

# **VAPÖ CORPORATE RESPONSIBILITY REPORT 2016**



**Building tomorrow.**

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## Global Reporting Initiative (GRI)

Vapo's corporate responsibility reporting is based on the Global Reporting Initiative (GRI), which is the world's most widely used responsibility reporting framework. Vapo reports on the economic, environmental and social impacts of its operations in accordance with the GRI G4 core scope and the Electric Utilities Sector Supplement.

Vapo's corporate responsibility reporting is based on a materiality analysis that was used to determine the views of Vapo's stakeholders and the company itself regarding the most material corporate responsibility themes related to the company's operations.

GRI is the most widely used international corporate responsibility reporting framework. GRI reporting helps companies measure and understand their corporate responsibility impacts, communicate them as well as set targets and develop operations further. Reporting applying the GRI framework also makes it possible to compare information between different companies.

# Highlights in 2016

*Vapo has made significant investments in recent years to minimise the environmental impacts of peat production. The most significant measure was building water treatment systems using the best available techniques at all current peat production areas. In addition, the company has further increased its monitoring of emissions and waterways. The openness and transparency of operations have been increased as part of the company's environmental commitments. Today, environmental responsibility is an integral aspect of Vapo's day-to-day operations.*



## Water treatment at peat production areas has been enhanced

Read more on page 26

## Emissions monitoring has been voluntarily increased

Read more on page 28





# CEO'S STATEMENT

*Corporate responsibility is at the core of Vapo's business – responsibility is how we earn the right to keep operating in the future.*

The discussion around Vapo Oy's corporate responsibility has been strongly characterised by topics related to environmental responsibility. We sparked this discussion at our own initiative some five years ago by making environmental responsibility a key component of our business strategy. I am particularly proud of the way we have worked together with our personnel to achieve a significant change in Vapo's corporate responsibility. The environmental investments made in the past few years represent the largest investment item of my six-year tenure as CEO and amount to nearly EUR 50 million. At Vapo, we believe that responsibility is how we earn the right to keep operating in the future.

The hard core of Vapo's business is energy. In practice, this means producing local fuels for energy customers as well as producing heat, electricity and steam at our plants, from our fuels, for our customers. We are responsible for our customers and their customers, our personnel and subcontractors as well as our environment. It is essential for us to minimise the impacts of our industrial activities and operate in a transparent and trustworthy manner. The purpose of this report is to openly communicate where we are and what our goals are in the different areas of responsibility.

### We respond to megatrends and changes in the operating environment

The operations of Vapo and its customers are affected by several megatrends, such as climate change, urbanisation, increasingly strict ethical standards in business and concern for personnel, both today and in the future.

One of the most notable trends that has affected Vapo and its energy customers in recent years is the continued decline in electricity prices. It has brought about significant changes in electricity production, combined heat and power

production, and the future expectations of the energy sector as a whole.

Vapo's responses to the aforementioned trends have included shifting increasingly towards emission-free fuels as well as investing in energy efficiency and the competence of personnel. Peat production and the refining of peat resources are core businesses for Vapo.

### We contribute to self-sufficiency in energy

Finland has a woefully low level of self-sufficiency in energy. The domestic energy resources are mostly limited to wood, peat and hydroelectric power, which compete with imported fossil fuels and imported electricity. Vapo's goal is to maintain the responsibility, transparency and economic competitiveness of its operations to ensure that we can continue to bear our responsibility for improving Finland's self-sufficiency in energy. We are already well on the way to fulfilling this goal: we are now southern Finland's largest supplier of renewable fuels to energy companies.

We keep a close eye on our customer satisfaction. In our most recent survey, our Net Promoter Score (NPS) among our large customers was good at 36, up

12 points from the previous year. We are aiming even higher, as satisfied customers are the only way we can achieve our financial targets, which is something we were not entirely successful in during the past financial year.

### Renewal is part of responsibility

Renewal is a significant aspect of Vapo's responsibility. Over the past few years, we have increased our investments in new businesses. We already deliver unique digital expert services to our customers, such as the remote operation of boiler plants of various sizes, consumption measurement and plant optimisation.

Our most significant renewal measures during the past year included the incorporation of Vapo Clean Waters Oy, which specialises in the treatment of natural waters, as well as the public launch of the Vapo Fibers business and the Vapo Carbons business, which focuses on the production of technical carbons. In these processes of renewal, it is important that we do a good job of managing the difficult aspects of the changes involved. We have been quite successful in this regard, and I am confident that Vapo will continue on the same path going forward.



**Tomi Yli-Kyyny**  
Chief Executive Officer  
1 April 2011–30 April 2017

**TOMI YLI-KYINY**  
CHIEF EXECUTIVE  
OFFICER



Renewal is a significant aspect of Vapo's responsibility. Over the past few years, we have increased our investments in new businesses.



# VAPO IN BRIEF

*Vapo is a provider of versatile local energy solutions, fuels and services.*

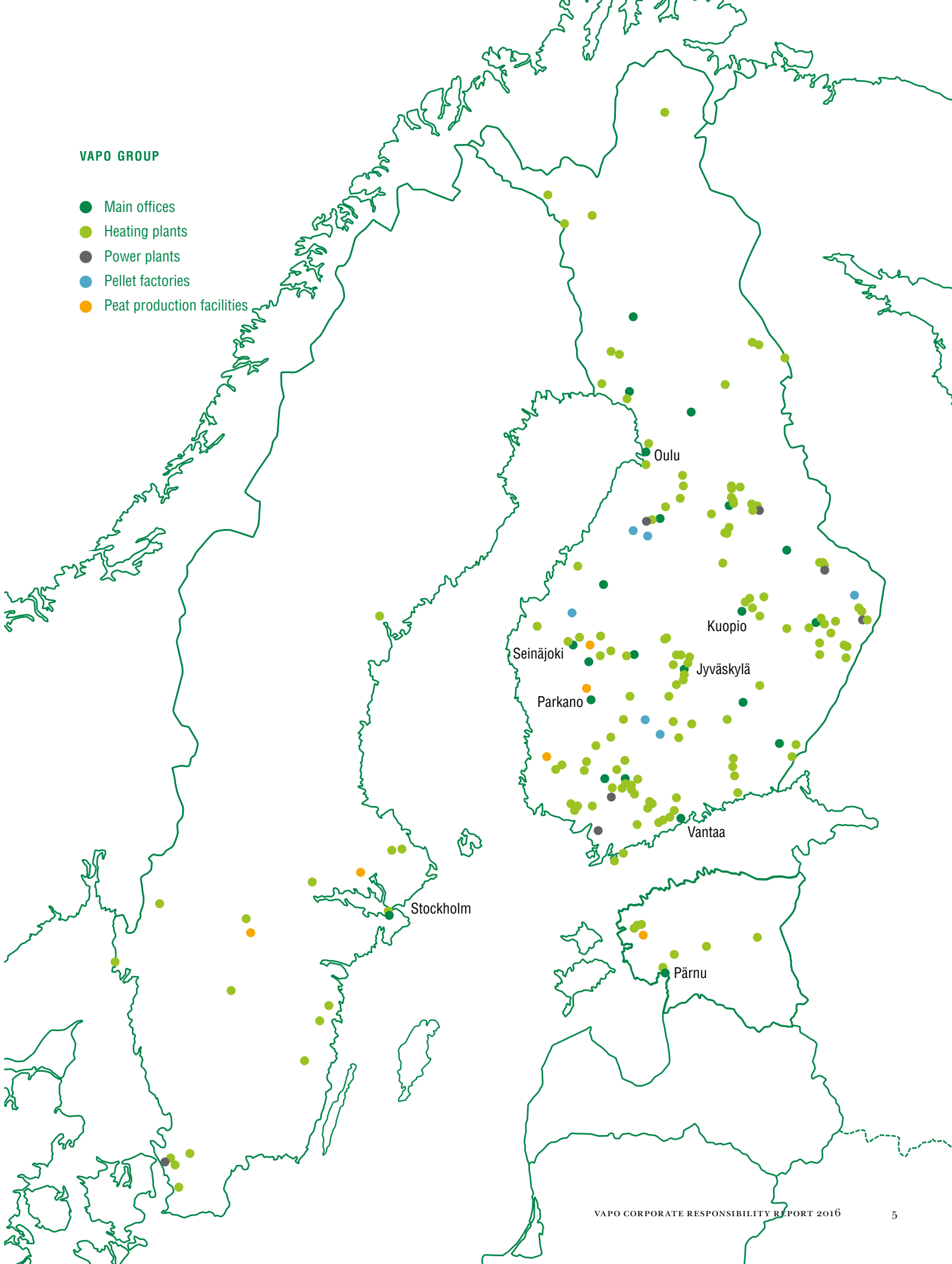
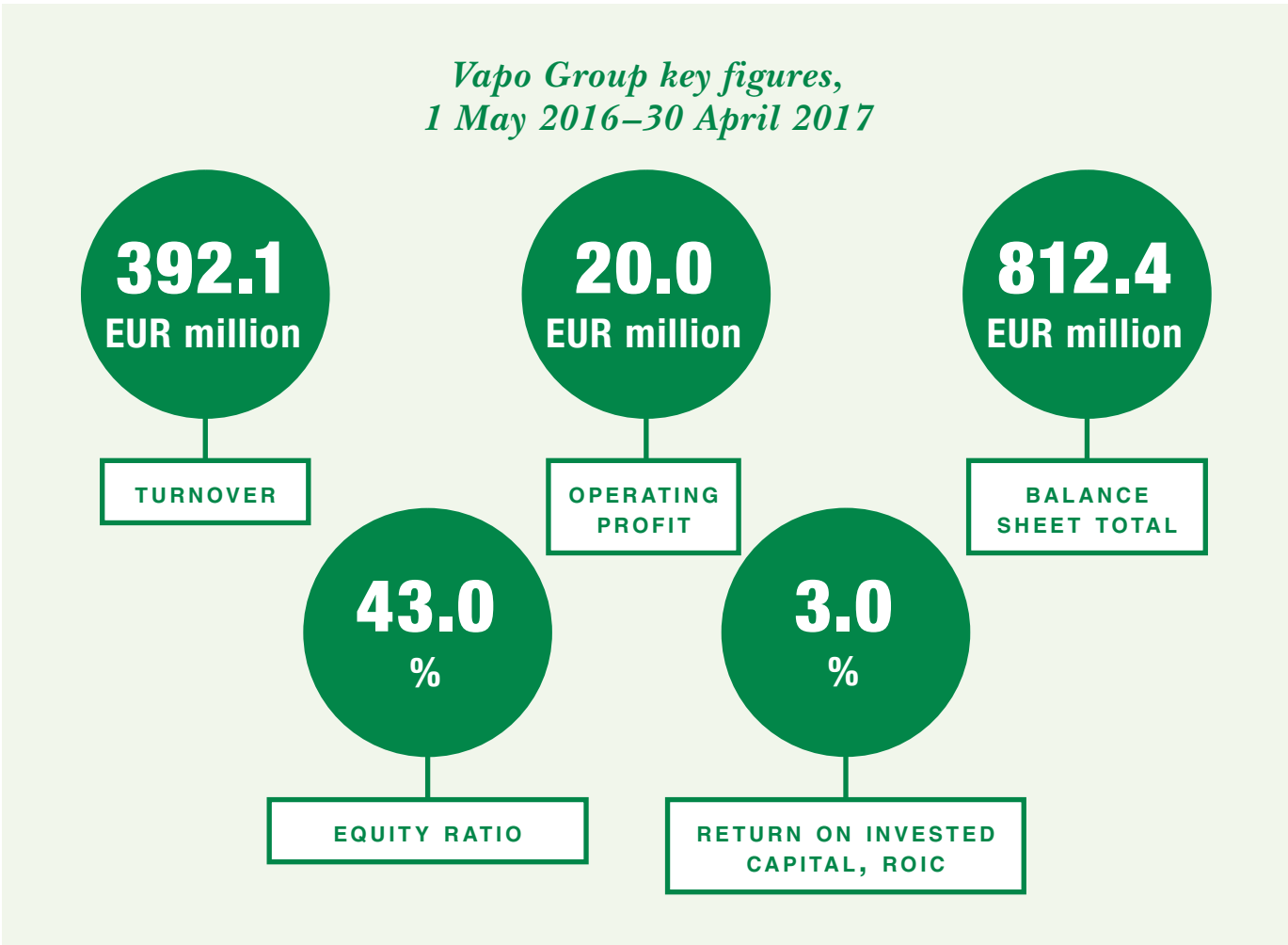
Vapo Oy is a modern expert organisation that operates in Finland, Sweden and Estonia. It provides its customers with versatile energy solutions and locally sourced solid fuels. Vapo also produces heat and power from local fuels. Vapo operates eight power plants, more than 30 district heating networks and some 150 heating plants, producing some 1.6 terawatt-hours of energy per year. At the end of 2016, Vapo Group had 488 employees in its Finnish companies and 737 employees in total.

Vapo Group's Ventures business develops new business solutions based on the Group's strengths. The company's newest businesses are Vapo Fibers and Vapo Carbons. Vapo Fibers focuses on utilising peat fibre for new purposes. Vapo Carbons aims to make a quick entry into the growing international market for peat-based technical carbons.

Vapo Group's product portfolio also includes the substrates, gardening products and environmental business solutions marketed under the brands

Kekkilä and Hasselfors Garden. Vapo's subsidiaries include AS Tootsi Turvas in Estonia and Neova AB in Sweden. Vapo sold its sawmill business in North Karelia to the Austria-based Binderholz Group at the beginning of 2016.

Vapo's domicile and head office are located in Jyväskylä, Finland. Vapo is an important part of the local energy infrastructure in its market area of Finland, Sweden and Estonia. The state of Finland has a holding of 50.1 per cent in the parent company Vapo Oy, while Suomen Energiavarat Oy holds 49.9 per cent.





# MEGATRENDS SHAPE OUR OPERATIONS

As an electricity producer, our presence stretches from Finland's national trunk networks all the way to individual homes. The energy we produce is used to heat homes, towns and cities, businesses, factories, airports and ice rinks. We want to be the world's leading expert on the local energy value chain. The energy sector plays a significant role in building the societies of the future. In order to be the world's leading expert on the local energy value chain, we must anticipate future trends in every decision we make today.

Although Vapo's operations are very local, they are affected by a number of global megatrends, especially in the energy sector. Identifying the trends that affect Vapo's operations allows us to better anticipate and respond to future challenges and opportunities.

## Urbanisation

Forecasts suggest that, in 2030, more than 70 per cent of the global population will live in cities. Urbanisation means minimising the need to transport people and goods, which corresponds to minimising logistics expenses. Urbanisation will increase the importance of energy-efficient construction as well as energy production based on local renewable fuels. District heating is an environmentally sound and energy-efficient solution for producing heating for large communities.

### Our response:

- We will increase the energy efficiency of heat and power plants by optimising combustion processes, fuel use and production.
- We will develop and deliver solutions that help our energy customers enhance their operations. In the face of increasing traffic congestion in growing cities, the efficient planning of logistics and managing the interim storage of fuels on the customers' behalf will help us ensure the delivery reliability of our customers' district heating under all circumstances.

- Energy efficiency and fuel optimisation will allow us to ensure the competitive pricing of district heating, even in small population centres.

## The digital transformation

Leveraging the digital transformation is vital in the consumer business and, in operations at the industrial scale, it represents a tremendous opportunity. Developments such as online commerce and the Internet of Things will enable great leaps in profitability. The operations of businesses and their employees will become more efficient and work, expertise and service provision will no longer be dependent on location.

### Our response:

- Better service online. We will increasingly serve our consumer and SME customers online in addition to traditional channels. Our recently redesigned online store is among the most advanced in its market.
- Leveraging data. We have produced a data-based service portal for our district heating customers to provide them with a clear overview of their heating consumption and needs.
- Services that are not tied to a specific place. By using our operating service, our energy customers can have our highly educated specialist operators control and optimise their power plants remotely from our operations centre in Vantaa, eliminating the need for local staff at the plant. This also allows us to optimise individual power plants based on the data we have collected from 10 other plants.

## Climate change

Climate change affects the way we, our customers and their customers operate. Mitigating climate change calls for increasing energy efficiency, adopting best practices and purposefully moving towards sustainable energy solutions.

### Our response:

- We will develop new solutions to promote our climate-related and environmental activities. These solutions will also open up future business opportunities in areas such as the circular economy, water treatment and the digital transformation.
- Energy efficiency investments, plant optimisation and the use of renewable energy to mitigate climate change play a key role on this front.
- We will ensure that decommissioned production areas are quickly shifted to subsequent land uses to enable them to serve as carbon sinks; for example, as growing forests.

## Responsibility

A responsible company can maintain a good balance between economic, social and environmental responsibility in its operations. Responsibility includes minimising environmental impacts as well as looking after employee well-being and increasing the local tax footprint.

### Our response:

- We will ensure that we keep the promises we make with regard to environmental responsibility. Vapo has a strict Code of Conduct that includes the environmental impacts of our operations. We will ensure adherence to the Code of Conduct not only in our own operations, but also in the work performed by our subcontractors.
- We will work together with our customers to develop new circular economy solutions and environmental solutions. For example, our ash collection service helps our customers recycle the ash from their power plants.
- We promote local employment and energy production. Labour represents more than 50 per cent of the price of domestic energy. In local production, all this money stays in the local economy and maintains the vitality of the community.

# MANAGEMENT OF CORPORATE RESPONSIBILITY

*The cornerstones of Vapo's corporate responsibility are reliability, transparency and balance*



# CORPORATE RESPONSIBILITY AT VAPO

*Vapo’s corporate responsibility is integrated into day-to-day operations.*

### How responsibility is organised

At Vapo Oy, the CEO is in charge of corporate responsibility and its implementation. Business-level management is in charge of the practical measures in each business area.

The Chief Financial Officer is responsible for reporting on economic responsibility and the development of reporting areas. The Environmental Director is responsible for areas related to environmental responsibility, and the Human Resources Director is responsible for areas related to social responsibility. The Director of Communications and Public Affairs is responsible for the planning, compo-

sition and production of the report. The annual corporate responsibility report is reviewed and approved by Vapo’s Board of Directors and the Audit Committee.

Vapo’s responsibility policy, related activities and the corporate responsibility report are published on the company website in Finnish and English.

**The material themes of responsibility**

According to materiality analyses conducted among stakeholders (2010, 2013, 2015), environmental responsibility is perceived as Vapo’s most significant area of corporate responsibility reporting. The most recent materiality analysis was

conducted in 2015, when Vapo commissioned Miltton Oy to interview key stakeholders and the company’s own employees. The interviews surveyed stakeholder views regarding the material aspects of corporate responsibility. The materiality assessment was in line with the Global Reporting Initiative G4 process. Potential and material themes were collected from the GRI guidelines, based on Vapo’s business operations and from the publications of other relevant parties. Following the interviews, a report was compiled to present the industry’s responsibility efforts and stakeholder views regarding the material aspects of

Vapo’s corporate responsibility. Vapo’s senior management then assessed the material responsibility themes and confirmed the results of the matrix from the perspective of the company’s business operations in December 2015.

Based on the materiality assessment, stakeholders were satisfied with the current state of Vapo’s responsibility efforts. Vapo’s expertise related to the environment and waterways was praised, in particular. Responsibility for personnel was highlighted more than it had been previously. The stakeholders felt that competent personnel plays a key role with regard to Vapo’s future and renewal. The participants also hoped that Vapo would continue to have an active local presence throughout Finland.

Environmental responsibility is perceived as the most material aspect among stakeholders.



Vapo is replacing aggregated electricity with solar energy in Parkano.

### Vapo’s materiality matrix

#### We deliver reliably

- 1. Financial profitability
- 2. Delivery reliability and the security of supply
- 3. New innovation and new business
- 11. Domestic fuel

#### We respect the environment

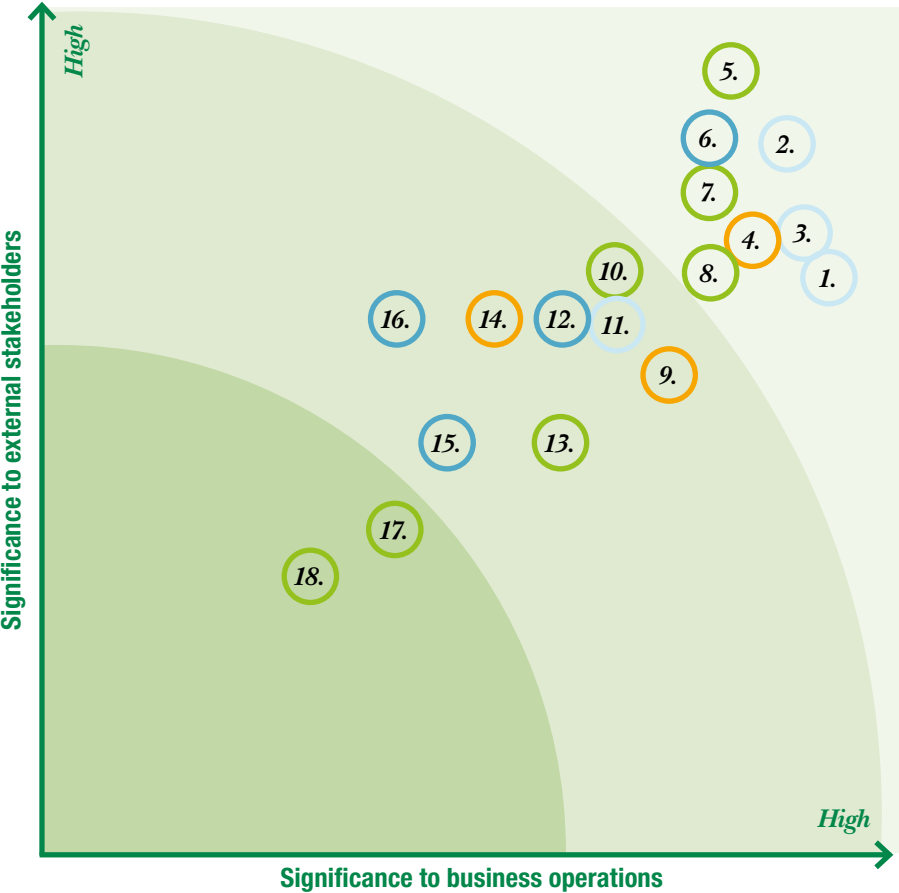
- 5. Local environmental impacts
- 7. Climate impacts
- 8. Energy efficiency
- 10. Water
- 13. Material efficiency
- 17. Increasing environmental awareness
- 18. Waste

#### We have a local impact

- 6. Responsibility in the supply chain
- 12. Local impacts
- 15. Compliance with permits and regulations
- 16. Employment

#### We value competence

- 4. Competence development and training
- 9. Well-being at work, occupational health and safety
- 14. Equality and diversity



### Vapo’s responsibility themes:

#### We deliver reliably

- Financial profitability
- Delivery reliability and the security of supply
- New innovation and new business
- Domestic fuel

#### We respect the environment

- Local environmental impacts
- Emissions
- Energy efficiency
- Water
- Material efficiency
- Increasing environmental awareness
- Waste

#### We have a local impact

- Responsibility in the supply chain
- Local impacts
- Compliance with permits and regulations
- Employment

#### We value competence

- Competence development and training
- Occupational well-being, health and safety
- Equality and diversity

# TARGETS FOR 2020

## We deliver reliably

Power and heating plant efficiency ratio 87.0%

TARGET 2020:

**87.0%**

Turnover-weighted Net Promoter Score (NPS) 42

TARGET 2020:

**47**

## We have a local impact

Equity ratio 43%  
43 %

TARGET 2020:

**>40%**

Net debt/Operating margin 4.7%

TARGET 2020:

**<3.5%**

## We respect the environment

Peat production tack plastic recovery rate 100%

TARGET 2020:

**100%**

Proportion of ash from power and heating plants that ends up in landfills 24.6%

TARGET 2020:

**13%**

## We value competence

Employee perception of learning new things 3.81

TARGET 2020:

**>4**

Safety observations per employee 5.5

TARGET 2020:

**10**

# TRANSPARENCY LEADS TO INCREASED DIALOGUE

*Vapo strives for open interaction with all of its stakeholders.*

Vapo's operations have impacts on many different stakeholders. Vapo's most important stakeholders are customers, owners, peatland lessors and land owners as well as Vapo's personnel and entrepreneurs. Stakeholder expectations and Vapo's response to them are described in more detail in the table below.

Dialogue, feedback and good cooperation are the key methods for promoting mutual understanding between stakeholders and Vapo. Feedback from stakeholders is one of the inputs considered in the development of products and services, and it also influences how the company operates. Vapo also monitors and evaluates public discussion.

## Strong focus on stakeholder cooperation

Vapo's representatives met with decision-makers and officers from 27 municipalities in 2016. Vapo organised eight open house events at its peat production areas across Finland for everyone interested in peat production and related environmental issues. Visits were also made to heat and power plants.

The Our Peatlands on the Web service on Vapo's website is available to the public. The service provides access to detailed information on the location of peat production sites, their water treatment methods, land use methods, environmental load data and the location of measurement stations that monitor emissions and the state of waterways. The persons responsible for each peat production area and their contact details are also listed on the website.

## Social media and stakeholder magazine

Vapo is increasingly using social media to engage in active dialogue with various stakeholders. The comment section of the blog published on Vapo's website and the Uusi Suomi online newspaper provides an additional forum for open interaction. The most popular blog

entries have been read by more than 10,000 people and they have garnered dozens of comments.

Vapo discusses its operations, operating environment and industry in its customer and stakeholder magazine Polte, which is published quarterly and is also available online at [www.poltelehti.fi](http://www.poltelehti.fi).

## Students

Some 1,350 students and teachers visited Vapo's peat production areas across Finland in autumn 2016. Vapo's experts also visited schools to present information on local energy production. The visits are part of the Energy in Finland school cooperation campaign organised by Finnish Energy Industries. The visits will continue in spring 2017.

Vapo provides summer jobs and opportunities for academic thesis writing for students, particularly those studying environmental sciences and forestry. The majority of Vapo's seasonal workers carry out environmental inspections at production sites. Vapo had 69 seasonal workers in 2016.

Vapo participated in the Hunger Day fundraising campaign of the Finnish Red Cross by donating the front page of the company website for use by the Red Cross on 15–17 September 2016.

In 2016, Vapo's financial support for sports and culture activities totalled EUR 47,000. Vapo requires its partners to operate responsibly. Vapo does not support any political parties.

## Vapo's memberships in 2016

Vapo cooperates with advocacy groups related to its industries, including the following:

- The Bioenergy Association of Finland
- Finnish Forest Industries
- Finnish Energy Industries
- The Confederation of Finnish Industries
- The EU-level organisations EPE (Energy Peat Europe) and AEBIOM (European Biomass Association) as well as Growing Media Europe

Vapo is also a member of the following organisations:

- The International Peat Society (IPS) and its Finnish branch, the Finnish Peatland Society
- The Thousand Lakes Enterprise Agency
- The Carbon Neutral Municipalities (HINKU) forum
- The Finnish Quality Association
- Kekkila is a supporting member of the Foundation for Responsibly Produced Peat (RPP), which focuses on the certification of peat-based substrates.

Vapo is also represented on several permanent working groups and stakeholder bodies established by the public authorities, such as:

- The Joint Working Group for the National Coordination of Environmental Protection and Nature Conservation in Peat Production set by the Finnish Ministry of the Environment
- The regional joint working groups on water treatment coordinated by Centres for Economic Development, Transport and the Environment
- The Energy Supply Sector and the Domestic Fuels Department under the National Emergency Supply Agency



**During the year we met with decision-makers and officers from 27 municipalities.**





Stakeholder engagement during the reporting period

Key stakeholders	Contact channels	Stakeholder expectations	Examples of responding to stakeholder expectations
Customers	Meetings, phone calls, e-mail, customer and stakeholder magazine, events, customer satisfaction survey, website, digital service channels, customer seminar	High-quality, competitive and responsibly produced fuels, energy and services	Annual customer satisfaction survey, customers addressed in the Annual Report and the Corporate Responsibility Report, mobile portal for district heating customers, online store for consumer customers
Owners	General Meeting, Board of Directors' meetings and Supervisory Board meetings, the annual owner seminar, regular meetings between the CEO, CFO and representatives of the owners, website, Annual Report, Corporate Responsibility Report	Stable dividend payout capacity, increase in shareholder value, ensuring responsibility in operations	The annual owner seminar and reporting on responsibility commitments in Board of Directors' meetings
Peatland lessors and land owners	Customer and stakeholder magazine, Annual Report, customer newsletters, personal correspondence, website	Information on the company's strategy and operating policies, ensuring responsibility in operations and future yield expectations	Vapo's customer and stakeholder magazine, communications via the company website
Scientists, researchers, research institutes	Publications, meetings, joint projects, website	Mutually beneficial cooperation, establishing new research projects and taking advantage of them in business and within the scientific community	Cooperation between Clean Waters and Natural Resources Institute Finland (Päästösäästö emissions reduction project and vegetation at the Nisula drainage water wetland), the Stormfilter project (Clean Waters, VTT Technical Research Centre of Finland, the University of Helsinki and Aalto University), the Innoturve "Innopeat" project (Vapo Fibers and the University of Oulu), product development cooperation between Vapo Fibers and universities of applied sciences
Schools and students	Student visits, Me & MyCity cooperation, Energy in Finland school project, partner classes, website	Obtaining information on peat production and the company's other operations	Some 1,350 students and their teachers visited peat production sites
Non-governmental organisations	Annual stakeholder seminar, open house events at peat production sites, website	Distributing up-to-date information on the company's environmental responsibility strategy and engaging in open dialogue with NGOs	Stakeholder seminar in April 2016, selling the Rastunsuo bird sanctuary to the Northern Savonia district organisation of the Finnish Association for Nature Conservation, bird sanctuary day at Röyhynsuo in Janakkala in June 2016
Personnel	Meetings via Skype or in person, daily communication, Yammer, Intra, teamwork spaces, website, personnel survey, performance and development discussions	Participation in shared affairs, the flow of information, deciding on shared issues, planning the future	Personnel magazine Vapolainen, the one-day Vapo Studio personnel event related to strategy implementation and objectives, events watchable remotely, linking occupational safety and observations with personal targets
HR partners and external stakeholders	Agreed-upon forums, website	Understanding Vapo's business and knowing Vapo's objectives, cooperation models	Redeployment training, sickness absence practices based on the employee's own declaration, online chat for contacting an occupational health physician, electronic forms and a targeted portal for making appointments
Learning forums	Seminars, internal training events and the online environment	Sharing expertise	The training programme On the Path to Global Leadership continued, with 70 training events (530 hours, 1,318 participants) organised as of April 2017
Suppliers, service providers, contractors	Bioenergy industry events and seminars, training and feedback events for entrepreneurs, cooperative development projects with suppliers	Developing a competitive and profitable operating environment in bioenergy supply chains, creating business and investment opportunities for entrepreneurs, cooperation relationships	Five training and production feedback events for entrepreneurs in the spring and autumn, regional supplier-entrepreneur days
Political decision-makers	Meetings with Members of Parliament, assistants and parliamentary groups, maintaining contact with the background influencers and officers of political parties, meetings and production site visits with municipal decision-makers, annual seminar for Members of Parliament, customer and stakeholder magazine, website	Access to up-to-date information on Vapo's business strategy and the progress of environmental responsibility projects	Stakeholder seminar in April 2016, meetings with dozens of political decision-makers, municipality visits in 27 municipalities
Citizens, media, the authorities, labour market organisations	Cooperation days and meetings, joint projects, website	Exchanging information, establishing rules and trust	Open house events with local people invited to learn more about production operations and have discussions with company representatives



TURNING A PRODUCTION AREA INTO A NATURE CONSERVATION SITE

A former peat production site has found a new lease on life as a popular bird sanctuary. Rastunsuo became a nature conservation site in 2017.

The Rastunsuo peatland in Northern Savonia was decommissioned as a Vapo peat production site in 1993. After the ditches were blocked off during the following winter, the water level increased and Rastunsuo became a diverse bird sanctuary with surrounding wetlands. The site has an area of 26 hectares, with the bird lake accounting for 15 hectares of the total.

The Rastunsuo bird sanctuary is very popular among nature enthusiasts. Enjoying the local nature and birdlife is made easier by the one-kilometre nature trail around the lake as well as the two birdwatching towers and lean-to. The

towers provide good views of the diverse bird lake that includes vegetation-covered islands and rocks.

The ownership of the Rastunsuo bird sanctuary was transferred from Vapo to the Northern Savonia district organisation of the Finnish Association for Nature Conservation in February 2016. The Board of the district organisation appointed **Risto Palokangas** as the Chairman of the Administrative Committee for the bird sanctuary. Now residing in Rautilampi, Palokangas recently retired from the position of Director of the Central Finland Regional Environment Centre.

A bird enthusiast himself, Palokangas is a committed supporter of the Rastunsuo bird sanctuary.

“The site is rich in bird and plant life. Approximately 150 different bird species have been spotted in Rastunsuo. The variety of bird species is the highest during the migration periods in the spring and autumn when aquatic birds and waders stop there to rest, but it is also a nesting site for many different species during the summer,” Palokangas says.

Giving the wetlands a new lease on life as a bird sanctuary is an important undertaking for the district organisation.

“In autumn 2016, our volunteers cleared certain areas to ensure that the birdwatching towers provide a good view of the lake. We also put up about 50 new bird boxes in the wooded areas around the lake for use by small birds and the common goldeneye. The signage along the nature trail has been updated and we also built an artificial mudflat for waders,” Palokangas adds.

The future of the bird sanctuary looks promising. The Northern Savonia district organisation of the Finnish Association for Nature Conservation decided to declare the Rastunsuo bird sanctuary a protected site in 2017 to mark the centenary of Finland’s independence.

Vapo is committed to having areas owned by it and released from peat production in active after-use within two years of the end of production operations.

CASE PROACTIVE STAKEHOLDER ENGAGEMENT

In 2016, the decision was made in the Southwest Finland customer region to establish a practice of organising an event open to the public during the hearing stage of the permit application process for new peat production areas. The events have mostly been organised for projects involving new production areas and in cases where peat production has given rise to local debate and discussion.

Three such events were organised in 2016, with a further three events held in 2017 as of the end of April. The events are part of the open stakeholder interaction stipulated by Vapo’s environmental strategy and they help enhance local cooperation. Vapo has already organised several open house events at production areas in recent years.

The first information event was held in summer 2016 with regard to the envi-

ronmental permit application for Talasneva in Kihniö. The project had caused some concern among local residents at the time. The event attracted nearly 30 participants who were also offered the opportunity to visit the production area.

The event in Talasneva underlined the importance of communicating the content of new permit projects to local stakeholders early on in the public notice period of the application process. The event proved to be the most effective method of informing stakeholders of the contents of the permit application materials as well as responsible peat production and water treatment. Open house events also provide visitors with an opportunity to ask questions.

Vapo, in turn, receives valuable information on the local stakeholders’ attitudes towards the project as well as

the perceived problems and concerns of people residing in the area affected by the project. If necessary, further information events or production site visits are organised for the stakeholders.

“These events are one way for us to show that all of our information is openly available to the public and that we are an environmentally responsible operator. They are an excellent way to get to know the local stakeholders and communicate to them that we are always accessible to them and we stick to our commitments. We want the local people to be familiar with Vapo’s representatives in each area. Face-to-face meetings lower the threshold for contacting us about any concerns they might have,” says environmental specialist **Leena Imppu**.



# VALUES AND CODE OF CONDUCT

*Vapo's business operations are guided by its values and Code of Conduct, which the company uses to serve customer needs and encourage the personnel to support the company's renewal.*

The company's strategy is based on responsible operations and its competence in the production of local energy which is accumulated over many decades. The values and the Code of Conduct specify in detail what the company expects from its employees and subcontractors and what it is committed to in delivering products and services to its customers.

## **Vapo's values are responsibility, result orientation and renewal**

Responsibility is a vital precondition for the existence of Vapo's business. All of the company's operations must be transparent and publicly acceptable. Everyone at Vapo must take responsibility for their work.

Results orientation is not only related to financial targets — it also gives the company the tenacity to follow through, even on things that are difficult, when doing so is in the long-term interest of the company's business and customers.

Renewal is essential. The world is changing, and adapting to the changes is the only way to guarantee Vapo's future. The company must be sensitive to indications — and even weak signals — of how the customers want Vapo to develop its operations.

The Code of Conduct is available on the Vapo website at [www.vapo.com/en/responsibility/the-way-we-operate/code-of-conduct](http://www.vapo.com/en/responsibility/the-way-we-operate/code-of-conduct). Vapo's strict and comprehensive Code of Conduct is applicable as an appendix to contracts even with the company's most demanding customers. The requirements concerning the responsibility of operations apply not only to Vapo's own personnel, but also the entire supply chain, from subcontractors to customer deliveries.

**MORE THAN  
99  
PER CENT**

*of Vapo's personnel  
have completed the Code of  
Conduct online course and  
final examination.*

Vapo's Code of Conduct covers the requirements applicable to the company itself and its subcontractors in the following contexts:

- Human rights
- Basic workers' rights
- Wages and working hours
- Occupational health and safety
- Environmental impacts
- Responsible business operations
- Management system

The Code of Conduct is a fixed component of our processes, personnel training and the orientation of new employees. The personnel familiarise themselves with the company's operating principles by means of online training. The training makes it clear that compliance with the Code of Conduct is not a recommendation. It is an unconditional and binding operating model.

As of 2 May 2016, more than 99 per cent of Vapo's personnel had completed the Code of Conduct course and

final examination. In addition to personnel, Vapo also provides training to its subcontractors on the requirements stipulated by the Code of Conduct in entrepreneur training and by means of an online training programme.

To support the practical implementation of the Code of Conduct in day-to-day work, the company's internal network also includes a whistle-blowing channel that allows anyone at Vapo to anonymously report conduct that is not compliant with the Code of Conduct. In 2016, a total of three anonymous reports were received via the whistleblowing channel, and corrective action was taken in response to these reports.

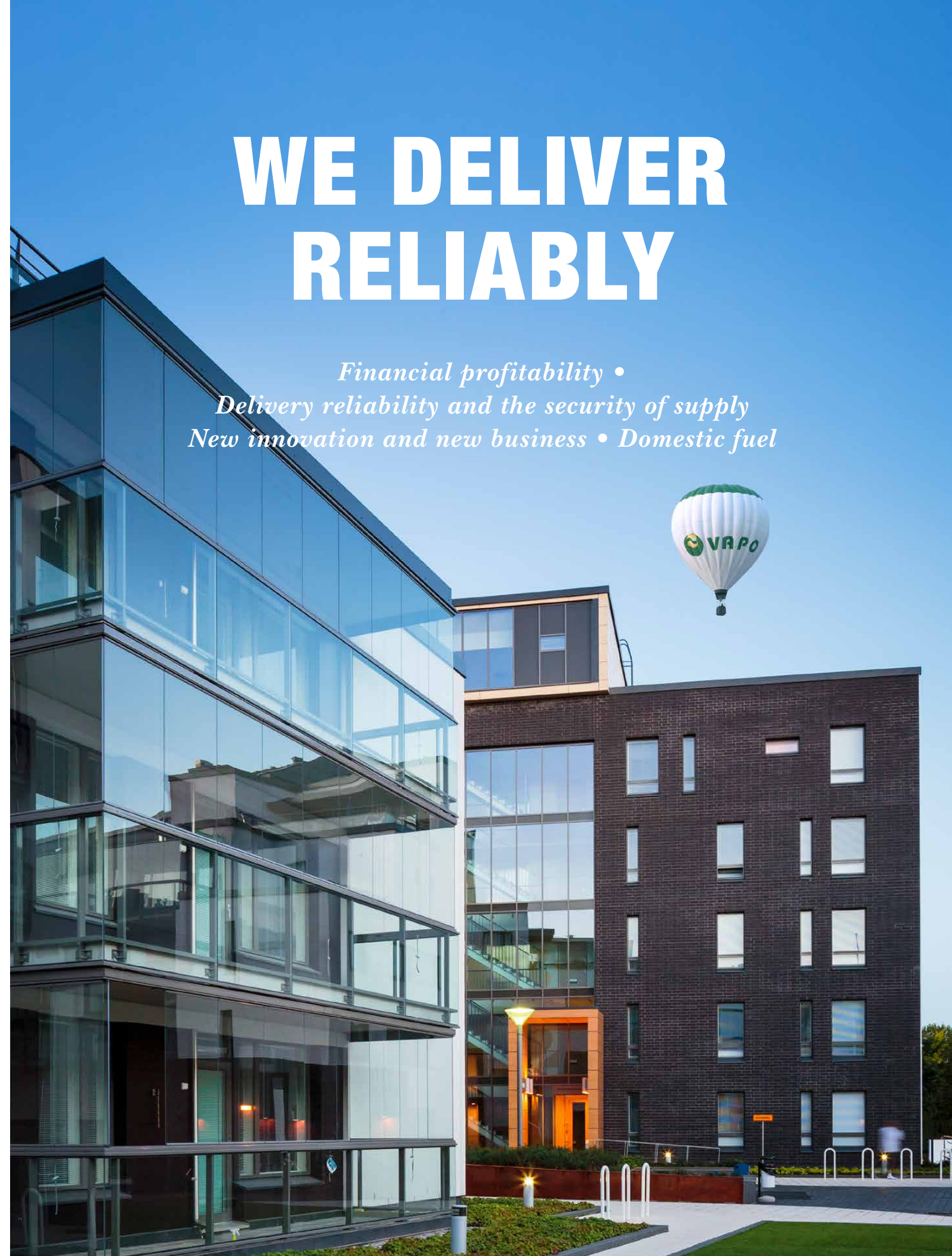
The realisation of the Code of Conduct is monitored as part of the internal and external audits of the company's quality system. The assurance of ethicality in operations is also emphasised in internal audits.



**Responsibility is a vital precondition for the existence of Vapo's business.**

# WE DELIVER RELIABLY

*Financial profitability •  
Delivery reliability and the security of supply  
New innovation and new business • Domestic fuel*





# DELIVERY RELIABILITY AND THE SECURITY OF SUPPLY

*Vapo plays a significant role in Finnish society as a local fuel supplier and in heat and power production.*

### Securing the future through better customer service

Vapo's energy businesses had a mixed year: The Fuels business maintained its position in challenging market conditions and the Heat and Power business grew. Organisational restructuring measures implemented early in the year made the customer the focal point of operations. The new customer-oriented organisation led to improved customer satisfaction and new customer relationships and it also attracted customers to buy a broader range of Vapo's energy services. The municipality of Mynämäki extended its district heating delivery agreement with Vapo to 2044. The municipality of Luoto selected Vapo as its bio-based district heating supplier. Vapo and Siikalatvan Lämpö Oy signed an agreement on the delivery of heat to the

Rantsila and Kestilä district heating networks in Siikalatva municipality. Several heating and power plants and process industry facilities became customers of Vapo's operating service. Vapo Clean Waters and Vapo Ventures are actively pursuing growth. Vapo Carbons aims to make a quick entry into the growing international market for technical carbons by introducing products manufactured from peat. A project was launched to build the company's first technical carbon factory.

### Use of coal increased in energy production in Finland — the shares of peat and wood declined

According to preliminary data, the total energy consumption in Finland increased by two per cent year-on-year to reach 371 terawatt-hours in 2016. Elec-

tricity consumption totalled 85 TWh, up three per cent from the previous year. The increase in energy consumption was due to the weather being slightly cooler compared to the record-warm 2015. In spite of the slight increase, the total consumption figure was the second-lowest in the 2010s. The end-use of energy in industry remained unchanged from the previous year, representing 45 per cent of the total consumption according to preliminary data. The consumption of heating energy in buildings increased by eight per cent and represented 26 per cent of the total end consumption. Energy consumption in transport increased by one per cent and accounted for 17 per cent of the total end consumption of energy. The temperature-adjusted demand for district heating grew by 12 per cent to 33.6 TWh. The share of peat and wood



**Fuels supplied by Vapo constitute nearly four per cent of Finland's total energy consumption.**

in district heating and combined heat and power production declined, while the use of coal increased in 2016.

### Vapo's fuels heat the homes of more than one million Finns

The fuels and heat supplied by Vapo constitute slightly less than four per cent of Finland's total energy consumption. Vapo is growing as a significant supplier of domestic fuel and energy solutions. Vapo supplies fuels to 300 power and heating plants, heat and process steam energy to more than 100 industrial and building customers as well as district heating in 13 municipalities. Vapo's fuels — peat, wood and pellets — are also used by thousands of detached homes, cattle farms and greenhouses. Vapo plays a significant regional role in Finnish society as a local fuel supplier and in heat and power production — the homes of more than one million Finns are heated by energy supplied by Vapo.

### Deliveries of peat and other fuels

The sales volume of Vapo's energy peat products — milled peat and sod peat — remained on a par with the previous year in spite of the challenging market conditions. The demand for peat and forest fuels was affected by the ample supply of wood by-products. The year was warmer than the long-term average, which reduced the demand for district heating and the delivery volumes of fuels used to produce district heating. Peat taxation, the sustained low electricity prices in the electricity exchange and price competition in wood fuels and coal affected the demand for peat across all customer segments. As with peat, the temperature and market situation were reflected in the delivery volumes of wood fuels, which remained on a par with the previous year. The increased use of pellets at power

### Vapo Oy, fuels supplied by region (TWh)

		2012	2013	2014	2015	2016
Southeast	Pellet	0.1	0.1	0.1	0.1	0.2
	Wood fuels	0.3	0.6	0.3	0.3	0.2
	Energy peat	1.3	1.0	1.0	1.1	1.2
	Total	1.7	1.7	1.3	1.5	1.6
Southwest	Pellet	0.2	0.3	0.3	0.3	0.3
	Wood fuels	0.5	0.5	0.3	0.4	0.5
	Energy peat	1.9	1.5	2.1	2.1	2.0
	Total	2.6	2.3	2.7	2.8	2.8
East	Pellet	0.1	0.1	0.0	0.0	0.0
	Wood fuels	0.6	0.4	0.3	0.2	0.3
	Energy peat	1.9	1.5	1.2	1.3	1.4
	Total	2.5	1.9	1.6	1.6	1.8
West	Pellet	0.3	0.2	0.2	0.2	0.2
	Wood fuels	0.2	0.2	0.2	0.2	0.2
	Energy peat	3.4	2.5	2.3	2.4	2.7
	Total	3.9	2.9	2.7	2.7	3.0
North	Pellet	0.1	0.1	0.1	0.1	0.1
	Wood fuels	0.6	0.5	0.5	0.4	0.5
	Energy peat	4.6	3.1	2.9	2.5	2.2
	Total	5.3	3.7	3.6	3.0	2.8
Vapo total	Pellet	0.7	0.7	0.7	0.6	0.8
	Wood fuels	2.2	2.2	1.6	1.5	1.6
	Energy peat	13.1	9.7	9.6	9.4	9.5
	Total	16.0	12.6	11.8	11.6	11.9

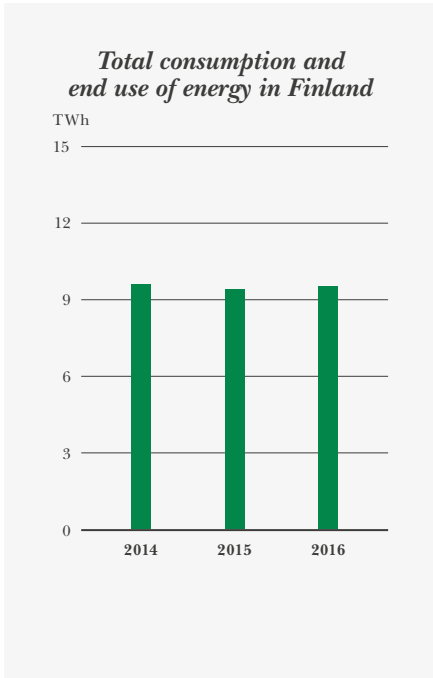
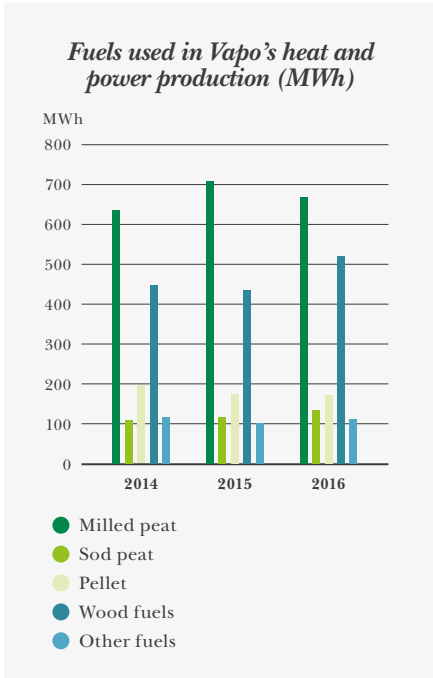
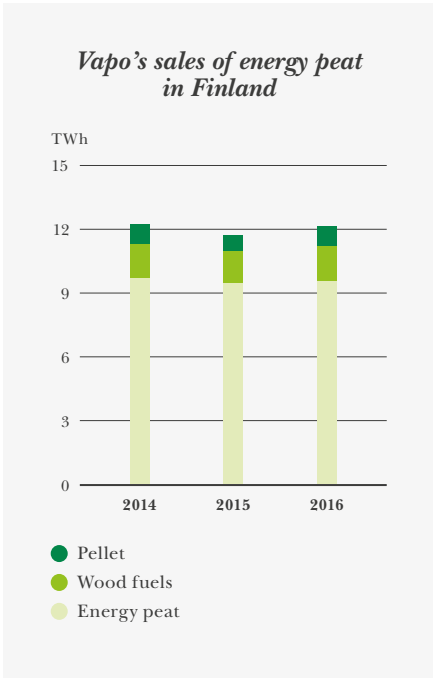
plants increased pellet delivery volumes. The delivery volumes of agricultural peat, environmental peat and litter peat were reduced by the second consecutive poor peat production summer.

### Fuels supplied by region

The demand for the fuels supplied by Vapo — peat, wood and pellets — varied between regions and customer segments. Overall, the delivery volumes of wood fuels and peat were slightly higher than in the previous year. The delivery volume of pellets increased. There were regional shifts from peat to wood, but there were also shifts in demand in the opposite di-

rection. The energy peat and wood fuel markets were challenging throughout the reporting period. Fuel tax decisions and the increased supply of wood — and particularly wood by-products — along with the low price of coal and oil have led to a weaker position for peat.

The use of energy peat and wood fuels has also been affected by replacement investments and supplementary investments made in customers' power plant boilers. The investments have expanded the fuel range of power plant boilers. The demand for peat and wood for the production of condensing power has been low due to the low price of





electricity. The forest industry has seen closures of factories and production lines. Coal and wood have replaced peat in district heating production in coastal areas. Inland power plants have increased the share of wood in their fuel and they have also used coal.

The sales of wood fuels comprise forest fuels supplied in the form of chips and stemwood as well as sawmill byproducts, namely bark and sawdust. Forest fuels are acquired by purchasing and harvesting fuel wood, felling waste and stumps. Wood is processed into chips at roadside storage facilities and wood fuel terminals, but also on site at the customers' combustion plants. The excess supply of wood fuels — both forest fuels and by-products — and decreasing prices make for a challenging market. The demand for wood fuels is expected to increase further in the coming years, and Vapo is well positioned to benefit from this growth.

Pellet has been used in place of both coal and natural gas at power plants. Customers have invested in pellet combustion instead of producing energy in gas, oil and coal boilers. The demand for pellets has grown steadily across all customer segments: industry, district heating production, large properties and among consumer customers. The majority of the growth in the coming years will be seen in industrial steam, district heating and heating solutions for large properties. Demand growth among consumer customers will be lower than the other segments as heat pumps rise in popularity as a heating solution.

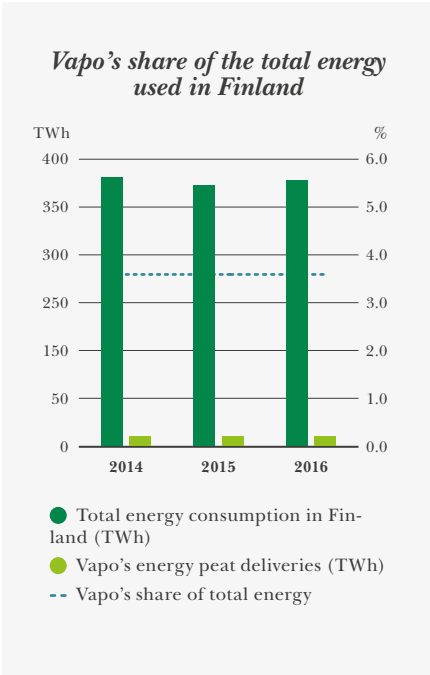
Production targets and stockpiles

In the cold and rainy weather of summer 2016, peat production amounted to only 7.4 million cubic metres. The majority of the peat was extracted at the start of the season. The production volume was lower than the demand for the subsequent heating season. However, buffer stocks produced in the previous summer in accordance with Vapo's customer promise are sufficient to ensure peat deliveries in subsequent heating seasons in spite of potentially poor peat production summers.

After the production season, the reserves are sufficient to cover the demand for fuel in the heating season following summer 2017, even if the weather conditions in summer 2017 are not favourable to peat production. Due to the demand for peat, the production target for summer 2017 has been set at the same level as in 2016. Nevertheless, Vapo will still maintain buffer stock levels in accordance with its customer promise to ensure that the company can meet the demand for energy peat in the next heating season.

Heat and power production

Vapo's heat and power production showed a year-on-year increase in 2016.



The year 2016 was warmer than average and warmer than the previous year, which was reflected in the customer demand for district heating and pellet heating. The effect of the warm weather on industrial steam production was not as substantial. The heating supply volume



Vapo's stockpiles are sufficient to secure the availability of fuel for customers.

Fuels used by Vapo in the production of electricity and heating in Finland in 2016 (GWh)

	Southeast				Southwest				East			
	2013	2014	2015	2016	2013	2014	2015	2016	2013	2014	2015	2016
Milled peat	0	0	0	0	211	242	255	255	77	134	202	164
Sod peat	23	28	27	33	12	11	23	26	31	40	43	49
Pellet	17	16	15	17	82	77	65	60	25	24	23	21
Wood	79	36	33	49	333	235	220	255	179	101	103	134
Other (coal, oil, recovered fuel)	8	3	16	4	95	72	61	80	18	14	6	13
Fuels total	127	83	91	104	734	636	622	676	331	312	377	381
Heat and power production	105	67	84	83	604	573	552	586	261	290	299	287

Vapo's annual peat production

million m3	2012	2013	2014	2015	2016
Milled fuel peat	8.7	15.4	14.3	7.5	6.2
Sod peat	0.6	0.9	0.9	0.6	0.5
Environmental peat	0.8	1.4	0.9	0.6	0.7
Total	10.1	17.7	16.0	8.7	7.4

Reserves of energy peat and wood fuels

Reserves on 31 December TWh		2014	2015	2016
Southeast	Wood fuels	0.0	0.1	0.1
	Energy peat	1.4	1.6	1.2
	Total	1.4	1.6	1.3
Southwest	Wood fuels	0.4	0.5	0.4
	Energy peat	3.5	3.7	3.5
	Total	3.9	4.2	3.9
East	Wood fuels	0.0	0.0	0.0
	Energy peat	2.1	1.8	1.4
	Total	2.1	1.8	1.4
West	Wood fuels	0.2	0.2	0.2
	Energy peat	4.1	3.8	3.0
	Total	4.4	4.0	3.2
North	Wood fuels	0.4	0.4	0.3
	Energy peat	5.9	4.8	3.8
	Total	6.2	5.2	4.0
Customer region Finland total	Wood fuels	1.0	1.2	1.0
	Energy peat	17.0	15.8	12.8
	Total	18.0	17.0	13.9

West				North				Finland total			
2013	2014	2015	2016	2013	2014	2015	2016	2013	2014	2015	2016
110	94	94	99	163	162	154	147	562	632	705	665
21	14	10	11	14	16	14	15	101	108	116	133
36	32	29	31	44	45	41	41	204	194	173	171
16	20	20	15	63	55	58	65	670	446	433	518
14	15	7	7	15	11	12	7	150	116	101	111
197	176	159	163	299	288	280	274	1,687	1,496	1,530	1,598
158	154	138	145	233	234	220	219	1,361	1,318	1,293	1,321



was also affected by the expiration of certain heating supply agreements and the expansion of operations through business acquisitions. In 2016, Vapo began district heating operations in Luoto and the Rantsila district of Siikalatva.

Vapo has continued to invest in energy efficiency at heating plants as well as power plants.

Fuel use grew in line with the increased demand for heating. The use of the company's own fuels increased from the previous year. The use of peat decreased and peat was replaced by wood fuels at Vapo's own plants.

**Future outlook**

The consumption of wood fuels and pellets is expected to see continued growth. The Finnish Government's energy and climate strategy relies heavily on biofuels in liquid transport fuels, energy production for industry and the production of district heating. Peat will remain as part of the energy palette due to its extensive local significance. The customer feedback regarding Vapo's fuel solutions, the power and heating plant operating service, the outsourcing of energy production and digital customer services provides a solid foundation



**Peat will remain as part of the energy palette due to its extensive local significance.**

for building customer cooperation and jointly developing new energy services tailored to customer needs.

**CASE MACHINE CONTRACTING PROVIDES THE LIVELIHOOD FOR TWO GENERATIONS**

KuljetusViinikka has played a role in peat transport in four decades.

KuljetusViinikka Oy, an Ähtäri-based family business, has worked with Vapo as a transport entrepreneur since 1991. The company also manages the loading of the peat it transports and operates as a peat extraction contractor at Vapo's peat production site in Mäkilänsuo.

KuljetusViinikka's roots can be traced back to the late 1970s, when **Hannu Viinikka** bought a tractor and became a machine contractor. Viinikka says his path to entrepreneurship was a gradual one.

"I felt it would be more lucrative than working for someone else," he says.

Viinikka began as a contractor in peat production in the 1980s. As the

years have passed, the company that originally consisted of one man and one tractor has grown and expanded its operations. Viinikka's eldest son Janne joined the company in 2003, and his younger son Mikko drives asphalt loads around in a KuljetusViinikka vehicle. In addition to the members of the family, the company has two year-round employees and it hires summer workers for its peat extraction operations.

"We also do small-scale excavation work and plough snow in the winter. We've had some ploughing assignments for 40 years so we just haven't been able to let go of them," Viinikka explains.

**A trusted driver for the Ähtäri heating plant**

Viinikka estimates that 90 per cent of the company's turnover comes from Vapo, mainly from transport services. KuljetusViinikka uses two vehicles to deliver peat to Vapo's customers in municipalities including Ähtäri, Virrat, Keuruu and Jämsä. Fuel deliveries are less frequent during the summer but, in the winter, the vehicles are always on the move.

The company has been the sole transport entrepreneur delivering peat to Ähtäri Energia ja Vesi Oy for the past 30 years. This represents a great responsibility. Viinikka ensures that Ähtäri Energia ja Vesi Oy's heating plant always has a sufficient amount of peat. The annual deliveries of peat to the heating plant correspond to about 30,000 MWh. During the winter season, the company delivers one or two loads per day. They have even made Christmas night deliveries when the temperature has been very low.

"We've never let the plant run out of peat. It's a big commitment, but for us it's a way of life," Viinikka says with a smile.

According to **Juha Keisala**, Operation Manager at Ähtäri Energia ja Vesi Oy, cooperation with KuljetusViinikka has been smooth in every way.

"We've never run out of fuel, not even in special circumstances. Their personnel are good at what they do, and it's been a pleasure to work with them through the years," Keisala explains.



# VAPO VENTURES

*— Vapo Ventures is tasked with developing new businesses based on Vapo's resources and competencies.*

Vapo Ventures develops and commercialises Vapo's new businesses based on the company's strengths, raw material resources, competencies and networks. The new business solutions are related to the sustainable use of natural resources in order to increase the refining rate to create energy products and new consumption goods.

Based on this premise, Vapo Ventures creates environmentally sustainable and financially profitable business ventures that have a strong focus on customers.

The first Vapo Ventures startup is Vapo Clean Waters Oy, which provides solutions for the treatment of natural waters. Vapo Fibers develops innovative and ecological peat fibre solutions for industry. The newest startup is Vapo Carbons, a technical carbon business that is currently in the commercialisation phase.

**Vapo Clean Waters Ltd**

Clean Waters, Vapo's business focused on the management and treatment of natural waters, was incorporated into a wholly-owned subsidiary of Vapo in 2016. Vapo Clean Waters Ltd is an example of how expertise rooted in responsibility can lead to the creation of new, innovative and growing business. The expertise accumulated over several decades from water treatment in peat production is now being leveraged and offered to customers looking to reduce the impacts on waterways from other land uses.

The mission of Vapo Clean Waters is to promote cleaner waters. By year's end 2016, Clean Waters had been involved in the planning or implementation of more than 20 water protection sites in agriculture, forestry and urban environments across Finland. The water treatment structures implemented by the company have a significant combined effect on the impact on waterways and this effect will only increase further, as the effectiveness of natural



Vapo Clean Waters Ltd implemented the City of Jyväskylä's first urban wetland to purify the city's drainage waters. The opening of the Eerolanpuro wetland was celebrated in August 2016.



**The mission of Vapo Clean Waters is to promote cleaner waters.**

systems improves over time due to the growth of vegetation, for example.

The company's spearhead project in 2016 was completing the Eerolanpuro wetland in the city of Jyväskylä. Clean Waters planned and implemented the wetland to treat drainage waters flowing into Lake Tuomiojärvi as well as increase the local biodiversity and recreational value. For the City of Jyväskylä, the wetland is the first urban wetland created in the built environment. Lake Tuomiojärvi is a source of untreated water for the city, which makes the purification of drainage waters especially important.

Clean Waters also completed its first stream restoration project in 2016. In Kainuu, the company restored a stretch of some four kilometres of the Housupuro stream. The natural state of the stream had been previously altered by channel clearing and ditching as well as solid matter originating from the ditched areas. The restoration project

not only improved the water quality of the Housupuro stream, but it also created a better living environment for trout and other aquatic organisms.

In addition to working on customer projects, Clean Waters has continued to develop water treatment solutions for Vapo's peat production areas. In 2016, Clean Waters also began a product development effort aimed at developing its own purification products. The goal is the market launch of products that complement the current water treatment services, such as filters that make use of natural materials.



Vapo Carbons

Vapo Ventures is actively pursuing peat-based business opportunities beyond traditional fuel production. The aim is to find solutions based on the sustainable use of natural resources to increase the refining rate and produce new commodities.

In 2014–2016, Vapo Ventures developed the Vapo Carbons project, which was announced in autumn 2016. Vapo is planning to invest approximately EUR 50 million in a production plant for technical carbons. Technical carbons refer to products such as activated carbon, carbon black and raw carbon used for purposes other than energy production. Activated carbon is used in the purification of liquids and gases, while carbon black is used as a pigment and an additive in the rubber and plastic industries.

The international market for technical carbons holds great promise due to the growing need for air and water purification. The majority of the world’s technical carbons are currently produced from oil and coal. Vapo has developed a new energy-efficient method for producing technical carbons from peat. The method makes it possible for us to produce competitive and high-quality products. Vapo also has the capacity to guarantee long-term availability and reliable deliveries.

The potential locations for the technical carbon production plant are Haapavesi, Ilomantsi and Seinäjoki. They all have sufficient and logistically sensible raw material reserves. The project has also been very favourably received at each of the three potential locations. The employment effect of the plant’s full production chain would correspond to approximately 200 man-years. The plant would produce tens of thousands of tonnes of technical carbons per year. The plant’s environmental impacts are being carefully assessed in the permit application stage, which is currently underway, but the plant’s operations are not expected to have significant environmental impacts. The inputs of the planned process do not include hazardous chemicals, nor do the climate emissions differ from those of a power plant of corresponding size that uses domestic fuels.

The investment decision on the construction of the first production plant is estimated to be made by the end of 2017. If the decision is made to invest in the plant and its construction begins in



Jorma Kautto and Christoffer Westin received a finalist’s honourable mention on behalf of Vapo Fibers in the Central Finland qualification round of the KasvuOpen competition.

the first half of 2018, production operations at the plant can begin in 2019.

Vapo Fibers

In 2015–2016, Vapo Ventures developed Vapo Fibers® as a new business initiative aimed at delivering peat fibre-based materials to the market. Peat fibre has been found to have special properties that bring added value and new properties to various fibre products, such as insulating materials, building boards, garden substrates and oil absorption products. Surveys indicate that the size of the potential market for peat fibre is in the billions of euros. Even a small market share or individual breakthrough can create significant sales.

Peat fibre is an environmentally sound raw material. Unlike the manufacture of many other fibre materials, the production of peat fibre does not require fields or forests, fertilisers or crop protection products. The preservation of biodiversity is ensured by the environmental permit processes. When production is discontinued, the areas are immediately allocated to subsequent uses; for example, by converting them into bird sanctuaries.

The special properties and producibility of peat fibre were investigated in 2016 in a project financed by Tekes, the Finnish Funding Agency for Innovation. The main goal was to find production methods that yield fibre fractions

that are sufficiently consistent and pure as well as suitable for customers’ production processes. The methods were also geared towards making maximum use of the company’s existing equipment. Recognising the promise held by the market potential of peat fibre in combination with Vapo’s peat-related expertise and peat reserves, the Vapo Ventures steering group decided to propose to Vapo’s Board of Directors that a new business unit, Vapo Fibers, be established effective as of 1 May 2016.

Vapo Fibers® participated in KasvuOpen®, a national business idea competition, where it made it through the Central Finland qualification round with an honourable mention citing “a good story, large potential, credible team and sufficient resources”. While a place in the top ten turned out to be beyond reach, Vapo Fibers received a great deal of positive feedback and media attention during the competition.

In short-term strategy development efforts based on market surveys, it was decided that Vapo Fibers’ resources will be aimed at selected market areas where market entry is expected to be easiest and where the special properties of peat fibre are likely to play a significant role. Vapo Fibers is currently focused on productisation and customer acquisition. The goal is for the business to break even in the next financial year.

# WE RESPECT THE ENVIRONMENT

*Local environmental impacts • Emissions  
Energy efficiency • Water • Material efficiency  
Increasing environmental awareness • Waste*





# MANAGEMENT AND ORGANISATION OF ENVIRONMENTAL ISSUES

*Environmental responsibility is part of Vapo’s day-to-day operations.*

Vapo’s management of environmental issues is guided by its environmental policy and environmental strategy 2020. Vapo is committed to continuously improving its operations and developing its environmental efforts. The Group’s environmental objectives include the sustainable use of natural resources, reducing greenhouse gas emissions and waste, improving material efficiency, and promoting sustainable development in cooperation with the value chain. Each of Vapo’s businesses has an environmental programme in accordance with the environmental strategy. The environmental programmes specify the most significant aspects of environmental responsibility along with annual targets. Key environmental issues, such as the status of the responsibility commitments related to peat production, are regularly reported to Vapo’s Board of Directors.

Each of Vapo’s businesses has a person responsible for environmental

issues who, together with the management of the business area, is responsible for environmental management and stakeholder cooperation with regard to environmental issues. The practical responsibility for the effective management of environmental issues is borne by all Vapo employees and entrepreneurs. Environmental responsibility is part of our day-to-day operations and our aim is to be an organisation that is recognised for its responsibility.

Vapo maintains and develops its environmental expertise through training aimed at employees and entrepreneurs. New peat production entrepreneurs and drivers receive introductory environmental training for peat production as part of their tractor operating permit training. Kekkilä organised Environmental Safety Card training for personnel in its factories and peat production operations in 2016. Corresponding training will

continue in 2017 for Vapo’s peat production personnel. In 2017, Vapo will put significant emphasis on environmental and quality management competence as part of the training programme On the Path to Global Leadership.

A certified management system is a practical tool for the management of environmental issues. Vapo and its Finnish subsidiaries have a certified ISO 14001 environmental management system and an ISO 9001 quality management system. The sustainability and traceability of wood raw materials is verified by means of PEFC certificates. Vapo’s pellets have also been awarded the Key Flag Symbol to certify their origin.

Vapo’s environmental policy, environmental strategy, responsibility commitments related to peat production and existing certificates are available on the company website: [www.vapo.com/en/responsibility/the-way-we-operate](http://www.vapo.com/en/responsibility/the-way-we-operate).

## CASE THE SOTKAMO POWER PLANT IS NOW EVEN CLEANER THAN BEFORE

Renovation and new equipment reduced emissions and improved delivery reliability.

Equipment investments and infrastructure improvements at the Sotkamo power plant have reduced emissions into the environment while improving energy efficiency and delivery reliability. An electrical filter was installed at the power plant to remove particle emissions from flue gas. The flue gas also passes through a scrubber that reduces, among other things, the sulfur and particle emissions of fuels. The scrubber also captures the heat energy contained in the flue gas, which improves the plant’s energy efficiency. The scrubber is complemented by a newly installed heat pump that facilitates the more efficient



transfer of heat captured from flue gas to the return water, further increasing the plant’s energy efficiency.

The environmental emissions have been substantially reduced. Energy

efficiency has increased, which means that more energy is captured from the same amount of fuel. The plant’s delivery reliability has also improved. This ensures stable heating costs for the customers of the Sotkamo district heating network.

Vapo has invested in energy efficiency by conducting energy analyses and district heating reviews in the municipalities in which it has district heating operations. At the Sotkamo power plant, for example, construction work was preceded by an energy analysis to ensure that the modernisation investments are appropriately targeted.

### Environmental permits

The operations of Vapo’s power plants, pellet factories, composting plants and peat production are regulated by environmental permits issued by the environmental authorities. Some of Vapo’s heating plants are also subject to an environmental permit or registration procedure. The permit decisions include requirements related to topics such as emission limits and emission reduction as well as assessment and reporting.

Peat production areas exceeding 150 hectares in size are subject to an environmental impact assessment (EIA). In 2016, 690 hectares in newly approved production sites were obtained through environmental permit applications for peat production. The EIA process was completed for areas totalling 402 hectares, and a further 3,460 hectares were subject to pending EIA processes at the end of

2016. Environmental permit decisions were received for two new heating plants.

Environmental feedback and irregularities are handled at the business area level and reported to the Board of Directors.

Diversion incidents in peat production and their management are monitored. In 2016, drainage waters from peat production had to be rerouted to diversion culverts and dams on 78 occasions to prevent damage to water protection structures, for an average of five days per incident.

The number of diversion incidents increased from the previous year’s figure of 70. The average duration of the diversion incidents was reduced from eight to five days. Diversion is allowed under the conditions of the environmental permits provided that the incidents are reported to the supervising environmental authority.

The environmental authorities inspect peat production areas at four-year inter-

vals. In 2016, Centres for Economic Development, Transport and the Environment made 128 inspection visits to Vapo’s peat production areas.

The supervisory authorities found that there was an incident of unreported excess emissions at the Haapavesi power plant. The authorities also reprimanded the power plant for exceeding the emission limits on several different emission components. The excess emissions did not have a significant environmental impact. The Forssa power plant and the Itäranta heating plant in Tikkakoski were found to have failed to carry out the condensation water analyses required by the regulations. The Länsiranta heating plant in Tikkakoski had failed to take the necessary groundwater samples and analyse them. These incidents did not have any environmental impacts.

### Vapo’s environmental objectives

Objective	Target	Achieved 2016
<b>Sustainable use of natural resources</b>	<ul style="list-style-type: none"><li>We will monitor the load on waterways from our operations</li><li>We will reduce the load on waterways from our operations</li><li>We will protect biodiversity through the active use of cutaway peatlands</li><li>We will manage the origin chain in accordance with PEFC and FSC certification</li><li>We will use certified wood raw material at sawmills and in pellet production</li></ul>	<ul style="list-style-type: none"><li>The amount of emissions monitoring was increased. The number of analyses conducted was 4,897 higher than in the previous year.</li><li>Emissions into waterways from peat production decreased from the previous year. Solid matter load (t/a) decreased by 12%, nitrogen load (t/a) by 15% and phosphorus load (t/a) by 8%.</li><li>Some 1,235 hectares of land was reforested and wetlands were built in an area totalling 223 hectares.</li><li>The wood business and the pellet business are PEFC certified.</li><li>The raw material used in pellet production was 86 per cent certified. The wood raw materials used by the Fuels business were 98 per cent certified.</li></ul>
<b>Reduction of greenhouse gas emissions</b>	<ul style="list-style-type: none"><li>We will transform cutaway peat production areas into carbon sinks such as forests and fields</li><li>We will replace fossil fuels, oil and coal, with local fuels and energy solutions</li><li>We will improve energy efficiency</li><li>We will reduce energy consumption</li></ul>	<ul style="list-style-type: none"><li>Reforestation measures were implemented in an area totalling 1,235 hectares.</li><li>The use of domestic fuels at Vapo Oy’s power and heating plants remained on a par with the previous year. The use of coal increased slightly, but fuel oil consumption compared to the previous years.</li><li>The coefficient of efficiency improved for power plants and pellet heating plants and remained on a par with the previous year for other heating plants.</li><li>Electricity consumption decreased by 15% year-on-year. The divestment of Vapo Timber Oy contributed to this reduction.</li><li>Carbon dioxide emissions from peat transport were reduced by 2%. Going forward, we will develop our reporting of transport emissions in other business areas.</li></ul>
<b>Improving material efficiency</b>	<ul style="list-style-type: none"><li>We will optimise material efficiency and reduce raw material losses</li></ul>	<ul style="list-style-type: none"><li>Kekkilä used a significant amount of recycled raw materials and will continue to increase the use of recycled raw materials. Kekkilä also reduced its material losses. At pellet factories, the raw material loss rate was reduced to 2.3% from the previous year’s level of 2.8%.</li></ul>
<b>Waste</b>	<ul style="list-style-type: none"><li>We will reduce the amount of landfill waste</li><li>We will utilise ash generated in energy production for purposes such as forest fertilisation and soil construction.</li></ul>	<ul style="list-style-type: none"><li>The amount of landfill waste decreased by 37% from the previous year. Stack plastic in peat production was recovered at a rate of 100 per cent.</li><li>The use of ash from heating and power plants for soil construction purposes declined significantly. The amount of ash put in temporary storage was substantially higher than in 2015. The amount of ash used for forest fertilisation increased slightly.</li></ul>

\* Excludes Vapo Timber.

# LOCAL ENVIRONMENTAL IMPACTS

*Vapo strives to minimise the impacts of its operations on the local environment: watercourses, soil and air.*

### Biodiversity

In accordance with the national mire and peatland strategy, Vapo allocates its peat production to ditched peatlands that are no longer in their natural state. At peatlands ditched for use in forestry, basic drainage has already been carried out and water filtration routes have been altered. This means that starting peat production at ditched peatlands does not increase the overall load on waterways as much as it would in a mire in its natural state. This also helps prevent a decline in the number of mires in their natural state.

Vapo has classified the peatlands and mires it owns in accordance with the Finnish government's classification system, in which category 0 is the most altered state and category 5 is the most natural state. Some 98 per cent of the peatlands owned by Vapo are in categories 0–3. Vapo established a policy in 2012 to not apply for environmental permits for peat production for category 4 and 5 peatlands, which are mires in the most natural state.

Since 2011, Vapo has reached agreements with the Ministry of Environment and Metsähallitus on the conservation of more than 2,500 hectares. The exchange of peatlands for conservation purposes will continue. In addition, Vapo sold the Rastunsuo bird sanctuary in Rautalammi to the Northern Savonia district organisation of the Finnish Association for Nature Conservation. The site was decommissioned as a peat production area in 1993. A list of peatlands sold for conservation purposes in 2011–2016 is available on Vapo's website [www.vapo.com/turvetuotantoavastuullisesti/ymparistonsuojelu/luontoarvosoiden-suojelu](http://www.vapo.com/turvetuotantoavastuullisesti/ymparistonsuojelu/luontoarvosoiden-suojelu).

Vapo participated in voluntary restoration projects at Lake Tohmajärvi and Lake Onkamojärvi in 2016. The three-year restoration project at Lake Tohmajärvi is coordinated by the municipality

of Tohmajärvi. The Lake Onkamojärvi restoration project took place in Rääkkylä from 2009 to 2016.

Biodiversity was also promoted in 2016 in conjunction with the after-use of peatlands following peat production by building 223 hectares of wetlands and reforesting more than 1,200 hectares of decommissioned production sites.

Each year, some 1,000–2,000 hectares are released from Vapo's peat production activities. Part of this total is returned to land owners, part is sold, and the remainder is prepared for subsequent land use methods. The most common use of cutaway peatlands is forestation, agriculture or the construction of different types of wetlands. Wetlands undergo natural changes in their species structure over time and the process of paludification starts over. Vapo is committed to having areas owned by it and released from peat production in active after-use within two years of the end of production operations.

### Water consumption

The total withdrawal of water associated with the production operations of Vapo and Kekkila amounted to 941,000 cubic metres in 2016. Of this total volume of water, 81 per cent was drawn from waterways and 17 per cent came from municipal water utilities.

Leachates from peat production are mire-based natural waters generated in peat production. They contain solid matter washed off from peat and the soil, nutrients and humus, on average at slightly higher concentrations than the waters in a mire that is in its natural state. Leachates from peat production do not contain substances that are foreign to aquatic nature. In principle, it is the same kind of water that would flow off the bog even without any peat production activity. Water protection structures in peat production can be

an effective solution for reducing the solid matter and nutrient load on waterways.

### Impacts on watercourses and reducing the load on waterways

Water quality in peat production is monitored in accordance with the provisions of environmental permits and inspection programmes approved by the authorities. Vapo is committed to having all of its peat production areas subjected to emissions monitoring during the peat production season, and half of the production areas subjected to year-round emissions monitoring. The goal is to monitor emissions voluntarily at the current scale for three years. This ensures that sufficient continuous data will be obtained on the quality of the water that flows out of production areas.

The measurements related to inspection programmes are taken by specialised external service providers that are responsible for taking and analysing water samples as well as preparing and submitting reports to the authorities.

The number of samples and analyses under the emissions monitoring programme increased from the previous year. Emissions into waterways from Vapo's peat production decreased from the previous year. In addition to the monitoring of emissions and waterways by external consultants, Vapo takes additional samples during periods of high flow and heavy rain as well as in problem situations. A total of 389 such samples were taken in 2016.

On its website, Vapo publishes information on the contact persons for each production area, as well as reports on emissions and the monitoring of waterways produced for the authorities by consulting agencies: [www.vapo.com/turvetuotantoavastuullisesti/tarkkailuraportit](http://www.vapo.com/turvetuotantoavastuullisesti/tarkkailuraportit).

The Our Peatlands on the Web online service includes comprehensive data on

Vapo's peat production areas, the water treatment methods used and the annual load on waterways.

Vapo has measured the load at peat production areas on a continuous basis since 2013. At the peak of the continuous monitoring programme, there were 33 measuring stations across Finland. The current number of measuring stations is 16. Interested parties are invited to view data on the quantity and quality of water flowing from Vapo's peat production sites to the surrounding environment. Produced by Valmet, the real-time water quality measurement service increases transparency in the monitoring of the impact of peat production on waterways. The measurement results are available on the website of the service provider, Valmet Oyj, at [www.valmet.com/ymparistodatapalvelu](http://www.valmet.com/ymparistodatapalvelu).

Continuous load measurement complements the emissions monitoring activities required by environmental permits and produces transparent, independent and reliable public information regarding the environmental load arising from peat production. More accurate load measurement and monitoring provides more detailed information on the impacts of peat production on waterways.

Vapo is committed to ensuring that, from the year 2016 onwards, the solid matter and humus load of new peat production areas will be lower than that of the same bog before peat production. In 2016, the initial water quality was assessed at sites planned for peat production. More than 2,100 water samples have



Simo Kokko and Heli Kivisaari taking samples at Havusuo in Joutsa.

been taken at the sites, with nearly 17,000 analyses carried out.

The company has continued the development of water treatment by improving the operating conditions for natural water treatment methods that have been found to be effective. The development of water treatment methods has included the testing of solutions such as commercial filtration equipment and electric sedimentation. The development efforts will continue, with several new tests of water treatment methods planned for the near future.

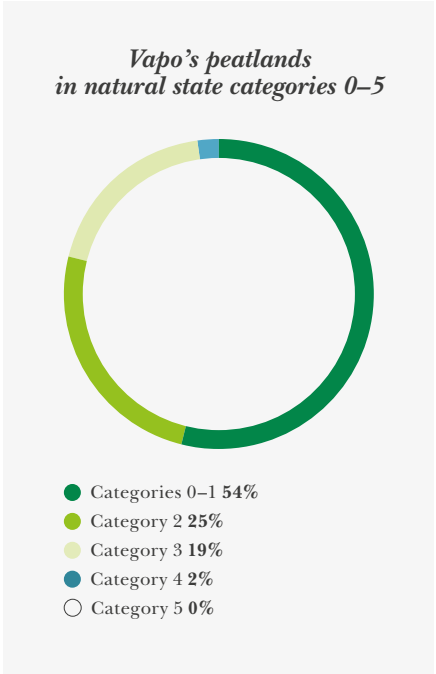
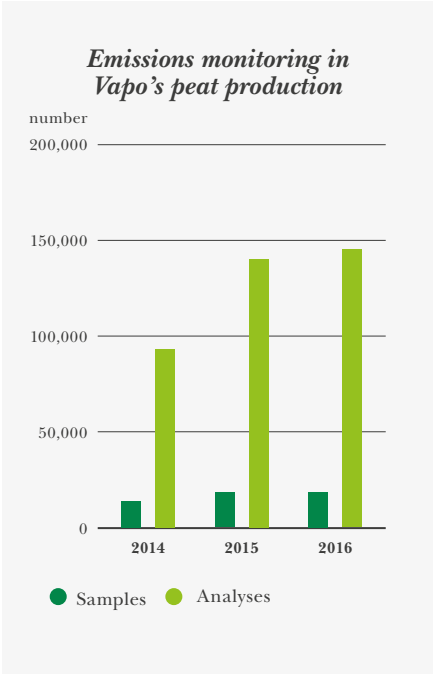
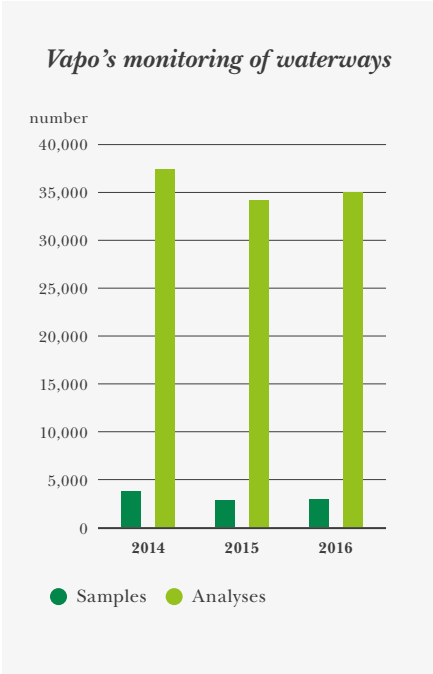
### BAT water treatment methods and self-monitoring

BAT (Best Available Techniques) in water treatment at peat production areas refers to modern and natural water purification

methods, such as overland flow areas and wetlands, and in special cases, chemical treatment. These methods complement the purification effectiveness of basic methods such as drainage ditch structures and sedimentation basins. At peat production areas, the best available techniques are determined on a case-by-case basis, taking into consideration the special conditions and remaining useful life of each production site.

Starting from summer 2016, Vapo has only used production areas in which water treatment is in line with the best available techniques.

Vapo continues the enhanced monitoring of the effectiveness of water treatment structures at peat production areas. Vapo has ordered peat contractors to inspect





Specific load (kg/ha/a)	2013	2014	2015	2016
Solid matter	43.8	38.2	40.1	37
Nitrogen	7	6.6	9.2	9.7
Phosphorus	0.28	0.20	0.33	0.35
Total load (t/a)				
Solid matter	3,002	2,116	2,193	1,923
Nitrogen	459	367	428	362
Phosphorus	18	11	13	12

water treatment structures at two-week intervals since 2012. In addition, environmental inspectors hired for the summer season have inspected the water treatment methods and environmental permit compliance at all production areas since 2011.

Kekkilä’s composting plants monitor operations, impacts, emissions and water quality in accordance with the conditions of their environmental permits. Process wastewater generated by the composting plants is utilised entirely by the composting plants’ own processes. To enable this, the composting plants have implemented development measures during the past year to facilitate the even more effective reutilisation of wastewater and minimise the amount of water released by the plants. There are also plans to further enhance water treatment with regard to waters channelled from fields to waterways.

Noise and dust monitoring

Noise and dust impacts are minimised across all of Vapo’s operations. In peat production, the goal is to achieve the lowest possible level of dust and noise. Peat production methods and equipment are continuously developed to reduce dust levels. Entrepreneurs are also provided with training on environmental working methods and driving style to reduce dust and noise.

Environmental permit decisions include limits on airborne emissions and noise. In 2016, dust monitoring was carried out at eight of Vapo’s peat production sites, while noise monitoring was carried out at nine sites.

Environmental noise monitoring was also carried out at the Sotkamo power plant and four heating plants.

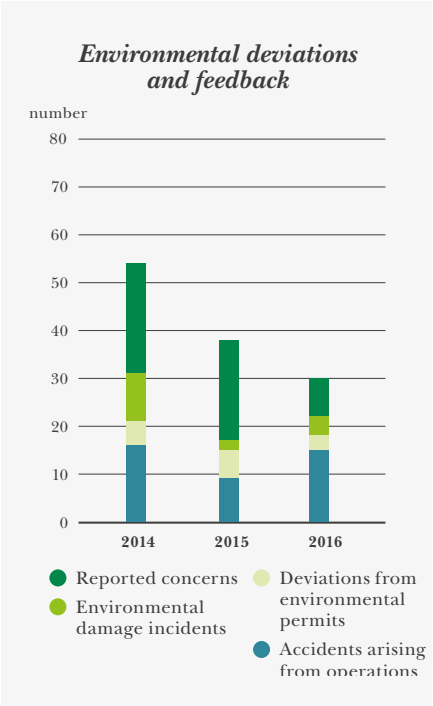
At certain peat production areas, the monitoring of negative impacts from dust and noise is based on a letter distributed to local residents asking them to report any

negative impacts. This procedure was applied at 127 peat production areas in 2016.

**Emissions**

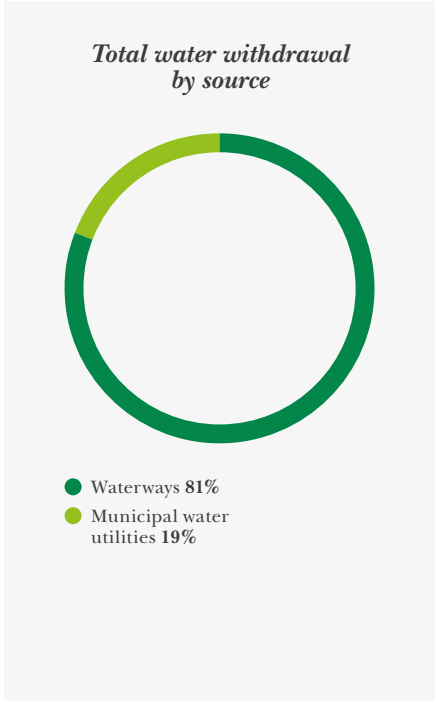
Measurements of flue gas emissions were taken at five power plants and six heating plants in 2016. In addition, flue gas emissions are monitored by continuously operating equipment at the Haapavesi power plant.

The carbon dioxide emissions of Vapo’s heating and power plants remained on a par with the previous year. Particle emissions were reduced by seven per cent, NOx emissions by three per cent and SO2 emissions by four per cent. The reduction in particle and SO2 emissions was particularly attributable to the deployment of a flue gas scrubber at the Sotkamo power plant. The reduction in nitrogen oxides was mainly due to combustion optimisation and boiler adjustments.



The emissions from Vapo’s transport operations are minor in significance compared to the emissions from heating and power plants, but fuels used in peat transport constitutes approximately one third of the total cost of peat production.

The majority of Vapo’s transport operations involve transporting peat by road. Some 53 per cent of Vapo’s peat transport and 90 per cent of the consumer distribution of pellets were carried out using vehicles in emissions category 5 or 6. The emissions limits for these categories are more stringent than those of categories 1–4. Carbon dioxide emissions from peat transport in 2016 decreased by two per cent compared to the previous year. However, relative emissions remained unchanged from the previous years and amounted to approximately 50 grams of carbon dioxide per 1,000 km.



ENERGY AND MATERIAL EFFICIENCY

Vapo recycles waste, delivers waste for reutilisation and takes active steps to reduce its energy consumption.

Material efficiency reduces landfill waste

Vapo is actively seeking to increase waste recycling and reutilisation. Some 72 per cent of the waste generated in 2016 was recycled. The most significant waste fractions are ash and used stack plastic. In 2016, Vapo delivered approximately 2,167 tonnes of used stack plastic for reutilisation. Of this amount, 70 per cent was utilised as energy and 30 per cent was utilised as recycled materials. Other measures that have been already implemented include the utilisation of recycled raw materials in Kekkilä’s operations as well as the reduction of material losses.

The utilisation of ash

Vapo continued its measures to increase the utilisation of ash originating from its heating and power plants in 2016. Vapo’s ash is primarily generated by the burning of wood and peat. Ash quality is monitored by laboratory analyses to

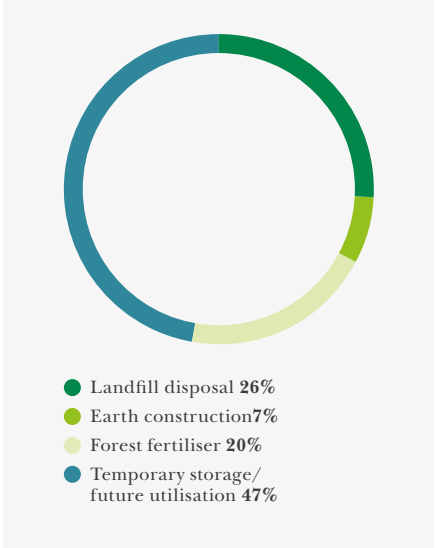
ensure its suitability for various uses. A large proportion of the ash generated in 2016 was placed in intermediate storage to await future use. The amount of ash put in temporary storage was substantially higher than in the previous year. The use of ash in soil construction decreased significantly, while the amount of ash put in temporary storage increased slightly from the previous year. A new legally valid environmental permit decision was obtained for the use of ash in soil construction.

Energy efficiency

Improving energy efficiency is a key environmental objective for the Group. Vapo has joined the Ministry of Employment and the Economy’s energy efficiency agreement for the period 2008–2016.

In 2016, Vapo continued its own power and heating plants’ multi-year development programme aimed at improving energy efficiency and reducing oil consumption. The most significant

Use of ash generated at Vapo’s facilities in 2016, total 16,000 tonnes



Environmental commitments in peat production

- We will build water treatment systems using the best available techniques at all areas that are currently in production.
- We will continue the enhanced monitoring of the effectiveness of water treatment structures.
- We will present the contact persons for each production area on our website as well as reports on emissions and the monitoring of waterways.
- We will increase the use of continuously operating meters in load monitoring.
- We will produce peat only in production areas where the natural state has been altered.
- We will continue to exchange Vapo-owned mires with significant nature value with ditched peatlands or sell such mires for use for conservation purposes.
- We are committed to ensuring that, from the year 2016 onwards, the solid matter and nutrient load of new peat production areas will be lower than it was before peat production.
- We are committed to having all of our production areas subjected to emissions monitoring during the production season and half of them subjected to year-round monitoring. The enhanced monitoring will continue for three years.
- Areas released from Vapo’s peat production will be in their next use within two years of the end of production operations.



energy efficiency investments in 2016 were the equipment investments at the Sotkamo power plant and the Forssa power plant's district heating battery. Several efficiency improvement measures were implemented at other power plants and heating plants.

Energy efficiency in peat production has been developed by, among other things, improving the energy efficiency of pump stations and assessing the potential of using solar power as well as the remote monitoring of pump stations.

Vapo's total electricity consumption in 2016 amounted to 36,910 MWh (excluding the electricity consumption of power plants). Electricity consumption decreased by 15 per cent year-on-year. The divestment of Vapo Timber contributed to the decline in electricity consumption.

Vapo's heating and electricity generation and the fuels used in these activities are reported on page 18.



Stack plastic is ground, washed and granulated. The granules are used as a raw material by the plastic industry.

Emissions from heating and power plants

	2014	2015	2016
CO <sub>2</sub> emissions, 1,000 tonnes	312	335	344
Particles, t	216	179	138
NO <sub>x</sub> , t	782	777	940
SO <sub>2</sub> , t	722	503	637

\* The data for 2014 and 2015 comprise emissions from heating and power plants. The data for 2016 also includes pellet factories. The reported emissions are based on flue gas measurements and computational multipliers. The measurements and calculations are based on EU regulations and Finnish legislation. The carbon dioxide tonnes (CO2/t) of Vapo Oy's plants included in emissions trading are reported in accordance with the Emissions Trading Act. The calculations are based on the EU Emissions Trading System.

Carbon dioxide emissions from peat transport

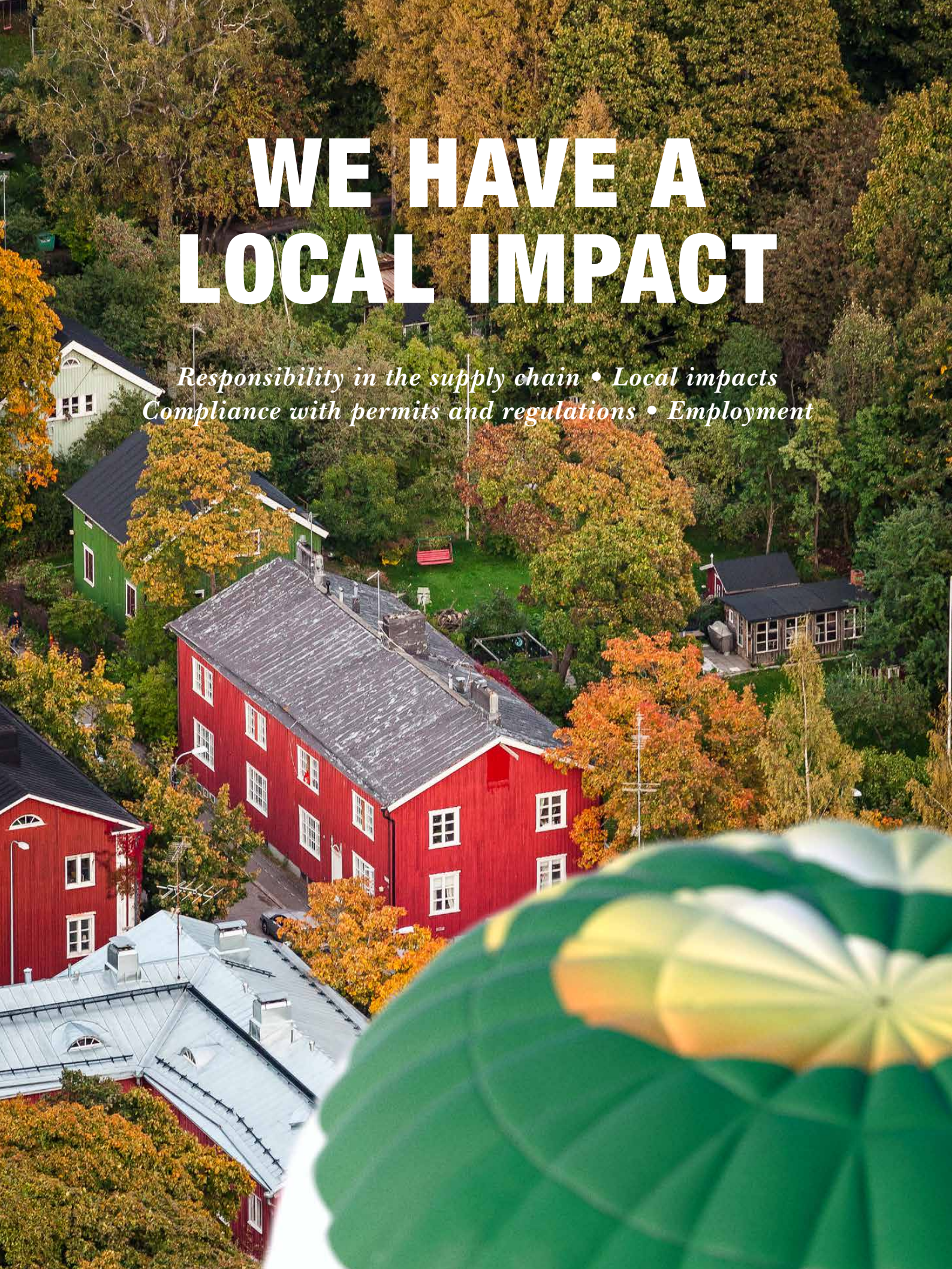
	2014	2015	2016
CO <sub>2</sub> tonnes	21,208	18,635	18,252

Waste volume (tonnes)

	2014	2015	2016
Landfill disposal	9,402	7,513	4,758
Recycled	23,059	25,799	12,374
Total waste volume	32,461	33,312	17,132
Recycling rate, %	71	77	72

Reuse of used stacking plastic\*

\* Unlike in previous years, the stacking plastic volume for 2014 is calculated using the purity grade 0.6 for all plastic. The previously applied purity grades were 1.0 for some of the plastic used, and 0.6 for the remainder.



WE HAVE A LOCAL IMPACT

Responsibility in the supply chain • Local impacts  
Compliance with permits and regulations • Employment

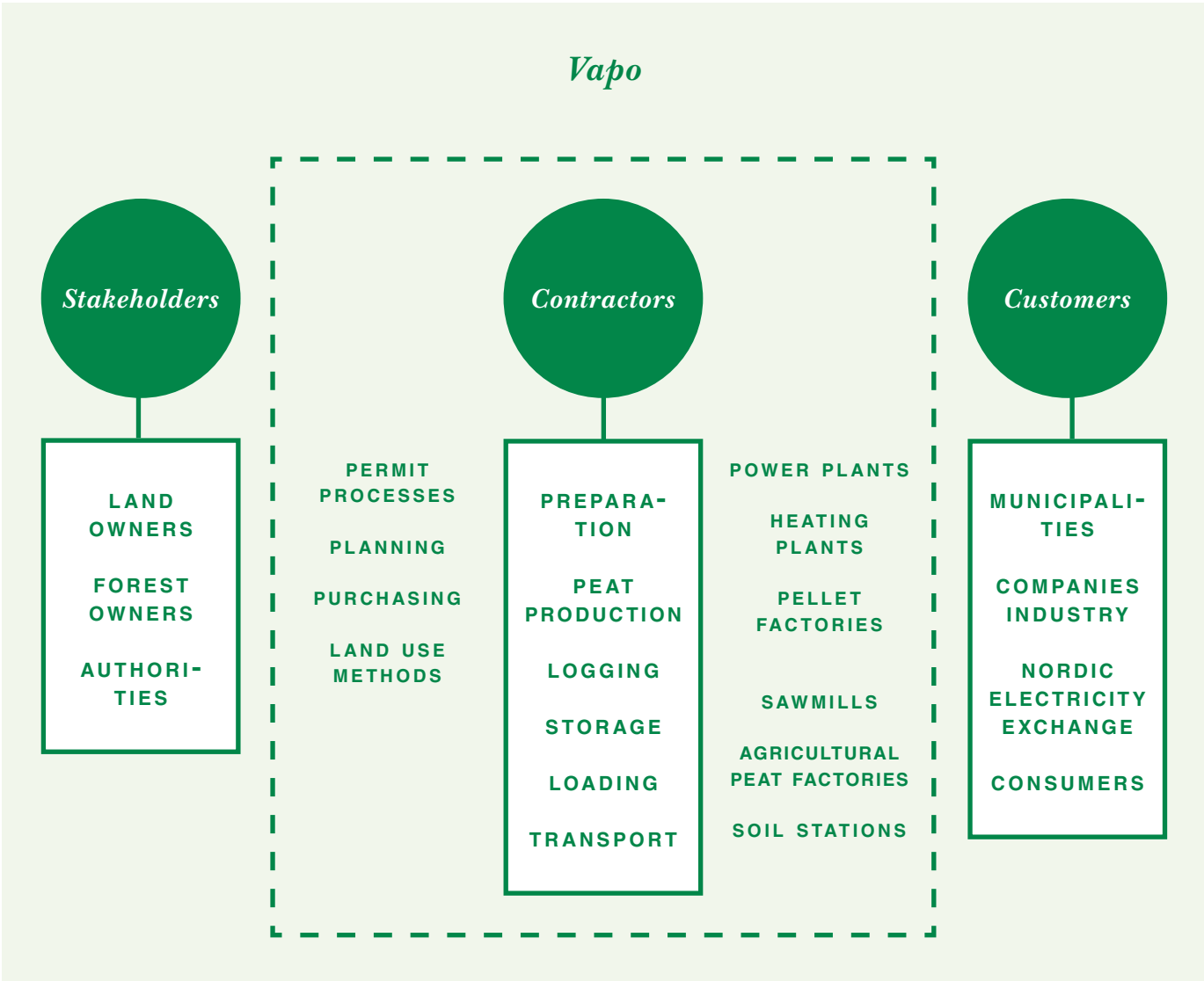


# RESPONSIBILITY IN THE SUPPLY CHAIN

*Local entrepreneurs are a key part of Vapo’s fuel supply chain.*

Vapo’s fuel supply chains consist of local enterprises, as peat and wood fuels are typically sourced within 150 kilometres of the heating and power plants of cities, municipalities and industrial operators. Vapo’s aim is to build multi-year cooperation agreements that create investment opportunities for both parties. This creates local jobs and continuity. In 2016, Vapo purchased services from more than 300 companies in the various stages of the peat product supply chain and, in wood energy procurement and delivery, services were purchased from more than 100 companies.

The significance of responsibility and transparency in the supply chain has increased substantially in the 2010s. The importance of responsibility in the supply chain’s operations, and as a criterion in the selection of partner entrepreneurs, is highlighted in various societal contexts. All of Vapo’s contract entrepreneurs have



joined the Reliable Partner programme maintained by Suomen Tilajavastuu Oy, which gives entrepreneurs the ability to verify, in real time, that they have fulfilled their obligations pursuant to the Contractors’ Liability Act. In addition to joining the Reliable Partner programme, all contract entrepreneurs are committed to compliance with Vapo’s Code of Conduct, which was approved in 2015. The Code of Conduct was incorporated into all contracts in 2016. Another significant topic in the area of responsibility is the PEFC origin chain certification of wood fuels, which began in 2015. The target was achieved in 2016 and all of Vapo’s wood fuels and commercial timber are now certified.

Vapo has developed the Mobi system to facilitate the monitoring of field operations and the condition of environmental structures. At the same time, the system is a service that allows contract entrepreneurs to transfer all information electronically. Agreements with production entrepreneurs are linked to the

management and supervision of production-related environmental issues. The steering and monitoring of operations takes place in real time and it is controlled during the production season by means of self-monitoring. In 2016, the development of the Mobi systems was focused on the digitisation and electronic distribution of site documents, which makes it possible to transfer all the documents and data related to environmental permits, for example, electronically in real time. The goal for 2017 is to test the system extensively.

Training for entrepreneurs continued with a strong emphasis on the theme of occupational safety. Based on the feedback received on training held in 2015, Vapo decided to focus even more on training contract entrepreneurs. The training programme was prepared in cooperation with the Finnish Institute of Occupational Health and the theme was the employer’s obligations, such as orientation training, risk assessment, hazard assessment and occupational health services. The duration of the training was

**In addition to joining the Reliable Partner programme, all contract entrepreneurs are committed to compliance with Vapo’s Code of Conduct.**

one day and a total of six events were held across Finland. More than 150 entrepreneurs participated in the training. The total number of various supply chain entrepreneur events held during the year was nearly 20, with more than 300 entrepreneurs participating. More than 500 work machine operators and drivers participated in driver permit and tractor operating permit training.

## CASE GARDENING HELPS THE LOCAL COMMUNITY GROW

Kekkilä’s Growing Joy projects give local communities the opportunity to create thriving gardens.

In spring 2016, Kekkilä helped immigrant children who arrived in Finland as unaccompanied minors build their own gardens.

“For children, a garden can be a place where they can create new beginnings and do things together. We have seen how significant the impact of a garden can be on people’s lives. When we create new growth, we grow ourselves in addition to the plants we look after. Connecting with nature brings precious peace and joy to our lives,” says Nina Kinnunen, Head of Brand and Communications at Kekkilä Group.

The garden created with the children is one of Kekkilä’s 10 annual Growing Joy projects aimed at supporting gardening as a hobby among local communities. Kekkilä supports the projects by providing products as well as gardening expertise. Previous projects include creating a thriving herb garden in the middle of a suburb and donating supplies for building a garden at an assisted living facility for senior citizens with memory loss.

“Kekkilä wants to encourage people to grow together. Every experience of growth is important,” Kinnunen says.







CASE

## BRISK TRADE AND MEETINGS AT ME & MYCITY

Vapo is part of Me & MyCity Ostrobothnia, which gives students the opportunity to experience working life for a day.

Strömberg Park in Vaasa became a hive of activity when Me & MyCity Ostrobothnia<sup>h</sup> was built in the premises in November 2016, welcomed sixth grade students from two schools, one in Ylihärmä and the other in Seinäjoki's Kärki district. The students spent the day working for 19 model companies, one of which was Vapo.

"At Me & MyCity, sixth grade students can do live action role-playing in scenarios related to working life. They spend the day working in a specific job," says regional coordinator **Kukka-Maaria Kallio**.

The script for the Me & MyCity game system comprises 85 jobs ranging from Chief Physician to CEO and from journalist to salesperson. In addition to performing their roles in their assigned occupations, each student also acts as a consumer and a citizen.

### Energy Fair and district heating deals

One of the participating students from the school in Ylihärmä, **Helmi-Orvokki Jouppi**, spent her day at Me & MyCity as an Operations Manager for Vapo. Her duties included attending meetings and the Energy Fair, closing a deal on a district heating agreement and recognising differ-



### Vapo plays a major role in the regional economy as an employer.

ent types of bogs. Helmi-Orvokki didn't know much about Vapo beforehand.

"I did a little bit of reading online. If I hadn't come here, I wouldn't have learned as much as I did," she says.

In addition to the Operations Manager, the Vapo team at Me & MyCity included a Regional Director, a Plant Operating Manager and an Environmental Specialist. Helmi-Orvokki was satisfied with her day; her favourite part of the job was sales.

"The most challenging part was planning the Energy Fair. My co-workers were taking time off just when we were supposed to plan the fair together," Helmi-Orvokki explains.

Despite these challenges, the Energy

Fair went off without a hitch. They even closed another sale when Helmi-Orvokki's teacher, Reijo Rajala, visited Vapo's stand at the fair.

### Making Vapo familiar to local children

The Vapo team's day at Me & MyCity began and ended with a meeting. They had a review at a personnel meeting chaired by the Regional Director at the end of the day. The main lessons learned during the day were recorded in the minutes of the meeting. The day spent at Me & MyCity taught the children a lot about social skills and entrepreneurship. The most important aspects of running a company were teamwork and scheduling.

According to **Tommi Pihlajasalo**, Regional Director at Vapo, participating in Me & MyCity is an important form of stakeholder engagement.

"Vapo plays a major role in the regional economy as an employer in addition to its significant role in local energy production as a provider of heating for municipalities and industrial operators. We want to also have a presence among the younger generation by participating in Me & MyCity", Pihlajasalo explains.

# ECONOMIC RESPONSIBILITY

*Vapo is improving its profitability and developing new businesses.*

Profitable business is the foundation for economic responsibility. During the past five years, Vapo has made significant investments in improving profitability and developing new businesses to ensure the company's continued existence and the livelihood of its employees and partners far into the future. The new businesses announced in 2016, Vapo Fibers and Vapo Carbons, are good examples of new business initiatives that are based on Vapo's strengths and help build the company's future competitiveness.

Vapo recorded an operating profit of EUR 20 million for the financial year that ended in April 2017, compared to EUR 8.6 million in the previous year. One-off items related to the Group's restructuring weighed down on the financial result, but the company's solvency and liquidity are at a good level. Profitability is expected to improve significantly next year as a result of efficiency improvement

programmes and the incorporation of peatland assets owned by the company.

Vapo Group companies pay all of their statutory taxes, based on their own business operations, to the country in which they operate. Vapo Group companies do not use non-business-related international tax planning methods to minimise taxes nor do the companies have tax planning-related links to countries that are on the OECD list of tax havens. None of the Group companies have unpaid taxes or pending appeal processes. Group administration is responsible for the implementation of Vapo's tax strategy and compliance with country-specific tax regulations.

### Local economic impacts

Vapo's local impacts as an employer, taxpayer and buyer of products and services are significant, particularly in the Group's main operating countries of Finland,

Sweden and Estonia. The most significant change in Finland in 2016 was the sale of Vapo Timber Oy's sawmills in Lieksa and Nurmes to a new owner, which is reflected in the figures for Northern Karelia in the tables illustrating the regional financial impacts. For Vapo, it was important that the sale ensured the continuity of the sawmills' operations.

Vapo's total investments in Finland amounted to approximately EUR 26 million in 2016. The corresponding figure for the previous year was more than EUR 40 million. In 2015, Vapo pursued growth in its heat and power business through acquisitions, which was reflected in substantial investments, particularly in the Uusimaa region. The largest individual investment in 2016 was the Valio heating plant investment in Jyväskylä. New businesses will increase the company's investments in the coming years as the building of new production capacity begins.

## Purchases and investments by region in 2016, EUR

Region	Purchases	Change %	Investments	Change %	Total
Northern Karelia	13,337,563	-82.2%	901,037	-7.4%	14,238,600
Pirkanmaa	20,786,275	10.6%	2,896,284	5.2%	23,682,559
Southern Ostrobothnia	13,062,050	-10.8%	3,382,804	-15.4%	16,444,854
Northern Ostrobothnia	13,190,953	-16.6%	2,296,351	-10.7%	15,487,304
Uusimaa	3,720,780	5.0%	3,081,006	-75.1%	6,801,786
Satakunta	12,252,593	-9.1%	905,113	-48.0%	13,157,706
Central Finland	7,410,941	-18.3%	7,771,555	173.6%	15,182,496
Kanta-Häme	8,725,322	-18.7%	920,077	484.2%	9,645,399
South Karelia	8,011,622	1.6%	774,334	18.1%	8,785,956
Lapland	7,356,126	-6.2%	397,875	53.9%	7,754,001
Kainuu	2,642,585	-12.3%	412,407	-91.7%	3,054,992
Southern Savonia	2,638,349	-25.0%	758,054	-65.4%	3,396,403
Northern Savonia	4,052,669	8.7%	690,355	-31.4%	4,743,024
Southwest Finland	2,592,189	32.1%	1,813	-99.9%	2,594,002
Kymenlaakso	1,933,841	-12.1%	243,947	61.0%	2,177,788
Päijät-Häme	840,898	39.6%	243,028	-76.6%	1,083,926
Central Ostrobothnia	805,918	3.3%	106,908	-54.9%	912,826
Southern Ostrobothnia	178,173	-12.5%	502,110	100.0%	680,283
<b>Total</b>	<b>123,538,847</b>	<b>-35.9 %</b>	<b>26,285,058</b>	<b>-34.9%</b>	<b>149,823,905</b>

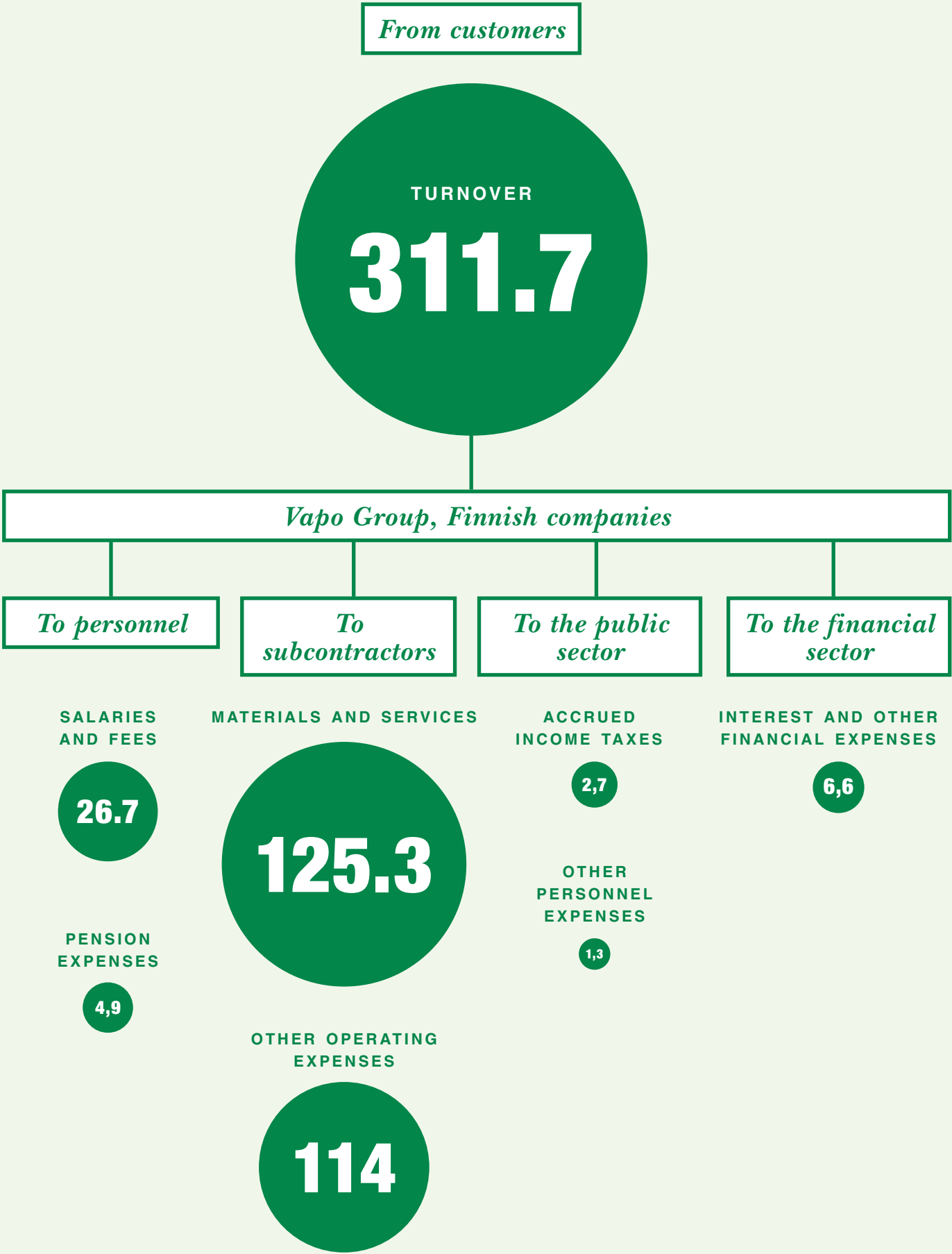


Vapo Group’s tax footprint, figures for the financial year 1 May 2016–30 April 2017, EUR million

	Finland	Sweden	Norway	Denmark	Estonia	Latvia	Spain	Russia
DIRECT TAXES PAYABLE FOR THE FINANCIAL YEAR, EUR MILLION								
Income taxes	2.639	0.312	0.003				*	
Employer contributions	0.479	2.515	0.116	*	0.614		*	
Property taxes	0.455	0.012	0.016	0.006	0.045			
Other taxes	0	0.104			0.213			
INDIRECT TAXES PAYABLE FOR THE FINANCIAL YEAR, EUR MILLION								
Excise taxes	1.756	0.067						
TAXES REMITTED FOR THE FINANCIAL YEAR, EUR MILLION								
Withholding taxes	7.789	2.517	0.395	*	0.347		*	0.009
Value added tax, sales	73.940	18.133	1.873	0.051	4.046			0.066
Value added tax, purchases	58.764	13.253	1.431	0.039	4.938	0.057	0.013	0.045
Other taxes	0.366	0.185					*	
Turnover by country	311.685	70.213	5.545	0.003	25.152		0.495	0.290
Result before taxes by country	-1.495	1.754	-0.531	0.032	1.647		0.117	-0.060
Personnel by country	516	174	21	1	57		1	6
Net investments by country	-8.937	2.182	0.119	0.020	2.514			
Grants and public subsidies	0.424	0.010	0.011					

\* Information is reported if the number of personnel is five or more.

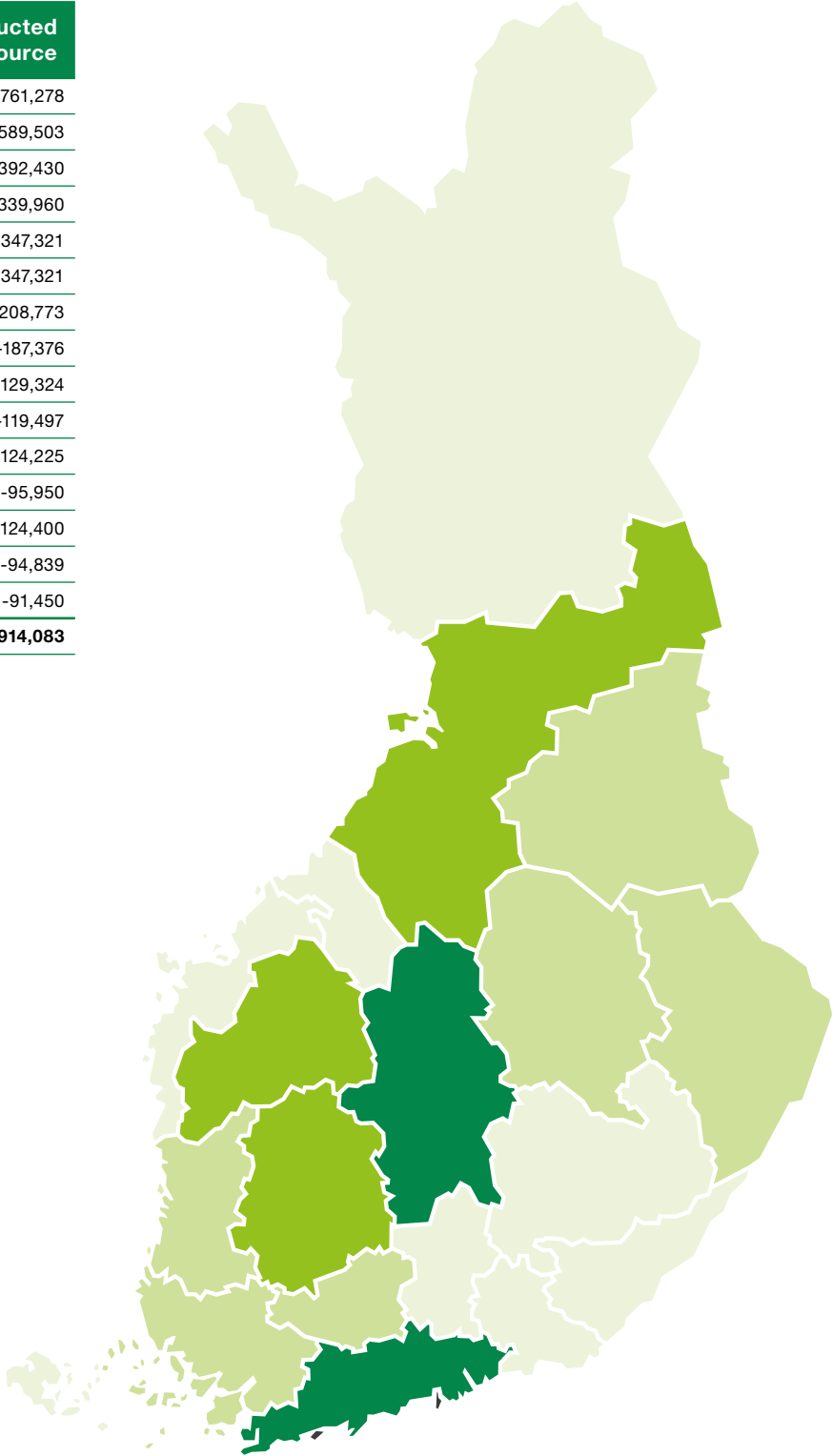
Economic impacts during the financial year 1 May 2016–30 April 2017 (EUR million)



Wages paid by Vapo Group’s Finnish companies in 2016, top 15 municipalities, EUR million

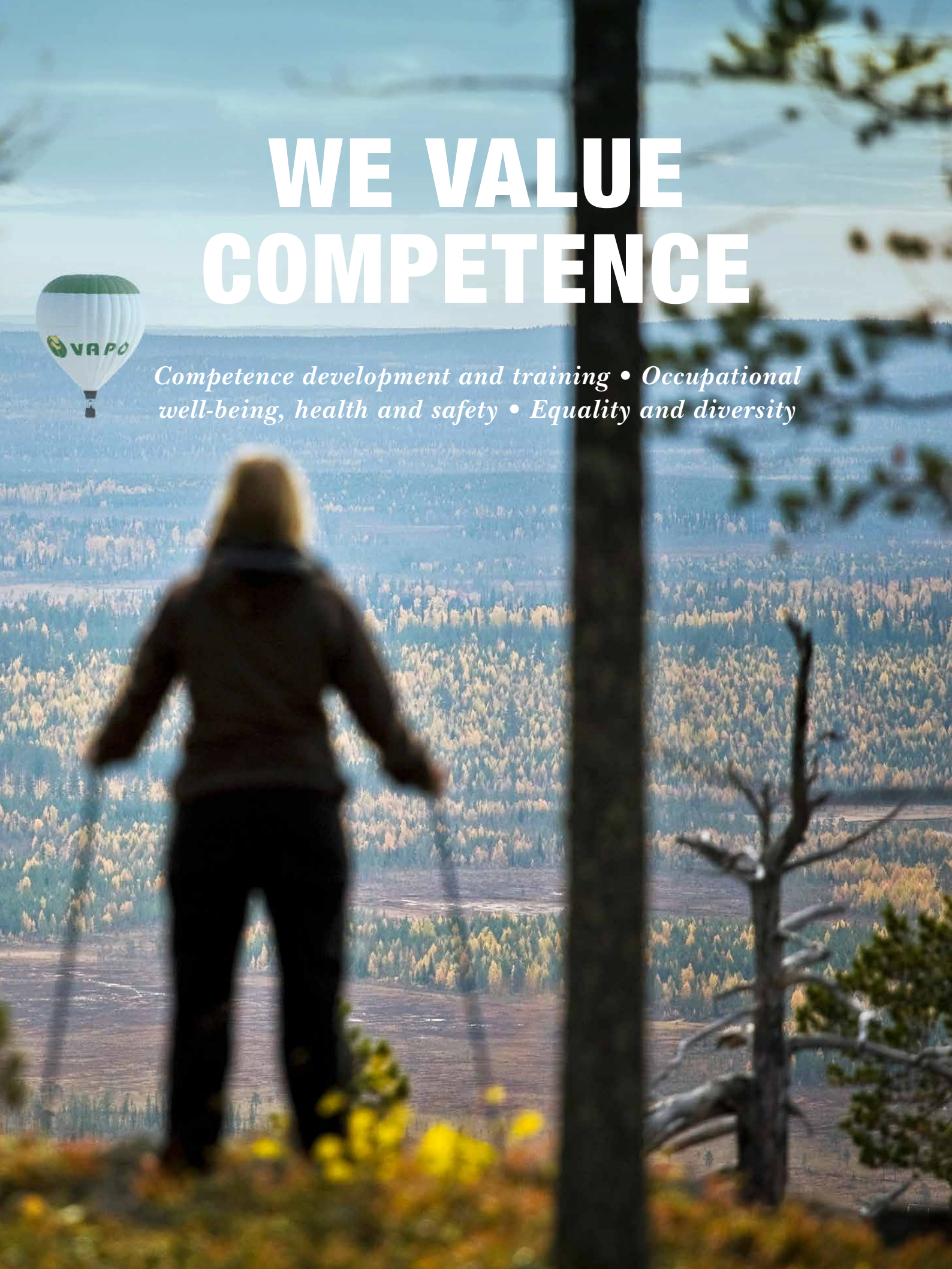
Municipality	Gross wages	Tax deducted at source
Jyväskylä	5,411,832	-1,761,278
Helsinki	1,940,209	-589,503
Seinäjoki	1,418,954	-392,430
Oulu	1,229,118	-339,960
Espoo	1,157,063	-347,321
Vantaa	1,060,716	-347,321
Parkano	785,402	-208,773
Salo	613,508	-187,376
Forssa	478,089	-129,324
Kihniö	460,874	-119,497
Siikalatva	447,689	-124,225
Eura	409,118	-95,950
Kuopio	399,937	-124,400
Jalasjärvi	386,350	-94,839
Lieksa	340,680	-91,450
<b>Total</b>	<b>16,539,539</b>	<b>-4,914,083</b>

Vapo Group, Finnish companies, wages by region, calendar year 2016, EUR



The map indicates the wages paid by Vapo Group’s Finnish companies by municipality and order of magnitude

- 0–499,000 €
- 500,000–1,999,999 €
- 2,000,000–4,999,999 €
- 5,000,000– €



# WE VALUE COMPETENCE

Competence development and training • Occupational well-being, health and safety • Equality and diversity



# MANAGEMENT OF RESPONSIBILITY FOR PERSONNEL

*In 2016, Vapo revised its operating model, invested in competence and developed managerial work.*

There were major changes in 2016 with impacts on Vapo Oy’s personnel. Having started the renewal of its operating model in autumn 2015, Vapo implemented the new operating model on 1 January 2016. The renewal of the operating model saw 150 job titles discontinued and 100 new roles established, with substantially broader responsibilities for the personnel concerned.

For those appointed into the new roles, putting the renewal of the operating model into practice meant new training, coaching and orientation activities. While a significant number of job titles were eliminated, only 15 employees were dismissed. All employees who could not be offered a job in the new organisation were provided with redeployment training tailored to their individual needs. The duration of the

training was at most one year. The training also included occupational health services to ensure that the individual needs of all participants were taken into consideration.

**Focus on competence and managerial work**

In the strategy confirmed by Vapo’s Board of Directors, the cornerstones of responsibility for personnel are employee competence and well-being at work. In 2016, the focus was on developing line management and improving occupational safety. The development of line management is measured by an annual personnel survey, the results of which are reviewed at the company level, business level and team level. Corrective measures are agreed upon based on the results and the progress of these

measures is monitored on a regular basis. Vapo’s supervisors and managers received a score of 3.71 for line management in 2016 and 3.82 in 2017.

Another topic that is monitored as part of the workplace climate survey is the employees’ perceptions regarding their own learning at work. The corresponding score was 3.71 in 2016 and 3.81 in the first survey conducted in 2017.

The areas with the most significant improvement compared to the previous year were related to organisational learning and courage.

The focus of training in 2016 was on increasing the personnel’s basic capacity in relation to the demands of the new roles. The next objective is to achieve more in-depth competence. The next workplace climate survey will assess the extent to which Vapo is successful in

maintaining new learning at the level expected by the personnel. The basic goal is that all training is accessible to as many people as possible.

**Promoting cooperation**

The results of the workplace climate surveys are analysed to identify topics that will be monitored by separate twice-yearly measurements to ensure sufficiently quick responses. Currently, special focus is placed on developing a sense of camaraderie and team spirit as well as cooperation between the different parts of the organisation. The challenge faced by Vapo is that the personnel are divided into dozens of small work communities, which complicates the exchange of information at work.

In 2016, Vapo introduced the Vapo Studio concept for the purpose of communicating the company’s strategy and its execution and targets to all personnel. The first Vapo Studio, held in October 2016, brought all of Vapo Oy’s personnel together in Jyväskylä for a one-day event. The attendance rate exceeded 90 per cent and the participants rated the day as excellent. The Vapo Studio concept has since been continued in digital form. The aim is to invite the personnel to watch a live studio broadcast once a month and whenever there is significant information that needs to be communicated. The studio can be watched on workstations and mobile devices and the audience can participate by sending in questions and comments.

”

**To further emphasise the importance of occupational safety, Vapo appointed Esa Marttila as the company’s first full-time Safety Manager in spring 2017.”**

The target for the next year is to increase the workplace climate survey’s score for the quality of inter-organisational cooperation to 3.3 from the current level of 2.9.

**Aiming to reduce the accident frequency by half**

The company has set zero workplace accidents as the only acceptable long-term target. In industrial environments this is a challenging goal, but not an impossible one. Vapo’s managerial work, contractor meetings and training events always emphasise that every accident can be avoided with appropriate preparation. All accidents are reviewed by the Management Team and logged in company records. The relevant policies and procedures are then updated to prevent recurrence of the accident.

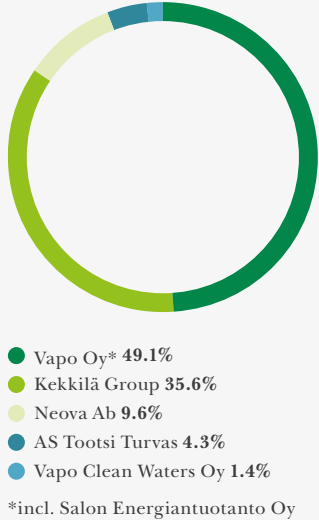
*Personnel structure, Vapo Group, Finland, 31 December 2016, total 488 people*



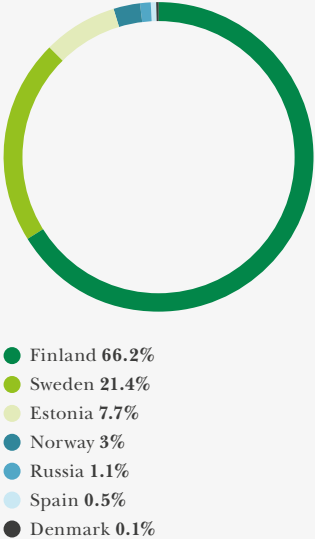
*Number of personnel, Vapo Group, Finland, 31 December 2016, total 488 people*



*Number of personnel by company, the Group as a whole, 31 December 2016*



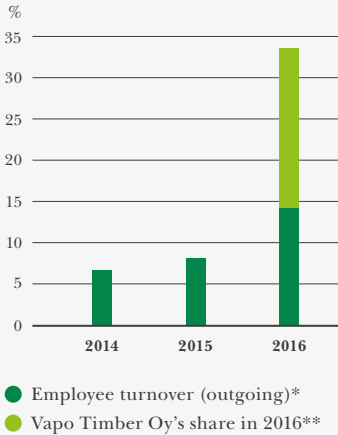
*Number of personnel by country, the Group as a whole, 31 December 2016*



*Number of personnel in Vapo Group’s Finnish companies 2014–2016*

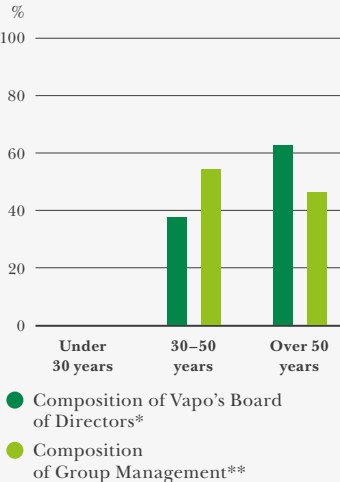


*Employee turnover, the Group as a whole, 31 December 2016*



\*Includes all the causes of the termination of employment.  
 \*\*The personnel of Vapo Timber Oy’s Lieksa and Nurmes sawmills were transferred to Binderholz Nordic Oy in a business transfer on 15 February 2016.

*Composition of administrative bodies*



\*Eight members in total: five men (62.5%) and three women (37.5%).  
 \*\*13 members in total: 11 men (85%) and two women (15%).





A total of 10 women who are currently in managerial roles or interested in managerial roles, representing different parts of Finland and different business areas, participated in the Avatar training programme on female leadership in 2016.

In conjunction with the renewal of the company's operating model, Vapo set a target of reducing its accident frequency by half. The company will strive to improve occupational safety by encouraging personnel to pay attention to occupational safety, the use of protective equipment and the importance of making safety observations. Occupational safety issues are on the agenda for all management team meetings. The number of workplace accidents is monitored in real time and displayed on the front page of the company's intranet.

The measures already implemented by the company have reduced the accident frequency and the number of safety observations has doubled from the previous year. Vapo's employees reported an average of 5.5 safety observations during the reporting period. The target for the next year is seven observations per employee. These positive developments do not, however, change the regrettable fact that a fatal workplace accident occurred at a composting station in autumn 2016.

The company has decided to focus even more on the improvement and

development of occupational safety. The role of Vapo's Safety Manager was made into a full-time position, with Esa Marttila appointed to the role in spring 2017.

### The monitoring of sickness absences is now based on the employee's own declaration

Occupational health services at Vapo are organised under a national partnership with Terveystalo Oy. New easy-to-use digital solutions have been introduced to support the management of risks related to work ability. They include an online chat with occupational health physicians, new electronic forms and a targeted booking portal that makes it faster and easier to handle occupational health-related matters within Vapo and between the company and Terveystalo.

To reduce the inconvenience associated with sickness absences due to an employee's own illness or a child's illness, the company introduced a new sickness absence policy that is based on the employee's own declaration. For illnesses requiring an employee to be absent from work, the employee can notify his or her supervisor directly of the need to be absent for at most three days by calling the supervisor in the morning of the first day of illness and declaring the reason for the absence. For absences due to a child's illness, the same policy applies for absences of at most four days. A medical certificate is only required for longer absences.



CASE

### STRAIGHT TALK IN VAPO STUDIO

All of Vapo's personnel came together in September for the Vapo Studio event in Jyväskylä. The "live broadcast" featured an interview with the CEO and voices from the field.

All of Vapo's personnel got together for the first time since 2008 at the inaugural Vapo Studio held in Jyväskylä in late September. To ensure that the communication would not be unilateral, the auditorium at the venue, Paviljonki, featured a digital messaging wall where participants could post questions for management.

Before the event programme was finalised, the employees were surveyed on what they wanted the day to be like. Two wishes stood out: the employees wanted to avoid endless slideshows and boring presentations delivered from a lectern.

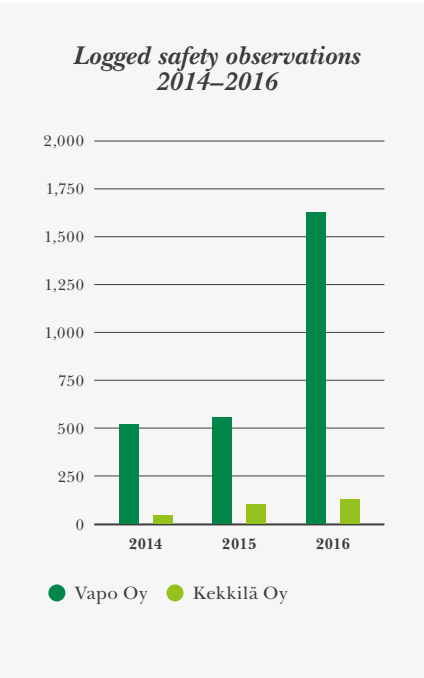
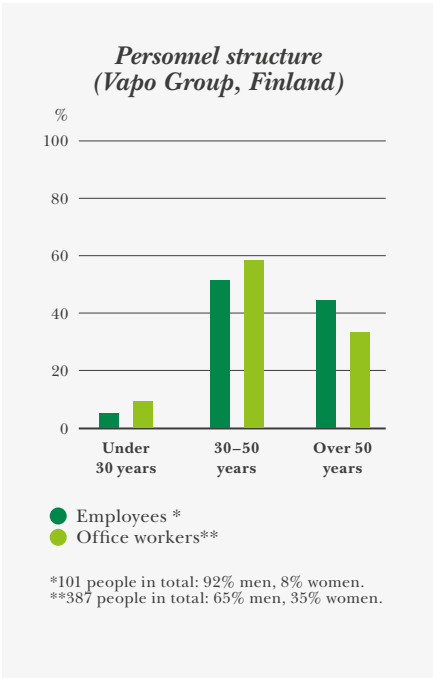
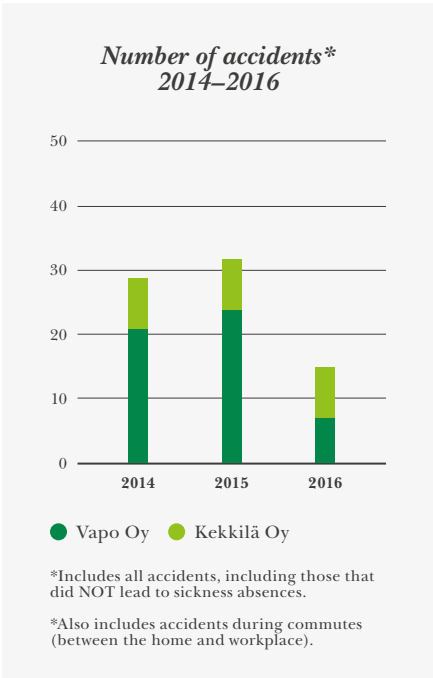
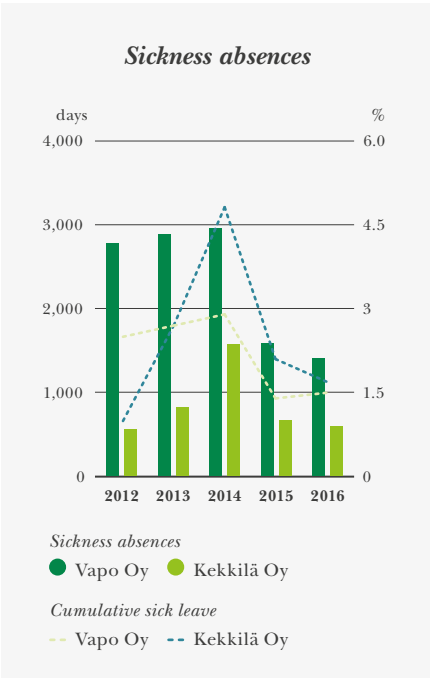
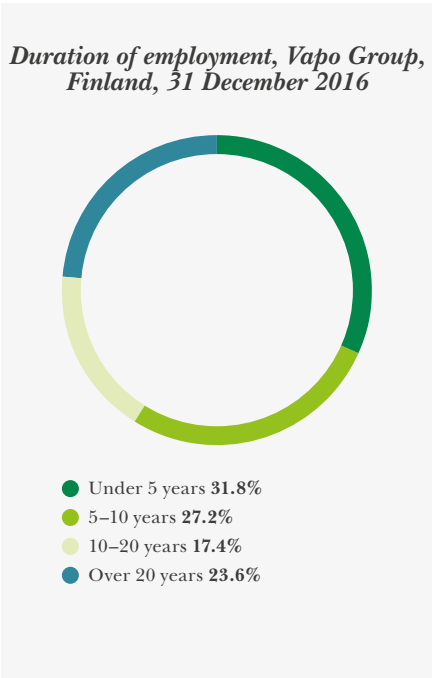
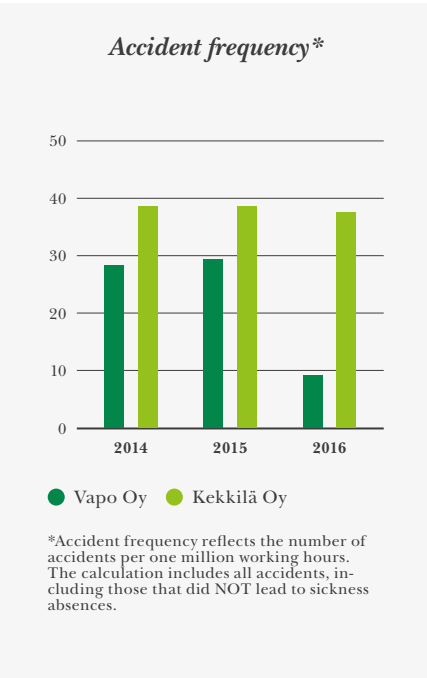
They got their wish, as not a single slide was put up on a screen during the

day. Instead, the event resembled a TV broadcast. The studio featured news, current topics, hard-hitting interviews and more casual chats led by the host, Jarkko Tamminen.

An interview with the CEO covered the company's journey over the past five years as well as future projects. Also on stage were Business Area Directors, product developers and about twenty Vapo employees talking about topics such as customers, innovation and responsibility.

For the networking part of the event, the Paviljonki foyer was turned into the Vapo Lounge to provide details on the company's latest projects. Among other things, the Lounge featured information on Clean Waters, the new online store for pellet customers as well as a computer animation illustrating the heating plant being built for Valio in Jyväskylä. The most important purpose of the Vapo Lounge was to facilitate informal meetings between colleagues.

Vapo has just over 360 employees, and some 300 were able to participate in this company-wide training day. With its unique format, Vapo Studio 2016 was well received by those in attendance. The event found the right balance between serious topics and lighthearted moments, and the day was capped off by impressionist Jarkko Tamminen's hilarious show that poked fun at Vapo's management and experts as well as Finland's most popular music artists.





# COMPETENCE DEVELOPMENT AND TRAINING

*Vapo invests in developing the competence of its personnel. The most significant step taken in 2016 was the launch of the training programme On the Path to Global Leadership.*

In spring 2016, Vapo decided to invest in developing the competence of its personnel by launching a new training programme called On the Path to Global Leadership. The programme supports the implementation of Vapo's strategy and values as well as the competence development of employees who were transferred to new roles as part of the renewal of the company's operating model in 2016.

The training programme saw its full-scale launch at the beginning of September 2016. The main focus of the programme's training activities in the first year is to ensure a basic level of competence and professionalism throughout the organisation. The majority of the training activities were planned and implemented internally



**The main focus of the programme's training activities in the first year is to ensure a basic level of competence and professionalism throughout the organisation.**

by the owners of the training modules. The training has utilised efficient video conferencing techniques as well as the opportunity to review training content on demand by watching recordings. The available courses are displayed in a training calendar on the company intranet to give employees the opportunity to register for them.

By April 2017, the company had organised 70 training events under the programme, corresponding to 530 hours in total. The total number of participants to date is 1,318. By the end of March 2017, 68 per cent of Vapo's employees had participated in at least one training course.

The goal for the next financial year is to continue to provide basic level and professional level training on the company's current businesses and processes as well as introduce new courses related to new products, services and businesses. A further aim is to identify the competencies that the Vapo of the future will need and to target training activities accordingly. Our journey on the path to global leadership has begun.

70  
EVENTS

*A total of 530 hours of training had been organised as of April 2017.*

## On the Path to Global Leadership

The goals of the training programme were planned in cooperation with the owners of the training modules. The goals are as follows:

### Understanding the overall value chain

Each employee must understand Vapo's overall value chain and their place in it. Further goals include sharing knowledge and best practices across organisational boundaries and improving internal job rotation.

### The most attractive employer

Every employee wants to learn new things. Vapo's employees learn twice as fast as the industry average.

### A culture of taking responsibility

Every employee takes personal responsibility for their competence. The aim is to create a culture at Vapo that fosters taking responsibility and taking considered risks.



CASE

## SAFER AND MORE CONFIDENT DRIVING IN WINTER

The idea to organise driving training arose from a safety observation related to an accident that occurred when driving on an icy road.

As many Vapo employees spend a lot of time on the road, the employer wanted to provide them with the opportunity to improve their driving skills as winter approached. "Winter driving training will be organised at all of Vapo's units during this winter," says **Jussi Kankainen**, deputy occupational safety and health manager for the Southwest and West regions.

Kankainen says the feedback on the training has been positive. "People have been very pleased to have the opportunity to practise. They've pointed out how important it is to remind themselves of how a small reduction in speed can make a big difference when faced with an unexpected situation on an icy road," Kankainen explains.

The programme for the day consisted of traditional winter driving scenarios, starting with an illustration of collision speeds when a pedestrian, for example, steps in front of the car. "We used a dummy to compare the speeds of 50 km/h and 60 km/h. The increase in speed was fairly small, but the force of the collision and the residual velocity were consid-



**The goal of winter driving training is to understand the laws of physics and the effect of higher speeds.**

erable despite hitting the brakes," says driving instructor **Janne Heikkilä**, the owner of Parkano Driving School, who was the instructor on the day. Next, the participants tried to evade an obstacle, such as an imaginary elk. They also drove through a slalom course. As a bonus feature at the end of the track, they got to practice acceleration and steering in a roundabout.

"They improved with practice. At first, they went around the obstacles with a lot of room to spare. After a bit of practice they started to get closer to

the obstacles, which is how it's supposed to be done. Tighter turns allow the driver to complete the course at a higher speed. Some of the participants kept their speed quite conservative, but many began to go faster as the day went on. All in all, it was a good day out and they had a lot of fun on the practice course," Heikkilä adds.

Driving instructor **Teemu Lahti** echoed Janne Heikkilä's views and said the participants from Vapo did a good job of testing their limits. One of the objectives for the day was for everyone to know how to do an emergency braking manoeuvre by depressing the clutch and then hitting the brake pedal as hard as they can.

"The goal of winter driving training is to understand the laws of physics and the effect of higher speeds. The roads around bogs are often very icy and slippery. At excessive speeds you simply lose control of the vehicle. One of the purposes of this training is to help people react the right way in unexpected situations. Many people simply panic and fail to do anything at all," Lahti adds.



Vapo’s key themes related to responsibility

Aspects	Material GRI aspects	Reporting boundary
WE DELIVER RELIABLY		
Financial profitability		
Financial profitability	• Economic performance	
Delivery reliability and the security of supply		
Peat use in Finland, fuels delivered Peat production targets and reserves Heat and power production by region	• Availability and reliability of energy	
New innovation and new business		
New business start-ups	• The GRI framework does not include a corresponding indicator	
Domestic fuel		
The impact of peat on the national economy Vapo’s share of domestic fuels Impact on trade balance	• Economic impacts • Indirect economic impacts	Vapo Group
WE RESPECT THE ENVIRONMENT		
Local environmental impacts		
Local impacts on peatlands, biodiversity After-use and restoration of cut-away peatlands Volume and locations of peat production Risks to human health and the environment, noise, dust	•Biodiversity • Airborne emissions • Complaint mechanisms for problems related to environmental matters • Compliance	
Climate impacts		
Emissions	• Airborne emissions • Transport	Peat transport
Energy efficiency		
Energy efficiency	• Energy	
Water		
The results of emissions monitoring Utilising new technology, BAT Effectiveness and monitoring of water treatment methods Water consumption	• Effluents and waste • Water intake	
Material efficiency		
Material efficiency	• Effluents and waste	
Increasing environmental awareness		
Increasing environmental awareness among stakeholders	• Environmental impacts of products and services	
Waste		
Waste	• Total weight of waste	
WE HAVE A LOCAL IMPACT		
Responsibility in the supply chain		
Responsibility in the supply chain	• Responsibility in the supply chain	
Local impacts		
The regional economic impacts of operations Local sourcing, creating jobs in sparsely populated areas and providing work for small businesses Tax footprint	• Economic impacts • Indirect economic impacts	Vapo Group
Compliance with permits and regulations		
Ethical operating principles Compliance with environmental permits and regulations	• Ethics and Integrity • Compliance	
Employment		
Local sourcing, creating jobs in sparsely populated areas and providing work for small businesses	• Economic impacts • Indirect economic impacts	
WE VALUE COMPETENCE		
Competence development and training		
Competence development and training	• Training and education	
Well-being at work, occupational health and safety		
Well-being at work, occupational health and safety	• Occupational health and safety	
Equality and diversity		
Diversity and equal opportunities	• Vapo aims to develop its systems to allow it to report on its personnel groups in accordance with the GRI LA12 indicator in the coming years.	

GRI CONTENT INDEX

G4 Standard Disclosures		Page	Comments
GENERAL STANDARD DISCLOSURES			
STRATEGY AND ANALYSIS			
G4-1	CEO's statement	2	
G4-2	Key impacts, risks and opportunities	6	Reported partly.
ORGANISATIONAL PROFILE			
G4-3	Name of reporting organisation	4	
G4-4	Primary brands, products and services	4	
G4-5	Location of the organisation's headquarters	4	
G4-6	Operating countries	5	
G4-7	Nature of ownership and legal form	4	
G4-8	Markets served	4–5	
G4-9	Scale of the organisation	40, 4–5, 16–17, Vapo's year, financial statements	
G4-10	Number of employees and subcontractors	40–44	Reported partly.
G4-11	Percentage of employees covered by collective bargaining agreements		48.2%, meaning that all employees aside from senior office workers and executive management are covered by collective bargaining agreements.
G4-12	Description of the supply chain	32–33	
G4-13	Significant changes in Group structure	4	Vapo Timber was sold to the Binderholz Group.
G4-14	Position regarding the precautionary principle and its application	Vapo's year: risk management, 40	
G4-15	Externally developed corporate responsibility initiatives endorsed by the organisation	11	
G4-16	Memberships of associations and national or international advocacy organisations	11	
IDENTIFIED MATERIAL ASPECTS AND BOUNDARY			
G4-17	Entities included in the organisation's consolidated financial statements	Vapo's year: financial statements	The figures provided in the report are for Vapo Group's Finnish companies.
G4-18	The process of defining the report content	8–9	The financial figures are for the Group as a whole.
G4-19	Material aspects	8–9	
G4-20	Boundaries of material aspects within the organisation	46	Vapo Group's Finnish companies The financial figures are for the Group as a whole.
G4-21	Boundaries of material aspects outside the organisation	46	Reported partly.
G4-22	Effect of any restatements of information provided in previous reports		No restatements.
STAKEHOLDER ENGAGEMENT			
G4-24	List of stakeholder groups engaged by the organisation	12	
G4-25	Basis for identification and selection of stakeholders with whom to engage	11	Reported partly.
G4-26	The organisation's approach to stakeholder engagement	12	



G4 Standard Disclosures		Page	Comments
G4-27	Key topics and concerns that have been raised through stakeholder engagement	12	
<b>REPORT PROFILE</b>			
G4-28	Reporting period	1 January–31 December 2016. The financial figures are for the financial year 1 May 2016–30 April 2017	
G4-29	Date of most recent previous report		20 July 2016
G4-30	Reporting cycle		Annual
G4-31	Contact point for questions regarding the report or its contents		Contents page
G4-32	GRI Content Index		47–49
G4-33	External assurance	The report has not been externally assured.	
<b>GOVERNANCE</b>			
G4-34	Governance structure	8	
G4-48	The highest committee or position that formally reviews and approves the organisation's sustainability report	8	
<b>ETHICS AND INTEGRITY</b>			
G4-56	The organisation's values, principles, standards and norms of behaviour	14	
<b>SPECIFIC STANDARD DISCLOSURES</b>			
G4-DMA		14	
<b>THE MANAGEMENT OF RESPONSIBILITY</b>			
G4-DMA	The management of environmental responsibility	24–25	
G4-DMA	Human resource management	40–44	
G4-DMA	Responsibility in the supply chain	32–33	
G4-DMA	Delivery reliability and the security of supply	16–18	Reported partly.
<b>ECONOMIC RESPONSIBILITY</b>			
<b>Economic performance</b>			
G4-EC1	Direct economic value generated and distributed	36–37, Vapo's year: financial statements	
<b>Indirect Economic Impacts</b>			
G4-EC8	Significant indirect economic impacts, including the extent of impacts	35	Reported partly.
G4-EC9	Proportion of spending on local suppliers at significant locations of operation	35	Reported partly.
<b>ENVIRONMENT</b>			
<b>Materials</b>			
G4-EN2	Percentage of materials used that are recycled input materials	25, 29	Reported partly.
<b>Energy</b>			
G4-EN3	Energy consumption within the organisation	30	Reported partly.
G4-EN6	Reduction of energy consumption	29–30	Reported partly.
G4-EU2	Net energy output broken down by primary energy source	16–19	
<b>Water</b>			
EN 8	Total water withdrawal by source	35	Reported partly.
<b>Biodiversity</b>			
G4-EN11	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	26	Reported partly.

G4 Standard Disclosures		Page	Comments
G4-EN12	Description of significant impacts of activities on biodiversity in protected areas and areas of high biodiversity value outside protected areas	26–28	Reported partly.
G4-EN13	Habitats protected or restored	26	Reported partly.
<b>Emissions</b>			
G4-EN15	Direct greenhouse gas emissions (scope 1)	30	
G4-EN17	Other indirect greenhouse gas emissions (scope 3)	30	
G4-EN21	NOx, SO2 and other significant air emissions	30	
<b>Effluents and Waste</b>			
G4-EN22	Total water discharge by quality and destination	26–28	
G4-EN23	Total weight of waste by type and disposal method	29–30	Reported partly.
G4-EN24	Total number and volume of recorded significant spills		No significant spills.
<b>Products and Services</b>			
G4-EN27	Extent of impact mitigation of environmental impacts of products and services	25	
<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	28, 30	No fines or sanctions.
<b>Transport</b>			
G4-EN32	Percentage of new suppliers that were screened using environmental criteria	32–33	Reported partly.
G4-EN34	Number of grievances about environmental impacts filed, addressed, and resolved through formal grievance mechanisms	25	Reported partly.
<b>LABOUR 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	41	Reported partly.
G4-EU18	Percentage of contractor and subcontractor employees that have undergone relevant health and safety training	32–33	Reported partly.
<b>Occupational Health and Safety</b>			
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	42–43	Reported partly. No fatalities.
<b>Training and Education</b>			
G4-LA10	Programmes for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings	12, 40–45	Reported partly. No fatalities.
G4-LA11	Percentage of employees receiving regular performance and career development reviews, by gender and by employee category	12, 40–45	Career development reviews are held with all personnel. Performance reviews do not cover all personnel. Reported partly.
<b>SOCIETY</b>			
<b>Local Communities</b>			
G4-SO2	Operations with significant actual and potential negative impacts on local communities	26–28	
<b>Public Policy</b>			
G4-SO6	Total value of political contributions by country and recipient/beneficiary		Vapo does not support any political parties.
<b>PRODUCT RESPONSIBILITY</b>			
<b>Product and Service Labelling</b>			
G4-PR5	Results of surveys measuring customer satisfaction	12	Reported partly.





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