

Risk management

Risk management is an integrated part of business planning and performance management. The objective of risk management within Fortum is to support the creation of the corporate strategy and to enable the strategy execution, to support the achievement of agreed financial targets and to avoid unwanted operational events.

1 RISK MANAGEMENT FRAMEWORK

Involvement in the power and heat business exposes Fortum to several types of risks. Electricity prices and volumes, which in turn are affected by the weather in the Nordic region, the development of the global commodity markets and availability of power production, are the main sources of risk in the Nordic business. The Russian business is exposed to risks related to fuel, electricity and capacity prices and volumes which, although the market is

developing, are to a large extent subject to regulation.

Fortum is continuously developing its risk management capabilities to cope with prevailing market conditions, developing operations and an ever changing business environment. In the operational risk management area, the focus has been on further enhancing the framework for internal controls, compliance risk management and business continuity management. At

the same time, market and credit risk modelling has been developed in order to cope with an increasingly global and volatile market.

1.1 Objective

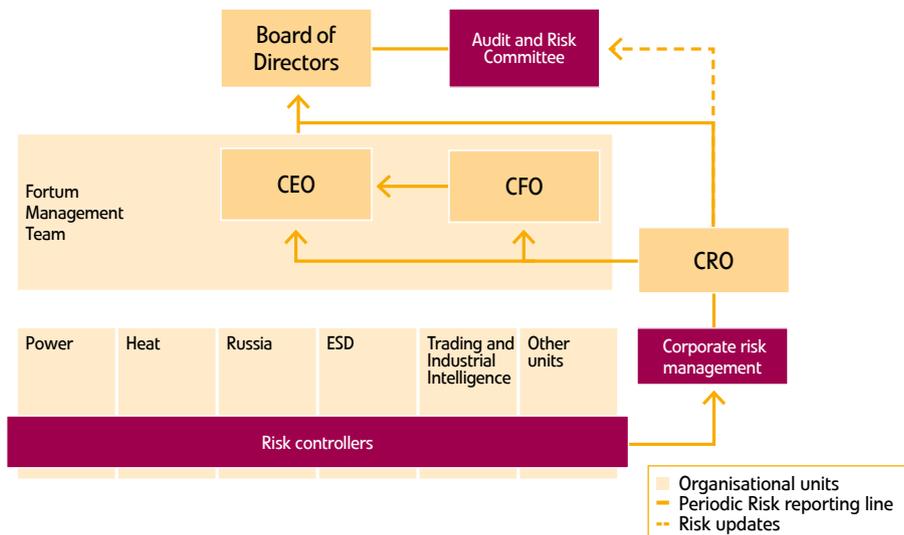
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1.2 Policy

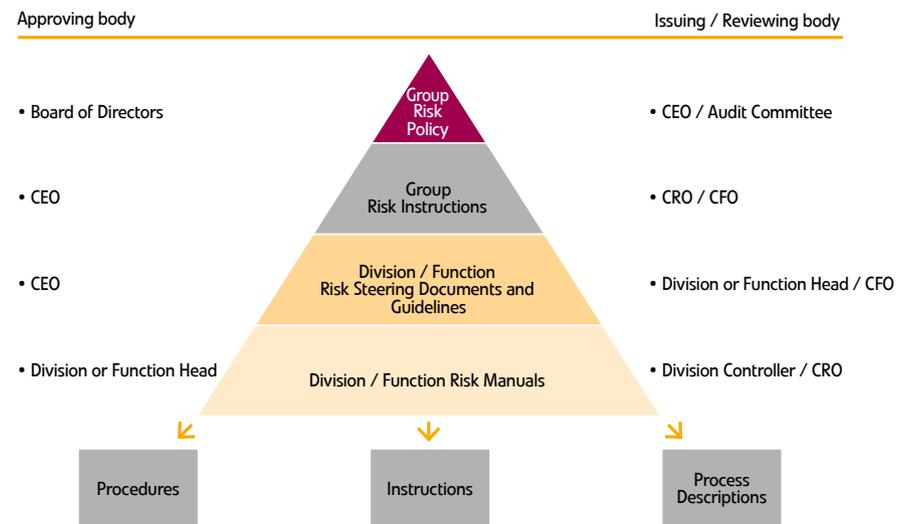
Fortum's Board of Directors approves the Group Risk Policy which sets the objective, principles and division of responsibilities for risk management activities within the Group as well as defines the overall risk management process.

The CEO approves appendices to the Group Risk Policy which include instructions for managing commodity market risks, counterpart risks, operational risks, financial risks and insurances. Corporate Treasury is

FORTUM'S RISK REPORTING STRUCTURE



CORPORATE RISK POLICY STRUCTURE



responsible for managing the Group's currency, interest rate and liquidity and refinancing risks as well as for insurance management. Corporate Credit Control is responsible for assessing and consolidating the Group's exposure to counterparty risk, monitoring the creditworthiness of counterparties and for approving counterparty credit limits. Corporate IT is responsible for managing IT information and security risks. There are also Corporate Units dealing with risks related to human resources, laws and regulation, and sustainability.

1.3 Organisation

The Audit and Risk Committee is responsible for risk oversight within the Group. Corporate Risk Management is an independent function headed by the Chief Risk Officer (CRO), who

reports to the CFO, and is responsible for assessing and reporting the Group's consolidated risk exposure to the Board of Directors and Group Management. Corporate Risk Management also monitors and reports risk in relation to mandates approved by the CEO. The main principle is that risks are managed at source if not otherwise agreed. In order to maintain a strict segregation of duties, risk control functions in Divisions and Corporate Units like Treasury and Trading are responsible for reporting risks to Corporate Risk Management.

1.4 Process

The risk management process consists of identification, risk assessment, risk response and risk control. Risks are primarily identified and assessed by divisions and Corporate Units in

accordance with Group instructions and models that are approved by Corporate Risk Management. Every function is also responsible for responding to risks by taking appropriate actions. Risk responses can be one of, or a combination of, mitigating, transferring or absorbing the risk.

2 RISK FACTORS

Risk control, monitoring and reporting is carried out by the divisional risk control functions. The frequency of reporting is dependent upon the scope of the business. For example, trading activities and limit breaches are reported daily whereas strategic and operational risks are reported as part of the annual business planning process and followed up at least quarterly in management reviews. Corporate Risk Management assesses and reports the Group's consolidated exposure to financial risks to Group Management and the Board of Directors on a monthly basis.

2.1 Strategic risks

Fortum's strategy is based on three areas of focus:

- Leverage the strong Nordic core;
- Create solid earnings growth in Russia;
- Build platform for future growth.

2.1.1 Investment, integration and project risks

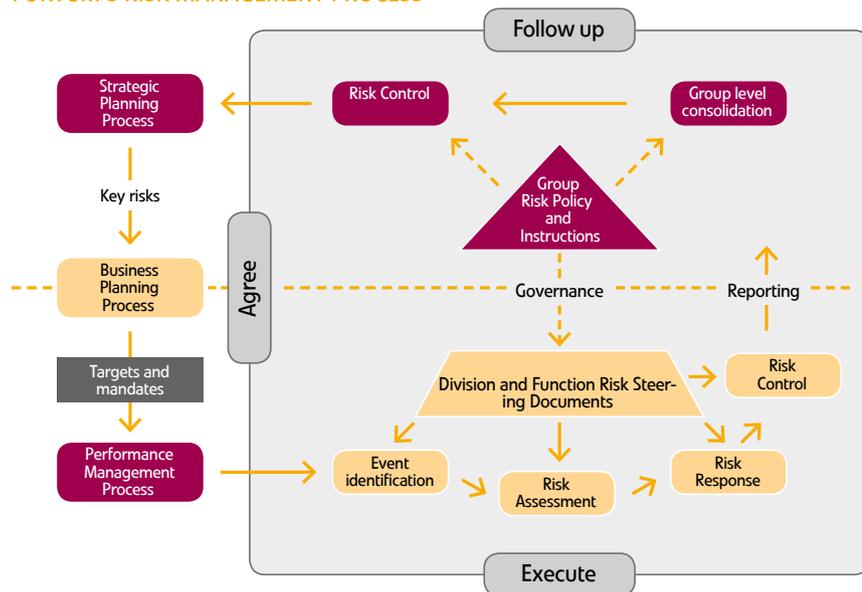
Fortum's growth strategy includes expanding operations, particularly in Russia. As a result of ongoing integrations or any potential future acquisition, there is a risk to existing operations, including:

The Board of Directors defines Group's objectives for hedging and CEO defines the minimum level of EBITDA to be achieved

- additional demands placed on senior management, who are also responsible for managing existing operations;
- increased overall operating complexity, requiring greater personnel and other resources;
- additional cash expenditures;
- the need to attract and retain sufficient numbers of qualified management and other personnel.

Within the projects that are part of the Russian investment programme, as with all large projects, there is a risk of delays, for example in establishing new capacity and grid connections. The project risks are closely monitored by a dedicated team and risks are followed up in monthly management reporting.

FORTUM'S RISK MANAGEMENT PROCESS



2.1.2 Political and regulatory risks

The growth possibilities in existing and potential market areas are subject to regulatory supervision and political decisions. Development of the political and regulatory environment has a major impact on the energy industry and on the conditions of its business operations. Fortum is thus exposed to regulatory risks in various countries.

Nordic / EU

Nordic / EU Policy harmonisation, infrastructure development and integration of the Nordic electricity market towards continental Europe depend partly on the actions of authorities. Changes in the market environment and regulation could endanger the implementation of the market-driven development of the electricity market. Fortum promotes market-driven development by maintaining an active dialogue with all stakeholders.

Regulatory bodies and competition authorities regularly perform analysis, investigations and inquiries which might lead to changes in business conditions. Examples of on-going discussions which may affect Fortum's operations are third party access to heat distribution networks in Sweden, windfall taxation, taxation on uranium in Finland, new legislation regarding nuclear safety requirements, changes to electricity distribution regulation in Finland and Sweden, changes to regulated heat tariffs and expansion of banking regulation to include commodity trading.

To manage these risks and proactively participate in the development of the political and regulatory framework, including energy taxation, Fortum maintains an active and on-going

dialogue with the bodies involved in the development of laws and regulations including national and EU-level industry organisations.

Russia

Emerging markets countries, such as Russia, are subject to greater political, economic and social uncertainties than countries with more developed institutional structures, and the risk of loss resulting from changes in law, economic and social upheaval and other factors may be substantial.

Fortum owns and operates heat and power generation assets in Russia under operations of OAO Fortum. The Power market deregulation has proceeded well and, as a result, the prices for electricity in Russia are expected to increase. The main fuel source for heat and power generation in Russia is gas. Gas prices are partially regulated, and there is a dependency on a limited number of suppliers. Changes in the regulation regarding gas prices and suppliers can affect the supply and price of gas. Furthermore, if the further deregulation of the gas and electricity markets is not aligned, the impact to profitability can be significant.

2.1.3 Legal and compliance risks

Fortum's operations are subject to rules and regulations set forth by the relevant authorities, exchanges, and other regulatory bodies in all markets which it operates.

Inadequacies in the legal systems and law enforcement mechanisms in Russia and certain other of the emerging markets expose Fortum to risk of loss as a result of criminal or abusive practices by competitors, suppliers, or contracting parties.

FORTUM RISK MAP



Fortum's ability to operate in Russia may also be adversely affected by difficulties in protecting and enforcing its rights in disputes with its contractual partners or other parties, for example concerning regulatory influence on business and unfair market conditions, and also by future changes to local laws and regulations.

Fortum maintains strict internal market conduct rules and has procedures in place to prevent, for example, the use of proprietary information before it is published. Segregation of duties and internal controls are enforced to minimise the possibilities of unauthorised activities.

Compliance with the competition legislation is an important area for Fortum. Fortum has also enhanced Compliance risk management by establishing a process to systematically and separately identify and mitigate

compliance risks linked to the operational risk framework. This process aims to capture also potential bribery risks.

2.2 Commodity market risks

Commodity market risk refers to the potential negative effects of market price movements or volume changes in electricity, fuels and environmental values. A number of different methods, such as Profit-at-Risk and Value at Risk are used throughout the Group to quantify these risks taking into account their interdependencies. Stress-testing is carried out in order to assess the effects of extreme price movements on Fortum's earnings.

Fortum hedges its exposure to commodity market risks in accordance with the Hedging Guidelines. Risk taking is limited by risk mandates including volumetric limits, Profit-at-

Risk limits and stop-loss limits. Risk mandates include a minimum EBITDA for the Group, set by the CEO, which aims to ensure that Fortum can deliver on its financial commitments without worsening its financial position.

Fortum engages in a certain level of proprietary trading which is limited to standardised products on liquid markets. Risks associated with these activities are limited through strict mandate controls which include Value-at-Risk limits and stop-loss limits. All trading risks are monitored and reported on a daily basis.

All products and marketplaces used for hedging and trading are approved by the CRO.

➔ *For further information on hedge ratios, exposures, sensitivities and outstanding derivatives contracts, see Note 3 Financial risk management on page 52.*

2.2.1 Electricity prices and volumes risks

Fortum is exposed to electricity market price movements and volume changes mainly through its power generation and customer sales businesses. In competitive markets, such as in the Nordic region, the price is determined as the balance between supply and demand. The short-term factors affecting electricity prices on the Nordic market include hydrological conditions, temperature, CO₂ allowance prices, fuel prices, and the import/export situation.

In the Nordic business, power and heat generation, customer sales, and electricity distribution volumes are subject to changes in, for example, hydrological conditions and temperature. Uncertainty in nuclear production due to prolonged maintenance or delays in upgrades, especially in co-owned plants in Sweden, has also increased in recent years.

Electricity price and volume risks are hedged by entering into electricity derivatives contracts, primarily on the Nordic power exchange, Nasdaq OMX (Nord Pool). The objective of hedging is to reduce the effect of electricity price volatility on earnings and cash flows, and to secure a minimum level of earnings and cash flow which ensures financial commitments can be met. There are hedging strategies covering several years in the short to medium term which are executed by the trading unit within set mandates. These hedging strategies are continuously evaluated as electricity and other commodity market prices, the hydrological balance and other relevant parameters change.

In Russia, electricity prices and capacity sales are the main sources of market risk. Market deregulation has developed as planned and the electricity price is highly correlated with the gas price. Hedges are mainly done through regulated bilateral agreements, but the financial market is developing and Fortum is utilizing the possibilities in these markets to further mitigate electricity price risks.

of CO₂ allowances and other environmental values is the supply and demand balance.

Part of Fortum's power and heat generation is subject to requirements of trading schemes. Fortum manages its exposure to these prices and volumes through the use of derivatives, such as CO₂ forwards, and by ensuring that the costs of allowances are taken into account during production planning.

2.2.3 Fuel prices and volumes risks

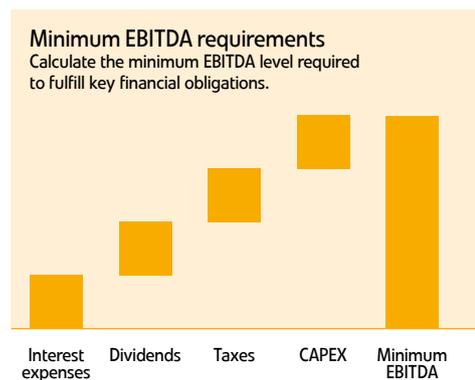
Heat and power generation requires the use of fuels that are purchased on global or local markets. The main fuels used by Fortum are uranium, coal, natural gas, peat, oil, and various bio-fuels such as wood pellets.

For fuels that are traded on global markets such as coal and oil, the uncertainty in price is the main factor. Prices are largely affected by demand and supply imbalances which can be caused by, for example, increased demand growth in developing countries, natural disasters or supply constraints in countries experiencing political or social unrest. The increasing use of commodities as financial investments has also increased the volatility in prices during recent years. The main fuel source for heat and power generation in Russia is natural gas. Natural gas prices are partially regulated, so the exposure is limited. For fuels traded on local markets such as bio-fuels, the volume risk in terms of access to the raw material of appropriate quality is more significant as there may be a limited number of suppliers.

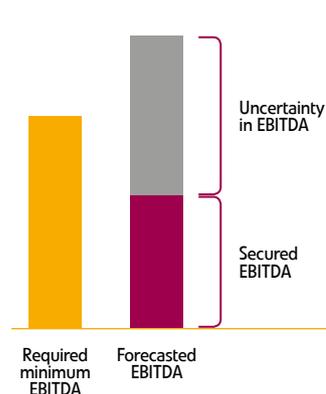
Exposure to fuel prices is to some extent limited because of Fortum's flexible generation possibilities which allow for switching between different

CORPORATE VIEW ON MINIMUM EBITDA MANDATE

Financial obligations



Guidelines to risk management



2.2.2 Emission and Environmental value risks

The European Union has established an emissions trading scheme to reduce the amount of CO₂ emissions. The CO₂ emission trading scheme enhances the integration of the Nordic market with the rest of Europe. In addition to the emissions trading scheme, there are other trading schemes in environmental values in place in Sweden, Norway and Poland. There is currently no trading scheme in Russia for emissions or other environmental values. The main factor influencing the prices

The main drivers for operational risk management and internal controls are efficiency and continuous improvement

fuels according to prevailing market conditions, and in some cases the fuel price risk can be transferred to the customer. The remaining exposure to fuel price risk is mitigated through fixed price purchases that cover forecasted consumption levels. Fixed price purchases can be either for physical deliveries or in the form of financial hedges.

2.3 Financial Risks

2.3.1 Liquidity and refinancing risks

The power and heat business is capital intensive and, as a consequence, Fortum has a regular need to raise financing. During the last financial crisis, the wholesale funding markets (including the international debt capital markets) experienced significant disruptions in part due to a lack of liquidity. The financial problems in

Greece and other European countries may create a financial market where it again could become difficult to raise funding and manage liquidity.

In order to manage these risks, Fortum maintains a diversified financing structure in terms of debt maturity profile, debt instruments and geographical markets. Fortum manages liquidity and refinancing risks through a combination of cash positions and committed credit facility agreements with its core banks. Fortum shall at all times have access to cash, bank deposits and unused committed credit facilities including overdrafts, to cover all loans maturing within the next twelve-month period.

2.3.2 Interest rate risks

Fortum's debt portfolio consists of interest-bearing assets and liabilities on fixed and floating rate basis with differing maturity profiles. Fortum manages the duration of the debt portfolio by entering into different types of financing contracts and interest rate derivative contracts such as interest rate swaps and forward rate agreements (FRAs).

2.3.3 Currency risks

Fortum has cash flows, assets and liabilities in currencies other than euro. Changes in exchange rates can therefore have an effect on Fortum's earnings and balance sheet. The main currency exposures are EUR/SEK, arising from Fortum's extensive operations in Sweden and EUR/RUB from translation exposure of OAO Fortum in Russia.

Fortum's currency exposures are divided into transaction exposures (foreign exchange exposures relating

to contracted cash flows and balance sheet items where changes in exchange rates will have an impact on earnings and cash flows) and translation exposure (foreign exchange exposure that arises when profits and balance sheets in foreign entities are consolidated on Group level). For transaction risk, the main principle is that all material exposures are hedged while translation exposures are not hedged or hedged selectively.

2.4 Counterpart risks

Fortum is exposed to counterpart risk whenever there is a contractual arrangement with a customer, supplier, financing partner or trading counterpart.

Credit risk exposures relating to financial derivative instruments are often volatile. Although the majority of commodity derivatives are cleared through exchanges, derivatives contracts are also entered into directly with external counterparts. Such contracts are limited to high-credit-quality counterparts active on the financial or commodity markets.

Due to the financing needs and management of liquidity, Fortum has counterpart exposure to a number of banks and financial institutions. This includes exposure to the Russian financial sector in terms of deposits with financial institutions as well as to banks that provide guarantees for suppliers and contracting parties. Limits with banks and financial institutions are followed closely so that exposures can be adjusted as ratings or the financial situation changes.

Credit risk exposures relating to customers and suppliers are spread across a wide range of industrial

counterparts, small businesses and private individuals over a range of geographic regions. The majority of exposure is to the Nordic market, but there is also significant exposure in Russia and Poland as a result of increased operations. The risk of non-payment in the electricity and heat sales business in Russia is higher than in the Nordic market.

In order to minimise counterpart risk, Fortum has well established routines and processes to identify, assess and control counterpart exposure. No contractual obligations are entered into without proper, reasonable and viable credit checks, and creditworthiness is continuously monitored through the use of internal and external sources to ensure that actions can be taken immediately if changes occur.

Corporate Credit Control is responsible for assuring stringent controls for all larger individual counterpart exposures. Annual credit reviews are performed manually for all larger approved limits. Each division or Corporate Function is responsible for ensuring that exposures remain within approved limits. Mitigation of counterpart risk includes the use of collateral such as guarantees, managing payment terms and contract length, and netting agreements. Corporate Credit Control continuously monitors and reports counterpart exposures against the approved limits.

2.5 Operational risks

Operational risks are defined as the negative effects resulting from inadequate or failed internal processes, people and systems or equipment, or from external events. The main

objective of operational risk management is to reduce the risk of unwanted operational events by clearly documenting and automating processes and by ensuring a strict segregation of duties between decision-making and controlling functions. Quality and environmental management systems are a tool for achieving this objective, and Fortum has several certifications including ISO 9001 and ISO 14001. Equipment and system risks are primarily managed within maintenance investment planning, and there are contingency plans in place to ensure business continuity. Operational risks in production facilities (nuclear, hydro and heat plants) are mitigated by continuous maintenance, condition monitoring, and other operational improvements.

The Corporate Insurance Steering Document defines the management of insurable operational risks. The objective of insurance management is to optimise loss prevention activities, self retentions and insurance coverage in a long-term cost-efficient manner. Fortum has established Group-wide insurance programmes for risks related to property damages, business interruption and liability exposures.

2.5.1 Hydro power

Operational events at hydro power generation facilities can lead to physical damages, business interruptions, and third-party liabilities. There exists a long-term programme for improving the surveillance of the condition of dams and for securing the discharge capacity in extreme flood situations.

In Sweden, third-party liabilities from dam failures are strictly the plant owner's responsibility. Together with

other hydro power producers, Fortum has a shared dam liability insurance program in place that covers Swedish dam failure liabilities up to SEK 9,000 million.

2.5.2 Nuclear power

Fortum owns the Loviisa nuclear power plant, and has minority interests in one Finnish and two Swedish nuclear power companies. In the Loviisa power plant, assessment and improvement of nuclear safety is a continuous process which is performed under the supervision of the Radiation and Nuclear Safety Authority of Finland (STUK).

In Finland and Sweden, third-party liability relating to nuclear accidents is strictly the plant operator's responsibility and must be covered by insurance.

As the operator of the Loviisa power plant, Fortum has a statutory liability insurance policy of approximately EUR 230 million per nuclear incident. In 2012, a temporary law will come into place in Finland whereby the nuclear liability insured sum increases to approximately EUR 680 MEUR (600M SDR). Similar insurance policies are in place for the operators where Fortum has a minority interest.

Decisions have been taken in both Finland and Sweden to renew the current nuclear liability legislation towards the Paris and Brussels convention. The new legislation will come into force earliest in 2013 in Finland and Sweden. The changes in the new national legislation consist of a liability on plant operators covering damages of up to EUR 700 million in Finland and in Sweden up to EUR 1,200 per nuclear incident, which should be covered by insurance or other form of financial guarantee, as well as a strict and

unlimited liability for the plant operators in each respective country.

Under Finnish law, Fortum bears full legal and financial responsibility for the management and disposal of nuclear waste produced by the Loviisa power plant. In both Finland and Sweden, Fortum bears partial responsibility, proportionate to the output share, for the costs of the management and disposal of nuclear waste produced by co-owned nuclear power plants.

In both Finland and Sweden, the future costs of the final disposal of spent fuel, the management of low and intermediate-level radioactive waste and nuclear power plant decommissioning are provided for by a state-established fund to which nuclear power plant operators make annual contributions.

Multi-layered containment systems and sophisticated safety protocols effectively isolate radioactive materials from the surrounding environment during the process of interim storage, packaging, transport, relocation and encasement of nuclear waste in the final storage repositories.

2.5.3 Distribution facilities

Operational events at distribution facilities can lead to physical damages, business interruptions, and third-party liabilities. Storms and other unexpected events can result in electricity outages that create costs in the form of repairs and customer compensations. Although outages are typically short, it is not possible to completely prevent long outages. There are extensive procedures in place to minimise the length and consequences of outages.

2.5.4 Environmental, health and safety risks

Operating power and heat generation and distribution facilities involves the use, storage and transportation of fuels and materials that can have adverse effects on the environment. Operation and maintenance of the facilities expose the personnel to potential safety risks. The risks involved with these activities and their supply chain are receiving increased attention. There is also a growing public awareness of sustainable development and the expectations on companies' responsible conduct.

Environmental, health and safety (EHS) risks are regularly evaluated through internal and external audits and risk assessments, and corrective and preventive actions are launched when necessary. EHS related risks arising in investments are systematically evaluated in accordance with Fortum's Investment Evaluation and Approval Procedure. Environmental risks and liabilities in relation to past actions have been assessed and necessary provisions made for future remedial costs.

2.5.5 IT and information security risks

Information security risks are managed centrally by the Corporate Security and IT functions. Business-specific risks are managed within the divisions and Corporate Units. Group policies define guidelines and set procedures for reducing risks and managing IT and other information security incidents. The main objective is to ensure high availability and fast recovery of IT systems.