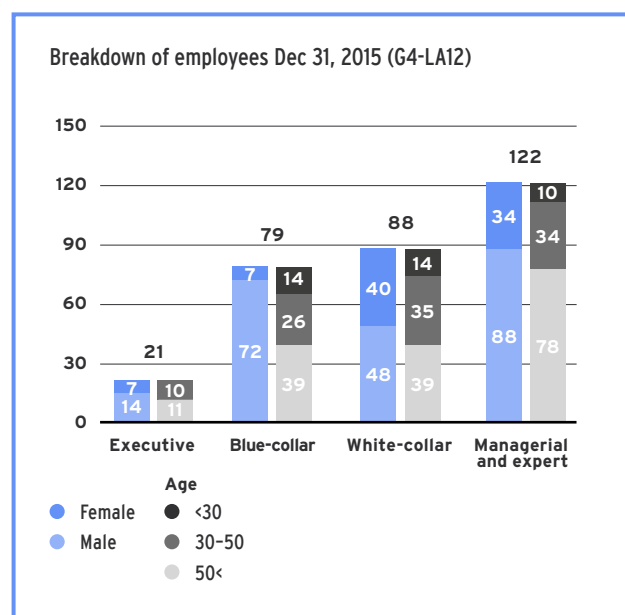
<sup>2)</sup> With 2 aged 30-50 (2014: 3) and 2 aged 50+ (2014: 2)

#### COMPOSITION OF GOVERNANCE BODIES AND BREAKDOWN OF EMPLOYEES PER EMPLOYEE CATEGORY (G4-LA12)

Employee-related issues are presented to the Gasum Group Management Team (GMT) by the Vice President for Legal Affairs and HR or, where necessary, by the HR Manager. There is no specifically appointed employee representative in the Gasum Board of Directors.

Regular meetings between senior management and personnel groups are held around four times a year. These meetings are attended by shop stewards of every employee category, the CEOs of Gasum Ltd and Gasum Tekniikka Oy, the Vice President for Legal Affairs and HR, and an employment relationships expert.

The graph on the right and the table above present the breakdowns of the Board of Directors, Group Management Team and other personnel by age and gender. Skangas is included in these figures.





**EMPLOYEE TURNOVER (G4-LA1)**

The exit rate of employee turnover is calculated by taking the number of permanent employees leaving the organization during the year and comparing it with the number of permanent employees at year-end. The entry rate is calculated by taking the number of permanent employees joining the organization during the year and comparing it with the number of permanent employees at year-end. The Gasum subsidiaries Gasum Paikallisjakele Oy and Helsingin Kaupunkikaasu Oy sold in June 2015 are included in the turnover figures. Their employees left Gasum in conjunction with the business disposals, contributing to the exit rate. Skangas is included in the turnover figures.

Gasum's exit rate was 9.44% and entry rate 9.79%.

**COMPETENCE DEVELOPMENT (G4-LA9)**

We focus on personnel competence development and learning in a sustained and target-oriented manner. Competence and performance development takes place through training and job rotation. To ensure the implementation of our strategy, we must operate with increased target orientation and our personnel competence development must be responsive and proactive as regards customer needs. The focal areas in our competence development are management and leadership skills, managerial work, sales competences, and project competences. Decisions on training supporting competences and skills are made at annual development discussions.

Most training is internal training and on-the-job learning, which is one of our most efficient methods of personnel competence development.

**Total number and rates of new employee hires and employee turnover by age group, gender and region**

Employee turnover 2015	FEMALE			MALE			TOTAL		
	Finland	Sweden	Norway	Finland	Sweden	Norway	Finland	Sweden	Norway
New permanent employment relationships	5	0	4	14	3	2	19	3	6
Terminated permanent employment relationships	10	0	1	11	1	1	21	1	2

1) In 2015 9 new employees under the the age of 30, 13 aged 30-50 and 6 aged 50+ were hired by Gasum.

2) In 2015 1 of those who resigned from Gasum was under the age of 30, 11 were aged 30-50 and 12 were aged 50+.

**Average training days per employee by employee category and gender**

Average training days	EXECUTIVE	MANAGERIAL AND EXPERT	WHITE-COLLAR	BLUE-COLLAR	TOTAL
Female	8	70	34	0	111
Male	54	122	42	59	277
Total	62	192	76	59	388

#### REWARDS IN ACCORDANCE WITH ACHIEVEMENTS

We have created a reward scheme for our employees to encourage everyone at Gasum to be proactive and contribute to the development of our operations toward the achievement of our common strategic objectives. In addition to the strategic objectives shared by all, the reward system also features personal targets.

Other incentives include once-off rewards, merit awards and the Gasum Employee of the Year competition.

#### ENTIRE STAFF IN FINLAND COVERED BY COLLECTIVE AGREEMENTS (G4-I1)

Everyone, excluding the CEO, with a contractual employment relationship with the Gasum Group in Finland is covered by a collective agreement. Managerial and expert staff (122 employees) come under the wages protocol signed between the Chemical Industry Federation of Finland and the Federation of Professional and Managerial Staff (YTN), other white-collar staff (88) under the collective agreement between the Chemical Industry Federation of Finland and the Trade Union Pro and blue-collar staff (79) under the agreement between the Chemical Industry Federation of Finland and Industrial Union TEAM.

#### HEALTH AND SAFETY AT WORK SUPERVISED BY COMMITTEES (G4-LA5)

Gasum personnel is represented in the official employee-employer committees supervising health and safety at work.

Each employee category is represented in the Health and Safety Committee. The Committee has six members, each of whom has a personal deputy. The employer is represented by two members. Matters are presented to meetings by the health and safety officer.

#### GRIEVANCES ABOUT LABOR PRACTICES (G4-LA16)

There were no grievances filed to labor or other courts involving Gasum or Skangas in 2015. Any grievances relating to labor practices are primarily reported to regional state administrative agencies, employee associations or shop stewards.

#### GASUM'S EQUALITY PLAN

The Finnish Non-discrimination Act was reformed in 2015. Following the amendments made, employees must evaluate the realization of equality in the workplace and take the necessary measures to improve working conditions and the procedures followed in employee selection and decisions concerning personnel.

Gasum is committed to the promotion of equality in its operations. Gasum's Equality Plan will be drawn up in early 2016, with the Gasum Code of Conduct, personnel and training plan and gender equality plan as well as employee surveys conducted in 2013 and 2015 utilized in the process. The status and realization of equality will be evaluated regularly in the future. The Equality Plan will be drawn up on the basis of employee figures for December 31, 2015.

# FORERUNNER IN SAFETY AND SUPPLY SECURITY

- *The supply security of natural gas remained at an excellent level in 2015. The amount of undelivered energy was 0.014 GWh at the annual level, which is very low in relation to the total volume of gas delivered.*
- *We launched a safety and security online course for Gasum personnel and partners in 2015.*
- *We also developed our preparedness for response to exceptional situations in collaboration with stakeholder groups. A preparedness exercise was organized in Kouvola by Gasum in cooperation with the natural gas division working under the Oil Pool of the National Emergency Supply Organisation (NESO).*

Safety, security and supply security are part of Gasum employees' professional skills and competence. We are determined to further improve the safe use of gas as well as corporate and personnel security. It is not by chance that the security of supply is so high – it is the result of commitment coupled with solid expertise. The high supply security also boosts the reliability of the services offered by us.

## DEVELOPMENT OF SAFETY AND SECURITY CULTURE

At Gasum we are systematically developing our safety and security culture. Safety and security form one of the cornerstones of our operations upon which everything we do is founded. Our objective is that no damage or accidents take place in our activities or the end use of natural energy gases. Our safety and security culture is characterized by proactiveness, identification, learning and determination. We will produce results together.

Gasum is a safe workplace, and safety has remained at a high level in the gas sector. We promote safety in the supply chain through our own example and through stakeholder cooperation. To safeguard our reputation, our products and services as well as the credibility of our operations, we work hard to promote overall safety and security. We also insist that our partners and subcontractors ensure a corresponding level of safety and security. This is required under our cooperation agreements.

## NEW ONLINE TRAINING LAUNCHED

We have launched an online safety and security training package aimed at our employees and partners. The course takes place in our online training environment, and learners can study the modules whenever suits them best. Completed by every Gasum employee, we use the course to provide information about the Gasum way of doing things and emphasize the importance of attitudes in safety and security. We will also utilize the online course in our partners' safety and security training.

The training helps us increase safety and security knowledge and competencies relating to gas and Gasum's operations. Those who have completed the online course will understand the importance of their own behavior in the

achievement of safety and security and that each of us have our individual role and responsibilities in safety and security work.

In addition to the new online training, every Gasum employee also receives occupational health and safety training in accordance with their role. This also applies to summer trainees in short-term employment with us.

## STAFF LUNCHES THEMED ON SAFETY AND SECURITY

In 2015 we introduced safety and security lunches for our staff to acknowledge every zero-accident month and good safety and security development achieved. These communal events are our way of promoting a positive safety and security culture by celebrating successes.

## OPEN SAFETY AND SECURITY REPORTING

We report openly about safety and security issues to our entire personnel via the intranet safety and security section. Communication about current safety and security issues takes place through our regular safety and security bulletins.

The promotion of safety and security plays a key role at Gasum. Safety and security has been included in our strategy as one of our strategic objectives. Progress made in Gasum's safety and security is reported to the Group Management Team on a monthly basis.

## PREVENTIVE SAFETY OBSERVATIONS

All Gasum employees use the Safety TAVA system for accident and risk management for action to prevent any occupational safety challenges, incidents and risks. Safety observations are entered in the system by the entire personnel. Careful analyses are conducted to prevent any corresponding events in the future and to develop our operations.

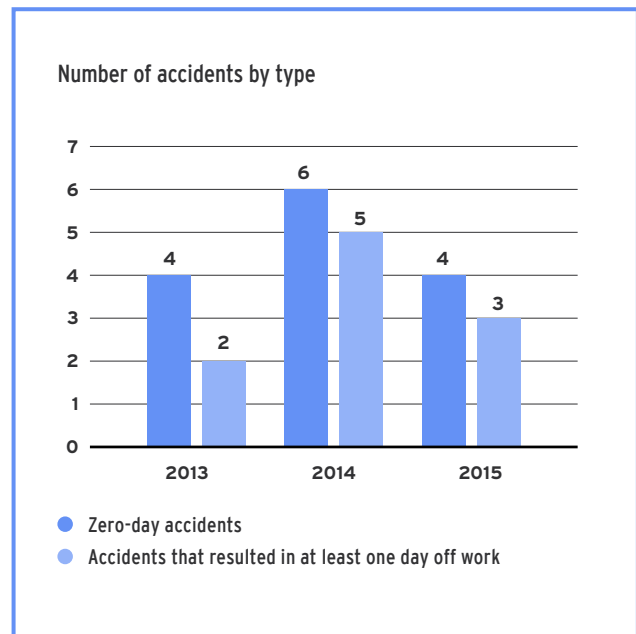
Safety observations play a key role particularly in our efforts to find ways of doing things that improve safety and areas in need of development. Our aim is to improve the qualitative aspects of the observations and collect a considerable number of safety observations. We have particularly sought to direct the observation process towards the identification of preventive and concrete corrective measures. In

2015 a total of 260 observations were made, resulting in 76 preventive or corrective measures.

We cooperate with our stakeholders and Group companies to find together the best safety and security practices that we will then introduce for Group-wide use.

#### OCCUPATIONAL HEALTH AND SAFETY AT GASUM IN 2015 (G4-LA6)

Gasum's ambitious safety target of zero accidents was not reached in 2015. There were 7 accidents at work during the year (2015: 11 accidents), with 3 of these resulting in at least one day off work. All incidents and accidents were investigated. None of the accidents resulting in days off work were classified as serious. Safety was improved from the year before, and the development trend is positive. The absentee rate remained low at 2.7% (2014: 2.9%).



Type and rates of injury, occupational diseases, lost days and absenteeism and total number of work-related fatalities by gender

	FEMALE		MALE		TOTAL AMONG EMPLOYEES	
	2014	2015	2014	2015	2014	2015
Absentee days in the reporting period (absence due to accident or disease)	587	428	1,381	1,373	1,968	1,801
Absentee rate	3.2	2.3	2.8	2.9	2.9	2.7
Occupational accidents during the reporting period	2	1	9	6	11	7
Lost days due to occupational accidents during the reporting period	2	3	256	308	258	311
Lost time injury frequency rate (per million hours worked)	16.1	8.6	27.5	18.9	24.3	16.1
Injury rate	0.01	0.02	0.52	0.65	0.39	0.47
Occupational disease rate	0	0	0	0	0	0
Work-related fatalities	0	0	0	0	0	0

$$\text{Absentee rate} = \frac{\text{Number of actual absentee days lost in the reporting period}}{\text{Total days scheduled to be worked in the reporting period}} \times 100$$

$$\text{Injury rate} = \frac{\text{Number of occupational injuries in the reporting period}}{\text{Total hours worked in the reporting period}} \times 1,000,000$$

$$\text{Lost day rate} = \frac{\text{Total lost days (due to occupational accident) in the reporting period}}{\text{Total number of hours scheduled to be worked in the reporting period}} \times 100$$

$$\text{Occupational disease rate} = \frac{\text{Number of occupational diseases}}{\text{Total hours worked in the reporting period}}$$



### SUPPLY SECURITY AT EXCELLENT LEVEL

The security of natural gas supply remained at an excellent level in 2015, and there was only one unplanned supply disruption. The amount of energy not delivered at the annual level was 0.014 GWh, which is very low in relation to the total amount of gas delivered. The undelivered energy corresponds to 0.00005% of the total gas supply volume. A few scheduled network alteration operations took place during the year, and their impacts on gas delivery were agreed with and communicated in advance to those affected by the work.

Gasum assesses any events affecting supply security, such as equipment malfunction, and analyzes any threats of delivery disruptions to prevent their escalation into actual disruptions. Gasum has the key professional competencies and operating models required for response to exceptional situations.

### PREPAREDNESS FOR EXCEPTIONAL SITUATIONS

Gasum is prepared for exceptional situations – including outside normal working hours – by having the required human resources as well as equipment in place. The management of exceptional situations is ensured by the Gasum Central Control Room, which is staffed around the clock and supported by on-call arrangements and resourcing for exceptional situations. Abnormal challenges have been taken comprehensively into account in the structures and use of technical systems. Preparedness for response and situation management are supported by operational and crisis communication guidelines and practices.

Continuous on-the-job training and regular exercises create the foundation for the management of exceptional situations. Training, competence, professional skills and practicing the skills acquired all go hand in hand. Possible incidents relating to natural gas are also covered by the guidelines concerning the operating models for the entire gas system in

case of disturbances and exceptional situations issued by the National Emergency Supply Organisation (NESO).

### PREPAREDNESS EXERCISE IN COLLABORATION WITH STAKEHOLDERS

We develop our preparedness for response to exceptional situations in collaboration with stakeholder groups. A preparedness exercise was organized in Kouvola on October 28, 2015 by Gasum in cooperation with the natural gas division working under the Oil Pool of the National Emergency Supply Organisation (NESO). The main theme of the exercise was measures in accordance with the EU Gas Security of Supply Regulation to safeguard security of gas supply. Particular attention was paid in the exercise to protected customers, i.e. consumer customers, and communications between the parties.

A total of 56 representatives from the Ministry of Employment and the Economy, NESO, the Finnish Safety and Chemicals Agency (Tukes), Fingrid, Finnish Gas Association, Finnish Petroleum and Biofuels Association, Finnish Defence Forces, Kymenlaakso Rescue Department, gas distribution companies and Gasum participated in the exercise. Conducted as a classroom exercise, the event featured high-quality presentations and discussions.

The objectives set for the exercise were reached, and almost all of Finland's gas distribution companies took part. The exercise brought together the key players in the sector and strengthened the dialog between the organizations. The conclusions of the exercise will be considered and the development of preparedness issues will be continued by the natural gas division working under the NESO Oil Pool and by Gasum's system responsibility functions.

# UNDERSTANDING LIFE-CYCLE IMPACTS

- *A life-cycle model for pipeline gas was developed in the Measurement, Monitoring and Environmental Efficiency (MMEA) program of CLIC Innovation Ltd by Gasum in cooperation with the Finnish Environment Institute (SYKE).*
- *Fugitive methane emissions from the natural gas transmission network were identified and measured by Gasum in 2015, and a repair plan was drawn up for the most significant leak sites.*
- *Gasum joined the Network for Sustainable Procurement.*

At Gasum it is important for us to understand our company's impacts on the environment and society. The efficiency and impacts of the supply chain, supplier responsibility, and impacts of product use are important issues from the responsibility perspective.

## LIQUEFIED BIOGAS NOW ALSO INCLUDED IN THE BIOGAS SUSTAINABILITY SCHEME (G4-OG14)

In autumn 2014 the Energy Authority accepted the operator's sustainability scheme of Gasum for the next five-year period. The sustainability scheme is based on the Renewable Energy Sources (RES) Directive (2009/28/EC) and the Finnish act on the sustainability of biofuels and bioliquids (393/2013).

Gasum's sustainability scheme applies to biomethane released for consumption as a transport fuel. In the sustainability scheme, compliance with criteria for origin is verified and the emission reduction for biogas compared with fossil fuels is calculated. The production plant and production time of gas consumed can be tracked through the certificate system. Gasum may issue sustainability certificates for batches of biofuels in proof of them meeting the sustainability criteria. In addition, Gasum must provide the Energy Authority with annual reports on issues relating to compliance with sustainability criteria concerning the batches of biofuels it released for consumption in the previous calendar year. In 2015 the sustainability scheme was expanded to also cover the liquefaction of biogas. Liquefied biogas (LBG) was delivered to customers in Sweden during 2015.

Gasum's upgraded biogas is compliant with the sustainability criteria in transport use as the biogas produced by us is made from waste and meets the 35% requirement for greenhouse gas emission savings compared to fossil fuels laid down in the act. The greenhouse gas emission savings from the use of Gasum's upgraded biogas is 60–85% depending on the facility. Gasum upgrades biogas that meets the sustainability criteria at the Lahti and Suomenoja biogas facilities, with the annual total in 2015 amounting to 69 GWh. In 2015 Gasum purchased 7 GWh of upgraded biogas in conformity with the sustainability criteria and injected it into the natural gas network in Kouvola.

## LIFE-CYCLE MODELS FOR EXAMINATION OF ENVIRONMENTAL IMPACTS NOW IN USE FOR ALL GASUM PRODUCTS

A life-cycle model for pipeline gas was developed in 2015 in the Measurement, Monitoring and Environmental Efficiency (MMEA) program of CLIC Innovation Ltd (formerly CLEEN Ltd) by Gasum in cooperation with the Finnish Environment Institute (SYKE). The model serves to supplement data produced by previous studies on the environmental impacts arising throughout the life cycle of pipeline gas consumed in Finland. The process was part of a project implemented in 2010–2015 as an outcome of which Gasum now has life-cycle models for the examination of the environmental impacts of all Gasum products: natural gas, biogas and LNG. The models can be utilized in business activities, sales support, environmental reporting and communications as well as responsibility and sustainability planning.

## Energy consumption within the organization

ENERGY CONSUMPTION (GWh)	2014	2015
Fossil fuel consumption	189	121.6
Renewable fuel consumption (biogas)	2	1.8
Electricity consumption	7	8.6
District heat consumption	0	25.5*
Heat sold	4	5.1
Electricity sold	0,4	0.1
<b>Total energy consumption</b>	<b>194</b>	<b>152.2</b>

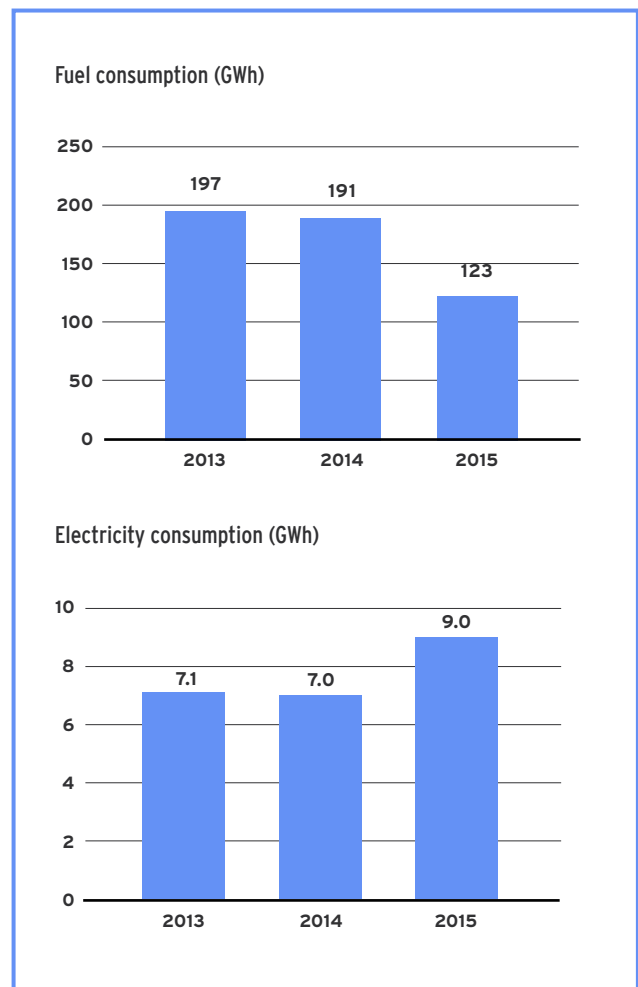
\*More specific data reported on pressure reduction station district heat consumption.

#### ENERGY MANAGEMENT SYSTEM AND ENERGY CONSUMPTION (G4-EN3)

The main focus in our energy issues in 2015 was on setting up our energy management system (EnMS), and in November Gasum was awarded ISO 50001 certification for the EnMS. The EnMS helps Gasum fulfil the requirements set by the Energy Efficiency Act (1429/2014) concerning mandatory energy reviews of large companies and continuously increase energy efficiency in operations, products and services. The system also supports the measures taken by us to further mitigate and prevent any adverse environmental impacts of our operations, raise energy efficiency as a key issue in our business and communicate to stakeholders about responsibility in energy and environmental issues.

Energy reviews entail regular energy-efficiency work that constantly generates new energy-efficiency measures. Gasum's energy objective is: We will reach, maintain and seek to continuously improve our good energy efficiency level throughout our operations. We annually set in-house EnMS targets, carry out energy-efficiency measures and monitor energy consumption with energy-efficiency indicators. Our EnMS undergoes annual internal as well as external audits. Gasum has also made a commitment to the voluntary Energy Efficiency Agreement for Industries under the Energy-Intensive Industry Action Plan and reports annually on our energy efficiency and energy consumption in accordance with the Agreement to Motiva.

In 2015 Gasum's energy consumption totaled 548 TJ (2014: 697 TJ) or 152.2 GWh, of which fossil fuel consumption accounted for 438 TJ (2014: 681 TJ) or 121.6 GWh and renewables, i.e. biogas, to 6 TJ (2014: 6 TJ) or 1.8 GWh. The majority of our energy consumption consists of natural gas used at compressor stations, heating plants, transmission network and properties. Our biogas consumption comprises vehicle use as we have made a commitment to use biogas to fuel our service vehicles and company cars used by Gasum personnel. Our consumption of natural gas was reduced mainly due to the lower usage rate of compressor stations as the volume of natural gas transmitted decreased in 2015. Electricity accounts for a smaller share of our total energy



consumption than fuels, but the consumption of electricity increased year-on-year because the Lahti biogas that Gasum invested in was operational throughout the year.

#### DIRECT GREENHOUSE GAS EMISSIONS (G4-EN15)

Gasum's corporate responsibility objectives include reducing methane emissions by 30% from the 2010 level by 2020. The target was already reached in 2014, but measures to cut methane emissions are still taken.

The volume of methane emissions generated in 2015 was lower than the year before and totaled 827 tonnes (2014: 979 tonnes). Gasum's methane emissions mainly come from the transmission network and compressor stations and in minor amounts also from biogas upgrading facilities. As regards the transmission network, methane emissions in conjunction with pipeline modification work have been minimized by utilizing the gas for as much as possible in customers' processes and only blowing down the low end pressure of the pipeline.

Methane emissions from the transmission network increased by a little less than 200 tonnes due to the fugitive emission review and measurement and scheduled pipeline repairs carried out. In 2015 Gasum identified and measured fugitive methane emissions from the natural gas transmission network and obtained an assessment of their volume (120 tonnes). The figure is included in the reported methane and greenhouse gas emissions. A repairs plan has been formulated for the natural gas transmission network on the basis of the studies, and its systematic implementation will begin in 2016. Methane emissions from the transmission network were increased by scheduled pipeline work where a pipeline section was emptied for repairs carried out for safety reasons in May. The repair operation raised the May methane emission rate to 69 tonnes, while the normal level is below 10 tonnes.

The methane emissions of the distribution network of Gasum Paikallisjakelu Oy are included in the figure for the first half of the year when the company was owned by Gasum. Based on data from the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC), the global warming potential (GWP) applied to methane is 28.

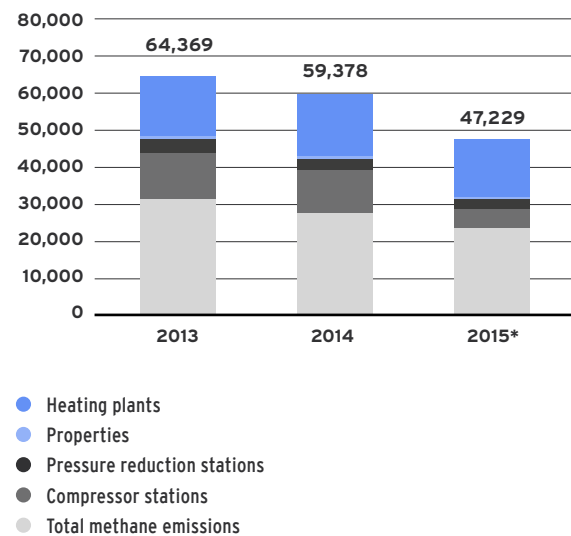
In addition to methane, Gasum's greenhouse gas emissions include carbon dioxide. Direct greenhouse gas emissions in 2015 totaled 47,229 t CO<sub>2</sub> e. (2014: 59,378 t CO<sub>2</sub> e). The carbon dioxide emissions arose from natural gas use in the heat business, compressor stations, pressure reduction stations and properties. The transmission of natural gas in the pipelines requires pressurization that takes place at natural gas-powered compressor stations located in Imatra, Kouvola and Mäntsälä.

In accordance with the Oil and Gas Sector Disclosures, the greenhouse gas emissions illustrate direct greenhouse gases from Gasum's operations. Skangas's emissions are not included. The decrease in greenhouse gas emissions was mainly due to the lower usage rate of compressor stations as the volume of natural gas transmitted went down in 2015. Biogenic carbon dioxide emissions from Gasum's biogas vehicle use totaled 352 t CO<sub>2</sub> e.

#### OTHER SIGNIFICANT AIR EMISSIONS (G4-EN21)

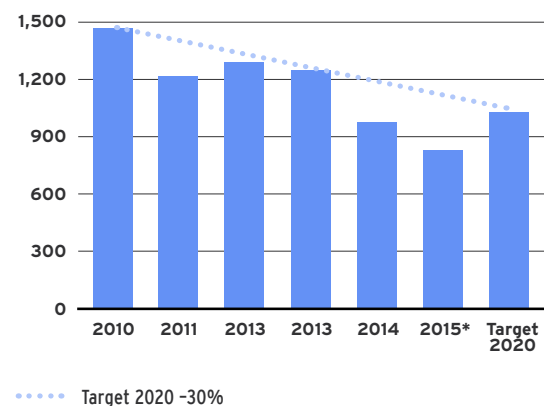
The combustion of natural gas and biogas does not create any particulate or sulfur dioxide emissions. The total of nitrogen oxides (NO<sub>x</sub>) in 2015 was 22 tonnes (2014: 37 tonnes). The biggest NO<sub>x</sub> emissions were generated at compressor stations, transmission network pressure reduction stations and heating plants. Gasum seeks to favor low-emission units in compressor run models.

Direct greenhouse gas emissions from operations controlled (tonnes CO<sub>2</sub> e)



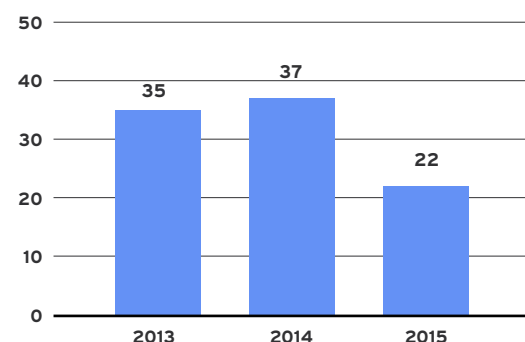
\*Methane emissions from Gasum local distribution network given for the first half of the year, i.e. the period when included in Gasum.

Methane emissions (t)



\*Methane emissions from Gasum local distribution network given for the first half of the year, i.e. the period when included in Gasum.

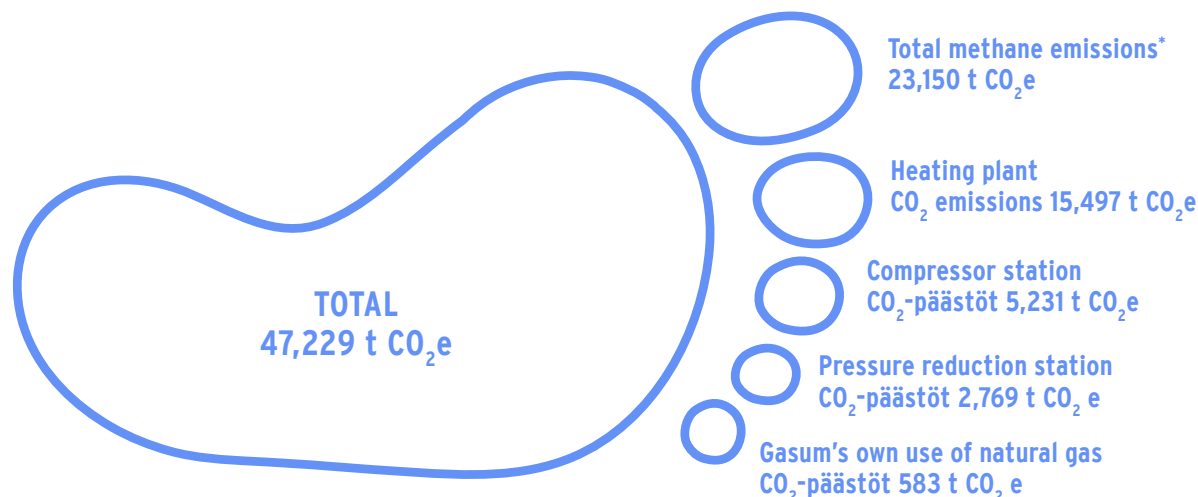
Nitrogen oxides (t)





## Carbon footprint 2015

### Greenhouse gas emissions from Gasum's own operations



\*Data for methane emissions from Gasum's local distribution network provided for the first half of the year.

#### WASTE AND WATER CONSUMPTION (G4-EN8, G4-EN23)

Gasum's waste volume in 2015 totaled 94 tonnes (2014: 141 tonnes), with the biggest waste components being compressor station process waste, such as oily water, natural gas pipeline oil waste and cesspool sludge. Hazardous waste amounted to 9 tonnes and non-hazardous waste to 85 tonnes. Separate collection of biowaste at Gasum's Kouvola facility began in spring 2015 in order to utilize the raw material in biogas production. Efforts are made to process waste in the order of priority laid down in the Waste Act and in compliance with local waste management regulations. Resource recovery is not, however, possible for all waste fractions, so some end up in incineration or disposal. We take care of the recycling

of packaging imported by us through Finnish Packaging Recycling RINKI Ltd.

The water consumed by Gasum comes from municipal water works. Our water withdrawal comprises process and cooling water as well as water intended for human consumption. The Gasum Group's total water consumption was 20,490 m<sup>3</sup> (2014: 28,400 m<sup>3</sup>).

In accordance with the environmental permit that entered into force in summer 2015, annual analyses are conducted on the purification capacity of the soil filter used in the greywater system, and investigations are underway for a new oil separator for the treatment of oily water.

#### Total weight of waste by type and disposal method

#### Total water withdrawal by source

Waste and water	2013	2014	2015
<b>Waste (t)</b>	146	141	94
of which non-hazardous waste	116	100	85
hazardous waste	30	41	9
<b>Municipal water consumption (m<sup>3</sup>)</b>	25,800	28,400	20,490
Process and cooling water	21,900	24,100	16,840
Water intended for human consumption	3,900	4,300	3,650

#### FINES, NON-MONETARY SANCTIONS AND GRIEVANCES RELATING TO THE ENVIRONMENT (G4-EN29, G4-EN34)

There were no cases of fines or non-monetary sanctions for Gasum or Skangas in 2015.

Gasum receives feedback relating to the environment via its website, and the data is processed by the customer service in the CRM, with any queries passed on as necessary. No feedback relating to the environment was received in 2015 by Gasum. As regards Skangas, one case of appeal concerning the planned Gävle LNG terminal was considered and dismissed by the Svea Court of Appeal.

Gasum and Skangas collect environmental observations from personnel through in-house accident and incident reporting systems. A total of 36 observations relating to the environment were reported in 2015. Environmental observations are classified and passed on to responsible persons for response action. In 2015 the in-house environmental observations were to do with air emissions, energy efficiency, sustainability scheme, chemicals and waste treatment.

#### GREENHOUSE GAS EMISSIONS FROM FUEL CONSUMPTION

Thanks to its low carbon and high hydrogen content, when combusted natural gas creates significantly less carbon diox-

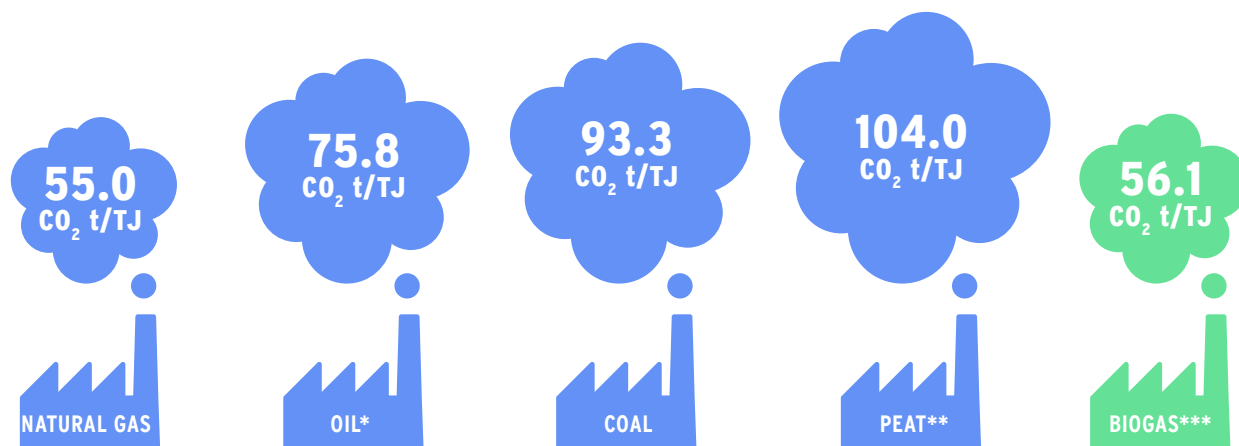
ide emissions than other fossil fuels. Emissions are further reduced by the high efficiency that can be achieved with natural gas in combined heat and power (CHP) production.

#### SUPPLIER RESPONSIBILITY

The Gasum Groups complies with the principles of openness, transparency and non-discrimination regarding suppliers and other stakeholders. We expect our suppliers to comply with the same principles and rules that we follow in our operations. We are committed to full compliance with legislation and regulations as well as quality, environmental, energy management and safety and security system requirements in our operations.

In 2015 we joined the Network for Sustainable Procurement and seek to look for and favor eco-labeled products whenever we can. Our responsible operations are supported by our enterprise resource planning (ERP) and document management systems as supplier data forms, supplier responsibility reports, material certificates and safety data sheets can be found in the systems. By always evaluating suppliers in conjunction with new procurements we make sure cooperation with suppliers is in compliance with our adopted principles.

### Carbon dioxide emissions (t/TJ)



\* Average of emission factors of oil products

\*\* Average of emission factors of milled and sod peat

\*\*\* Biofuel, the carbon dioxide emissions of which are not counted in the total amounts of Finland's greenhouse gas emissions or taken into account in emissions trading

Source: Statistics Finland: Fuel classification 2015.

## ENVIRONMENTAL IMPACTS OF NATURAL GAS SUPPLY CHAIN STUDIED

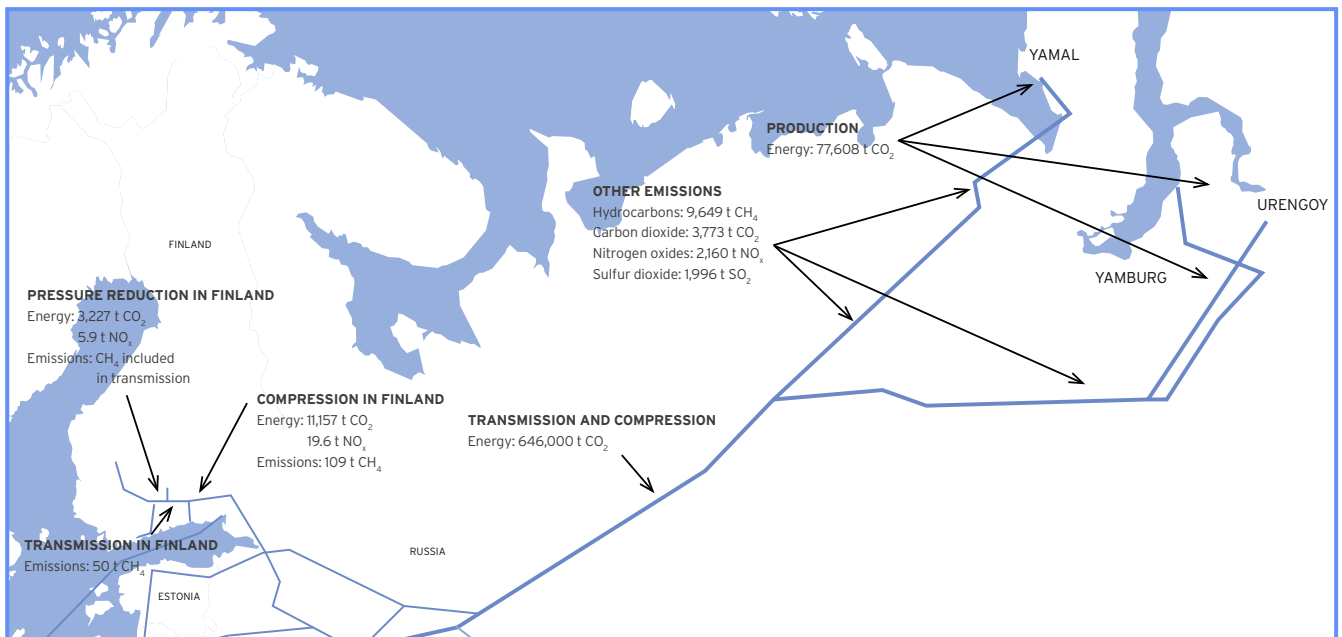
One of Gasum's corporate responsibility objectives is to be fully informed of the environmental impacts of the gas supply chain and make efforts to reduce them. Therefore it is important to know and understand what kinds of environmental impacts occur in the natural gas supply chain. In autumn 2015 we commissioned a study from Neste Jacobs on the environmental impacts of the supply chain of natural gas imported to Finland from Russia on the basis of 2014 data. The previous corresponding study was based on data from 2012.

The carbon dioxide emission factor for natural gas is lower than those for other fuels, and therefore it is a more climate-friendly alternative. Methane is a strong greenhouse gas, and therefore any methane emissions from the natural gas supply chain may reduce the climate benefits of natural gas.

The study focused particularly on the assessment of air emissions generated in the natural gas supply chain. The figure below illustrates the air emissions generated in the various activities of the supply chain. Energy saving measures and environmental programs have managed to reduce greenhouse gas emissions from the supply chain by 12% per unit of energy transmitted from the 2012 level.

Viewed over the entire life cycle of natural gas, 87.5% of the greenhouse gas emissions take place in natural gas use, 12.2% in activities taking place in Russia and 0.3% in transmission carried out by Gasum in Finland. Methane emissions account for around 0.4% of the volume of high-pressure natural gas transmission. This is clearly below the 2.8% level that is regarded as the limit for natural gas remaining more favorable from the climate perspective than coal.

Air emissions from the supply chain of natural gas imported from Russia to Finland



# COMPREHENSIVE RISK MANAGEMENT

- *Our risk management objective is to safeguard the generation of value in our company over the long term.*
- *We have made a decision to renew our risk management methods and operating models in 2016.*

## COMPREHENSIVE RISK MANAGEMENT IS A WAY OF THINKING AND DOING THINGS

When making work-related decisions, each Gasum employee implements risk management on a daily basis when identifying and assessing risks that have been determined by Gasum as uncertainties relating to our objectives. This uncertainty involved in our operating environment and decision-making includes opportunities as well as threats.

To remain successful in the challenging field of energy in the future and to reach our objectives as a company and as individuals, we develop risk management in a comprehensive manner at Gasum. This means that our methods, approaches and culture relating to risk management are continuously harmonized in each element throughout our organizational levels.

Gasum's risk management policy contains a description of the risk management objectives and principles adopted by the Supervisory Board. The risk management policy application instructions determine the principles for the application of Gasum's risk management. Gasum's risk management framework – our risk management processes, guidelines, responsibilities and application – are determined in the instructions. Their application enables maximum uniformity in our identification, assessment and planning of measures related to the way we address risks.

Risks are assessed regularly at least once a year for the following one- and five-year periods. The assessments cover maximum loss, expectations and probabilities. For each risk, the potential reputation risk is also assessed. In 2016 our aim is to renew our risk management methods and operating models.

## BUSINESS RISKS

Gasum's business risks include those related to the energy market and fuel price development as well as those related to access to natural gas, the functioning of the transmission system, business regulation, safety and security, and environmental impacts. The most considerable risks from the profit perspective are to do with fuel price development and business regulation.

Other financial risks relating to our business include market risk (including interest rate risk) and credit risk. The Group's financial risks are managed by the Group's financial unit together with the strategy unit and business units.

Gasum's business is capital intensive, and the Group faces a regular need for financing. Efforts are made to minimize credit-related interest rate risk.

The price of natural gas under Gasum's supply contract is index-linked. In 2015 these indices included the price of heavy fuel oil (HFO1S), the Basic Price Index for Domestic Supply for energy (E40) published by Statistics Finland, and the price of coal. In May 2016 the crude oil Brent price, D35 subindex of the Basic Price Index for Domestic Supply, and the API2 price reference for coal will be taken into use as new price indices. The indices are calculated every month, with six-month averages applied to them. The indices applied in procurement are also applied to the sales prices of natural gas, which creates a natural hedge for the prices.

There are also considerable risks involved in the new business activities developed by Gasum, particularly LNG, biogas and transport use of gas. The energy sector is characterized by large initial investments, the profitability of which is difficult to predict specifically before the operations are launched and have become established.

Gasum is prepared for natural gas supply disruptions with reserve fuel arrangements. The functioning of the transmission system is monitored and improved through network renewal and new construction where necessary in accordance with a long-term plan.

Natural gas transmission activities and energy trade are both supervised by the Energy Authority. Changes in Finnish or European regulation may result in adverse or positive effects on the company's financial position or opportunities to pursue objectives set for the development of the natural gas market. In Finnish regulation the year 2015 saw the reform of the regulation of gas network activities for the next eight-year period (2016–2023), with Gasum participating in the process through active dialog and opinions.

(G4-14)



## RISK MANAGEMENT

### Risks and their management in the fields of economic, social and environmental responsibility

RISK DESCRIPTION	CONSEQUENCE	GASUM'S RISK MANAGEMENT
<b>ECONOMIC RESPONSIBILITY</b>		
Changes in taxation or support mechanisms place gas in a less favorable position against other types of energy, including as a result of changes in legislation	Competitiveness of natural gas is reduced	Active interest representation
Lag between expectations and implementation	The company cannot meet the expectations of the market	Market monitoring and efficient project implementation
The political acceptability of gas is reduced	Taxation becomes less favorable to gas and/or customers replace their gas consumption with other solutions	Active gas image building, building the biogas and LNG market, natural gas as a bridge to a carbon-neutral society
Credibility of strategy implementation	Customers do not believe in the improvement of the competitiveness of gas and, instead, make decisions based on other solutions	Active communications and image building, communicating about competitiveness and its development to customers
Failure to develop new technologies as planned	New business opportunities are not identified or cannot be developed fast enough. A competing technology is developed to a better degree and becomes so inexpensive that the company is unable to respond to the requirements of the market	Continuous monitoring of technological development and competitors, and strong in-house product development
Integration into the European network	Customers do not believe in the improvement of the competitiveness of gas and, instead, make decisions based on other solutions	Active communications and image building, communicating about competitiveness and its development to customers
<b>SOCIAL RESPONSIBILITY</b>		
The company fails to renew itself	The company is unable to offer up-to-date products and services	Innovation and creation of new concepts and strong partnerships
Gasum fails to participate actively in public decision-making	The benefits of gas are not defended or included in the debate by anyone	Active interest representation and image building
Personnel competencies are not developed	Failure to achieve business success, and reduced profitability experienced	Mapping of competencies required, personnel training and competence development
Failure to recruit or retain competent employees	Failure to achieve success and development in business activities, loss of competence outside the company	Strengthening of Gasum's corporate image and recruitment competence, employee incentive systems, and development of wellbeing at work
Production and operational safety, including occupational safety, damage targeted at employees or property	Employee accident, property damage or negative impact on the company's reputation	Safety management system, safety observations and preventive safety work, and safety guidelines
Information security (management system), system malfunction	System disruption or error. Financial impact or negative impact on the company's reputation	IT staff competence and access to resources, technical preparedness, environmental responsibility
<b>ENVIRONMENTAL RESPONSIBILITY</b>		
Acceptability of natural gas is reduced	Competitiveness of natural gas affected	Bringing biogas and liquefied natural gas (LNG) more strongly alongside basic natural gas. Natural gas as a bridge to a carbon-neutral society.
Sustainability of natural energy gases	An issue related to sustainability is raised in public debate and reduces the reputation of natural energy gases and the company	Linking the importance of sustainability even more closely with the company's goals and emphasizing sustainability in the induction of new employees.
The fossil origin of gas is emphasized	Efforts are made to replace gas-fueled power plants with other solutions, resulting in reduced use of natural energy gases	Drawing attention to the good qualities of gas in communications, and bringing non-fossil biogas more strongly alongside natural gas. Also natural gas as a bridge to a carbon-neutral society. The power-to-gas concept in electricity storage.



# REPORTING PRINCIPLES

Sustainable development and its promotion is part of our strategy. We report annually in Finnish and English on sustainable development and our material topics in accordance with the Global Reporting Initiative (GRI) G4 Sustainability Reporting Guidelines. Gasum has reported in accordance with the GRI Guidelines since 2010.

## REPORTING PRINCIPLES IN 2015

This Corporate Responsibility Report was drawn up in accordance with the Core option of the Global Reporting Initiative (GRI) G4 Sustainability Reporting Guidelines, with the Oil and Gas Sector Disclosures also taken into account as appropriate. Gasum's Annual Report and Financial Statements for 2015 were published online on March 16, 2016.

We prepare and disclose our financial statements in compliance with the International Financial Reporting Standards (IFRS) and our governance-related reporting in compliance with Finnish legislation. Our economic performance indicators are based on audited data. Personnel and health and safety figures as well as reporting on environmental aspects are in accordance with the G4 Guidelines, while costs are reported in compliance with the Finnish Accounting Board's general guidelines for recording, accounting and disclosing of environmental issues as part of the financial statements. Gasum's reporting takes place under Finnish law.

## REPORT COVERAGE

The reporting period of this Corporate Responsibility Report is the same as that of the Annual Report, i.e. the financial year from January 1 to December 31, 2015. Some data for the beginning of 2016 is also provided in the report. The Corporate Responsibility Report covers all Gasum Group (Gasum, the Group or the company unless otherwise required by the context) companies excluding Skangas. The Gasum subsidiary Skangas, which is responsible for the Gasum Group's LNG business, is included in this report's financial disclosures and certain HR and environmental indicators. The boundaries used in this report are listed by indicator on pages 14–15 and in the GRI content index on pages 41–44.

The Skangas acquisition took place in May 2014. The harmonization of the functions of Skangas and Gasum is underway, and we will continue cooperation to develop our reporting in 2016.

## SIGNIFICANT CHANGES IN THE SCOPE AND ASPECT BOUNDARIES (G4-22, G4-23)

Gasum's corporate responsibility themes and aspects have been reviewed and updated. New aspects reported are the G4 Oil and Gas Sector Disclosures aspects Fossil Fuel Substitutes and Emergency Preparedness. The Fossil Fuel Substitutes aspect involves the sector-specific indicator G4-OG14, Volume of biofuels produced and purchased meeting sustainability criteria.

In the 2014 report Skangas was included in the financial indicators. In the 2015 report Skangas is included, in addition

to the financial indicators, in indicators G4-EN29, G4-EN34, G4-LA1, G4-LA12, G4-LA16, G4-SO6, G4-SO8 and G4-PR5. Skangas is not included in the 2014 comparison figures for indicators other than financial ones.

Figures for Gasum Paikallisjakelu Oy and Helsingin kaupunkikaasu Oy are included in the data for the first six months of 2015, i.e. the period during which they were owned by Gasum.

For the G4-LA9 indicator training days are given per person for the year 2015.

As regards environmental disclosures, the calculation of greenhouse gas emissions for the G4-EN15 indicator includes fugitive emissions of methane. In the G4-10 indicator the number of fixed-term employees is broken down to part-time and full-time employees.

The calculation of the lost day rate for the G4-LA6 indicator changed from the year before. The calculation formula can be found next to the indicator table on page 28. The indicator does not include data for contractors, consultants or other service providers. Opportunities to collect data for these are being explored.

## REPORTING SYSTEMS

Gasum collects environmental and safety data from the CRM system, CSM environmental database, Generis database and TAVA accident and incident reporting system. Personnel figures are from the Personec W payroll system and documents. Financial data is obtained from several different systems.

## EXTERNAL ASSURANCE (G4-33)

Four of the indicators that have undergone external assurance were the same as for the year earlier, G4-EN3, G4-EN15, G4-EC1 and G4-LA6, and two new ones were included in the procedure: G4-LA1 and G4-LA12. The assurance was conducted by an independent third party, PricewaterhouseCoopers Oy, and the congruence between responsibility information presented in the Finnish and English versions has been checked. The contents of the report are not updated after the assurance. Instead, any changes in content will be reported in the following year.

### UNITS USED IN THE REPORT

1 terawatt hour (TWh)	1,000 gigawatt hours (GWh)
1 gigawatt hour (GWh)	3.6 terajoules (TJ)
1 cubic meter (m <sup>3</sup> )	1,000 liters (l)
1 tonne (t)	1,000 kilograms (kg)
1 tonne of carbon dioxide equivalent (t CO <sub>2</sub> e)	1,000 kilograms of carbon dioxide equivalent (CO <sub>2</sub> e)

Net calorific value (NCV) is used in Finland.

# INDEPENDENT PRACTITIONER'S ASSURANCE REPORT

(Translation from the Finnish original)

To the Management of Gasum Ltd

We have been engaged by the Management of Gasum Ltd (hereinafter also the Company) to perform a limited assurance engagement on selected performance indicators in the areas of economic, social and environmental responsibility for the reporting period 1 January to 31 December 2015, disclosed in Gasum Ltd's report "Gasum Corporate Responsibility 2015" (hereinafter Corporate Responsibility Information).

## CORPORATE RESPONSIBILITY INFORMATION

The Corporate Responsibility Information consists of the following performance indicators:

- G4-EC1 Direct economic value generated and distributed.  
Also the Company's tax footprint has been reported in association with the performance indicator.
- G4-EN3 Energy consumption within the organization
- G4-EN15 Direct greenhouse gas (GHG) emissions (Scope 1)
- G4-LA1 total number and rates of new employee hires and employee turnover by age group, gender and region
- G4-LA6 Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities, by region and by gender
- G4-LA12 composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity

## MANAGEMENT'S RESPONSIBILITY

The Management of Gasum Ltd is responsible for preparing the Corporate Responsibility Information in accordance with the Reporting criteria as set out in Gasum Ltd's reporting instructions and the G4 Sustainability Reporting Guidelines and the Oil and Gas Sector Disclosures of the Global Reporting Initiative. The Management of Gasum Ltd is also responsible for such internal control as the management determines is necessary to enable the preparation of the Corporate Responsibility Information that is free from material misstatement, whether due to fraud or error.

## PRACTITIONER'S INDEPENDENCE AND QUALITY CONTROL

We have complied with the independence and other ethical requirements of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants, which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

PricewaterhouseCoopers Oy applies International Standard on Quality Control 1 and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

## PRACTITIONER'S RESPONSIBILITY

Our responsibility is to express a limited assurance conclusion on the Corporate Responsibility Information based on the procedures we have performed and the evidence we have obtained. Our assurance report has been prepared in accordance with the terms of our engagement. We do not accept, or assume responsibility to anyone else, except to Gasum Ltd for our work, for this report, or for the conclusions that we have reached.

We conducted our limited assurance engagement in accordance with the International Standard on Assurance Engagements (ISAE) 3000 (Revised) "Assurance Engagements Other than Audits or Reviews of Historical Financial Information". That Standard requires that we plan and perform the engagement to obtain limited assurance about whether the Corporate Responsibility Information is free from material misstatement.

In a limited assurance engagement the evidence-gathering procedures are more limited than for a reasonable assurance engagement, and therefore less assurance is obtained than in a reasonable assurance engagement. An assurance engagement involves performing procedures to obtain evidence about the amounts and other disclosures in the Corporate Responsibility Information. The procedures selected depend on the practitioner's judgement, including an assessment of the risks of material misstatement of the Corporate Responsibility Information.

Our work consisted of, amongst others, the following procedures:

- Interviewing senior management of the Company.
- Visiting the Company's Head Office as well as one site in Finland.
- Interviewing employees responsible for collecting and reporting the Corporate Responsibility Information at the Group level and at the site level where our site visit was conducted.
- Assessing how Group employees apply the Company's reporting instructions and procedures.

- Testing the accuracy and completeness of the information from original documents and systems on a sample basis.
- Testing the consolidation of information and performing recalculations on a sample basis.

#### LIMITED ASSURANCE CONCLUSION

Based on the procedures we have performed and the evidence we have obtained, nothing has come to our attention that causes us to believe that Gasum Ltd's Corporate Responsibility Information for the reporting period ended 31 December 2015 is not properly prepared, in all material respects, in accordance with the Reporting criteria.

When reading our assurance report, the inherent limitations to the accuracy and completeness of corporate responsibility information should be taken into consideration.

Helsinki, 15 March 2016

#### **PricewaterhouseCoopers Oy**

Niina Vilske  
Partner  
Authorised Public Accountant  
Assurance Services

Sirpa Juutinen  
Partner  
Sustainability &  
Climate Change



# GRI Content Index

- Indicator data can be found in the following documents: *Gasum's Year 2015*, *Gasum Financial Statements 2015* and *Gasum Corporate Responsibility 2015*.
- The documents are available on the Gasum website at [www.gasum.com](http://www.gasum.com).  
(G4-23)

CORE	GRI CONTENTS	PAGES	EXTERNAL ASSURANCE	MORE INFORMATION
<b>General Standard Disclosures</b>				
<b>Strategy and Analysis</b>				
G4-1	Statement from the CEO	Gasum's Year 2015: CEO's review 3, Gasum in brief 5, Highlights in 2015 9-10 Financial Statements: Business development in 2015 2-3 CRR: Gasum in brief and corporate responsibility 2015 2, Corporate responsibility management and operating environment 5-6, 8		
<b>Organization Profile</b>				
G4-3	Name of the organization	CRR: Gasum in brief and corporate responsibility 2015 2		
G4-4	Primary brands, products and services	CRR: Gasum in brief and corporate responsibility 2015 2		
G4-5	Location of headquarters	Financial Statements: General information 12		
G4-6	Number of countries where the organization operates, and names of countries where either the organization has significant operations or that are specifically relevant to the sustainability topics covered in the report	CRR: Gasum in brief and corporate responsibility 2015 2		Skangas is excluded from certain indicators for 2015 as harmonization of functions is yet to be completed. Gasum acquired a majority holding in Skangas in May 2014.
G4-7	Nature of ownership and legal form	Financial Statements: General information 12		
G4-8	Markets served	CRR: Gasum in brief and corporate responsibility 2015 2		Skangas included.
G4-9	Scale of the reporting organization	Financial Statements: Consolidated income statement 7, Consolidated balance sheet 9 CRR: Gasum in brief and corporate responsibility 2015 2, Highlights in 2015 4		Skangas included.
G4-10	Number of employees by employment type, employment contract, region and gender	CRR: Better society with our stakeholders 23-24		Skangas included.
G4-11	Percentage of total employees covered by collective bargaining agreements	CRR: Better society with our stakeholders 26		
G4-12	Organization's supply chain	Gasum's Year 2015: Gasum in brief 6 CCR: Natural energy gases 3		
G4-13	Significant changes during the reporting period regarding the organization's size, structure, ownership or supply chain	CRR: Better society with our stakeholders 21		
G4-14	Addressing of the precautionary principle	Financial Statements: Risks and risk management 5-6, Financial risk management 19-21 CRR: Risk management 36-37		In line with the precautionary principle, Gasum acts with care and diligence to prevent environmental degradation and takes into account the probability of the risk of degradation, accident risk and opportunities to prevent accidents and mitigate their impacts.
G4-15	Externally developed charters, principles or initiatives to which the organization subscribes or which it endorses	CRR: Better society with our stakeholders 20-21		
G4-16	Memberships of associations and advocacy organizations	CRR: Better society with our stakeholders 21		

CORE	GRI CONTENTS	PAGES	EXTERNAL ASSURANCE	MORE INFORMATION
<b>Identified material aspects and boundaries</b>				
G4-17	Organization's boundaries	Financial Statements: Corporate structure and governance 5, Consolidation principles 12-13 CRR: Definition of materiality 14-15		
G4-18	Defining report content	CRR: Definition of materiality 11-15		
G4-19	Material aspects identified	CRR: Definition of materiality 12-15		
G4-20	Aspect boundaries within the organization	CRR: Definition of materiality 14-15		
G4-21	Aspect boundaries outside the organization	CRR: Definition of materiality 14-15		
G4-22	Restatements of information provided in earlier reports	CRR: Reporting principles 38		
G4-23	Significant changes from previous reporting periods in the scope and aspect boundaries	CRR: Reporting principles 38		
<b>Stakeholder Engagement</b>				
G4-24	List of stakeholder groups engaged by the organization	CRR: Better society with our stakeholders 19		
G4-25	Basis for identification and selection of stakeholders with whom to engage	CRR: Better society with our stakeholders 19		
G4-26	Approach to stakeholder engagement	CRR: Better society with our stakeholders 19-21		
G4-27	Key topics and concerns raised through stakeholder engagement	CRR: Corporate responsibility management and operating environment 6, Better society with our stakeholders 20		
<b>Report Profile</b>				
G4-28	Reporting period			January 1 to December 31, 2015
G4-29	Date of most recent previous report			April 28, 2015
G4-30	Reporting cycle			Annual
G4-31	Contact point for questions regarding the report or its contents			viestinta@gasum.fi , www.gasum.fi/palaute
G4-32	GRI Content Index	CRR: GRI Content Index 41-44 External Assurance Report 39-40		
G4-33	Policy and current practice with regard to seeking external assurance for the report	CRR: Reporting principles 38		
<b>Governance</b>				
G4-34	Governance structure of the organization, including committees of the highest governance body	Financial Statements: Corporate structure and governance 5		
<b>Ethics and Integrity</b>				
G4-56	Organization's values, principles, standards and norms of behavior such as codes of conduct and codes of ethics	CRR: Corporate responsibility management and operating environment 5, 7		



CORE	GRI CONTENTS	PAGES	EXTERNAL ASSURANCE	MORE INFORMATION
<b>Specific Standard Disclosures</b>				
<b>DISCLOSURES ON MANAGEMENT APPROACH</b>				
G4-DMA	Disclosures on Management Approach	CRR: Corporate responsibility management and operating environment 5, 7-8, This is how we create value - Value creation 10, Definition of materiality 14-15, Risk management 36-37, Carbon-neutral future and innovations 16-18, Better society with our stakeholders 19-26, Forerunner in safety and supply security 27-29, Understanding life-cycle impacts 30-35		
<b>ECONOMIC</b>				
<b>ECONOMIC PERFORMANCE</b>				
G4-EC1	Direct economic value generated and distributed	CRR: Better society with our stakeholders 21-22	Assurance	Skangas included.
G4-EC4	Financial assistance received from government	CRR: Better society with our stakeholders 22		Skangas included.
<b>INDIRECT ECONOMIC IMPACTS</b>				
G4-EC7	Development and impact of infrastructure investments and services supported	CRR: Better society with our stakeholders 22		Skangas included.
<b>ENVIRONMENTAL</b>				
<b>ENERGY</b>				
G4-EN3	Energy consumption within the organization	CRR: Understanding life-cycle impacts 31	Assurance	Excluding rental properties.
G4-OG3	Total amount of renewable energy	CRR: Carbon-neutral future and innovations 17		Sector-specific indicator from the Oil and Gas Sector Disclosures.
<b>WATER</b>				
G4-EN8	Total water withdrawal by source	CRR: Understanding life-cycle impacts 33		
<b>EMISSIONS</b>				
G4-EN15	Direct greenhouse gas emissions (Scope 1)	CRR: Understanding life-cycle impacts 32-33	Assurance	Gasum's operations, excluding Skangas. Rental properties not included. No equity basis reporting. Excluding emissions of partially owned companies. Data not available for 2015. Inclusion of partially owned companies in future reporting currently under examination. Gasum Paikallisjakelu Oy included for January-June 2015.
G4-EN21	Nitrogen oxide (NOx), sulfur oxide (SOx) emissions and other significant air emissions	CRR: Understanding life-cycle impacts 32		SOx, VOC and PM emissions are not significant in our operations (Oil and Gas Sector Disclosures).
<b>EFFLUENTS AND WASTE</b>				
G4-EN23	Total weight of waste by type and disposal method	CRR: Understanding life-cycle impacts 33		The Oil and Gas Sector Disclosures guidance concerning amount of waste in oil spills and other corresponding situations applies to oil and gas production and is therefore not material to Gasum.
<b>COMPLIANCE</b>				
G4-EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations	CRR: Understanding life-cycle impacts 34		Skangas included.
<b>ENVIRONMENTAL GRIEVANCE MECHANISMS</b>				
G4-EN34	Number of grievances about environmental impacts filed, addressed and resolved through formal grievance mechanisms	CRR: Understanding life-cycle impacts 34		Skangas included.

CORE	GRI CONTENTS	PAGES	EXTERNAL ASSURANCE	MORE INFORMATION
<b>SOCIAL</b>				
<b>Labor Practices and Decent Work</b>				
<b>EMPLOYMENT</b>				
G4-LA1	Total number and rates of new employee hires and employee turnover by age group, gender and region	CRR: Better society with our stakeholders 25	Assurance	Skangas included.
<b>OCCUPATIONAL HEALTH AND SAFETY</b>				
G4-LA5	Percentage of total workforce represented in formal joint management-worker health and safety committees that help monitor and advise on occupational health and safety programs	CRR: Better society with our stakeholders 26		
G4-LA6	Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities, by region and by gender	CRR: Forerunner in safety and supply security 28	Assurance	Excluding contractors, consultants and other service providers. Gasum reports data for 2014 as comparison data. The disclosure method for lost days due to injuries has been clarified to improve comparability. The calculation method is not fully compliant with G4 calculation guidance. The calculation formula can be found in conjunction with the indicator table.
<b>TRAINING AND EDUCATION</b>				
G4-LA9	Average hours of training per year per employee by gender, and by employee category	CRR: Better society with our stakeholders 25		Number of training days reported. One day is 7.5 hours.
<b>DIVERSITY AND EQUAL OPPORTUNITY</b>				
G4-LA12	Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity.	CRR: Better society with our stakeholders 24	Assurance	Skangas included. Gasum does not collect data about minority group membership of personnel. The data is not regarded as material. Due to the small number of members in governance bodies presenting numbers instead of percentages is regarded as a more illustrative approach. To harmonize and clarify the reporting method, we have also provided the personnel breakdown figures as numbers.
<b>LABOR PRACTICES GRIEVANCE MECHANISMS</b>				
G4-LA16	Number of grievances about environmental impacts filed, addressed and resolved through formal grievance mechanisms	CRR: Better society with our stakeholders 26		Skangas included.
<b>Society</b>				
<b>PUBLIC POLICY</b>				
G4-SO6	Total value of political contributions by country and recipient/beneficiary	CRR: Better society with our stakeholders 20		Skangas included.
<b>COMPLIANCE</b>				
G4-SO8	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations			No cases in 2015. Skangas included.
<b>EMERGENCY PREPAREDNESS</b>				
	Emergency Preparedness	CRR: Forerunner in safety and supply security 29		Sector-specific aspect from the Oil and Gas Sector Disclosures
<b>Product Responsibility</b>				
<b>Product and Service Labeling</b>				
G4-PR5	Customer satisfaction survey findings	CRR: Better society with our stakeholders 20		Skangas included.
<b>Fossil Fuel Substitutes</b>				
G4-OG14	Volume of biofuels produced and purchased meeting sustainability criteria	CRR: Understanding life-cycle impacts 30		Sector-specific indicator from the Oil and Gas Sector Disclosures.

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# Gasum

CLEANLY WITH NATURAL ENERGY GASES