



Sustainability Report 2016 / 17

Axpo Holding AG

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☒ On this information Ernst & Young Ltd. has provided limited assurance.

CEO interview

Chief Executive Officer Andrew Walo discusses the relevance and importance of sustainability

Andrew Walo, the issue of economic sustainability has been very much at the forefront of Axpo's activities in recent years. What's the situation today?

As a profit-oriented company, the economic side of things is always a top priority. At the end of the day, neither the environmental nor the social aspects of sustainability can be developed without the economic side of the equation. Given the very challenging market environment and changing general conditions, profitability has, understandably, been an even stronger focus for Axpo in recent years. From today's perspective, I can say that our hard work is paying off. We have achieved recurring savings of over CHF 200 million and are successful on the growth markets. We ended the 2016/17 financial year with another profit.

Does this mark the end of the tough years for Axpo?

It would be wrong to think that. Although we will see slightly higher electricity prices on the wholesale market from 2020 onwards, we don't know how sustainable this recovery is going to be. For Axpo, therefore, it's important to keep costs low, make selective investments and expand in strategic growth areas, especially the international customer business and renewable energies. Regulation-wise, there are still major uncertainties.

You have defined renewable energies as a strategic growth area. How is Axpo progressing here?

Having bought Volkswind GmbH two years ago, Axpo now has a presence along the entire value chain, from development, construction and operation of the turbines to the marketing of the electricity. We connected six wind farms in France to the grid during the reporting year, making 35 turbines in all. Another 3,000 MW are in the pipeline. By way of comparison: Switzerland currently has a total of 37 wind farms. In addition, Axpo looks after a portfolio of renewable energy with an installed capacity of around 14,000 MW, chiefly wind power and photovoltaics, for its customers throughout Europe.

Axpo subsidiary CKW is also planning to build new wind farms in Switzerland. A project for the Lindenberg hill has been submitted, although, unfortunately, there is a lot of local resistance to these plans too. We therefore don't know at present whether the project will be able to go ahead.

So where is Axpo's focus in Switzerland?

Besides biomass, our primary focus here is on hydro power. Maintenance work on power plants is often an opportunity to leverage added value from modernisation measures. For instance, this year we replaced the turbines at the Windisch small-scale hydro power plant. This enabled us to increase efficiency and, today, with the same volume of water, we produce 1,200 MWh more electricity. Thanks to a whole host of refurbishment measures at various plants, we have in fact achieved an increase in energy efficiency of more than 9,000 MWh overall. Needless to say, this is entirely consistent with a sustainability mindset.

The problem is: in the current climate of low prices and high taxes, investments are not usually worthwhile. In these circumstances, constructing new facilities is simply not feasible. Given the need to replace the capacity of nuclear power plants in the future, this development concerns me. We need hydro power to guarantee security of supply. The sensible thing would be to create the conditions in which there are incentives for investments. Axpo has proposed just such a model, the supply and climate market model, or VKMM.

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You describe this model as the best of the options currently on the table. Why is that?

The model is designed to solve three problems at once: firstly, it strengthens domestic CO₂-free electricity production. Secondly, it increases security of supply in Switzerland during the winter. And thirdly, it relies on market-based incentives and safeguards political climate objectives. In my view, it is vital for politicians to allow more market forces to emerge, to create incentives, but without over-regulation. We believe our model makes this possible. The ball is in the politicians' court.

This year, Axpo was awarded the gold sustainability medal by rating agency EcoVadis for the first time. Did that come as a surprise?

I was thrilled with the award, as it is evidence of external appreciation for the efforts and success of our employees in the area of sustainability. Many years ago, Axpo became the first energy company in Switzerland to report with the greatest possible transparency on its sustainability performance, in accordance with the international GRI guidelines. So it is extremely gratifying when these efforts bear tangible fruit and are recognised by rating agencies.

So are ratings like these important to you?

I think you have to be a bit discriminating. There are countless ratings, some based on more rigorous criteria than others. GRI is an internationally recognised standard, EcoVadis an established rating. This matters in that, increasingly, our customers demand good ratings. Nowadays, in fact, some demand a particular score before we can even submit a quotation.

The situation with energy is no different to other products: the customer wants to know exactly where a product comes from and how it was produced. We have to be able to answer those questions. The awarding of the gold medal and the ranking in the top 5% of all rated companies at EcoVadis speak for us. When it comes to winning a customer, that can most definitely tip the scales in our favour.

For the same reasons, we have decided to adjust our sustainability targets to make it easier for us to compare ourselves with other companies. The sector is our benchmark. And our customers can more easily rank our targets and how well we are doing in achieving them.

In Switzerland, it is through its football sponsorship that Axpo is most visible among the general public. What about your commitment to sport for the disabled?

Nowadays, Axpo spends less on its presence in elite football. Instead, we have expanded the popular Axpo football camps for sport-mad girls and boys. We are supporting women's football too. And rather than simply maintaining our cooperation with PluSport, we have actually expanded the programme with football teams for disabled athletes, so that adults can now join in as well. We have also been a partner of the annual PluSport Day in Magglingen for more than ten years. Like many of my colleagues at Axpo, I always volunteer at this event.

However, I feel it is equally important for Axpo to employ a variety of people with disabilities. Therefore, we were only too pleased to comply with the request to sign up to the CHARTA, a commitment by employers to the equal treatment and integration of people with disabilities at work.

Sustainability at Axpo

Making sustainability an integral part of our business

Axpo has a long tradition of sustainability. Although the modern concept of sustainability was not popularised until the 1980s, by the United Nations World Commission on Environment and Development, Axpo's 100-year-plus history shows that the company takes seriously its commitment to continually improving its performance in regard to profitability, ecology and social responsibility. Here is an overview of the milestones achieved in recent years in establishing sustainability as an integral part of the Axpo corporate culture:

2007/08:

- Publication of the first sustainability report in accordance with the Global Reporting Initiative (GRI) guidelines at Level C+, establishment of the Sustainability Advisory Board

2008/09:

- Publication of the first Group-wide ISO 14064-certified greenhouse gas inventory as well as the first environmental product declaration, EPD® in accordance with ISO 14025

2009/10:

- Publication of the first integrated annual/sustainability report with a GRI B+ application level

2010/11:

- Introduction of the Code of Conduct through which Axpo undertakes to comply unconditionally with obedience to the law, integrity and ethics

2011/12:

- Publication of the integrated annual/sustainability report – as the sole energy company in Switzerland with an A+ application level under GRI

2012/13:

- Introduction of key figures measuring sustainability performance in all three dimensions

2013/14:

- Introduction of the Code for Business Partners and adoption of focus topics for sustainability, summarised in fields of action with binding goals

2014/15:

- Publication of the sustainability report – as the first energy company in Switzerland with implementation in accordance with G4 "Comprehensive" under GRI

2015/16:

- Integration of sustainability within the MbO process: all senior managers are given a sustainability target as part of their personal targets.

2016/17:

- Axpo achieves the Gold standard in the EcoVadis sustainability rating, thus ranking in the top 5% of all rated companies.
- Review of key figures and target values for sustainability

Fields of action and goals

The focus of Axpo's commitment to sustainability is on the business view and all the related strategic and operational activities. However, Axpo is also part of the Swiss economy and Swiss society. That is why the Group-wide goal of being the leading energy company in Switzerland in terms of sustainability is linked to concrete goals and measures. Based on the challenges facing its own business model, the socio-economic framework, and taking the entire value chain into account, Axpo is committed to taking action in the following six areas and strives to achieve the goals it has set for those areas.

1. Axpo ensures its long-term corporate success

The challenge: Ensuring the long-term success of the business is currently a priority challenge for Axpo, and will remain so in the coming years. This is chiefly because of the persistently low European wholesale prices. The reasons for this are lower electricity production costs when using the primary energy source coal, the strained European economic situation and the subsidisation and preferential treatment of electricity feed-ins from new energies. The Swiss franc/euro exchange rate is also having a negative impact on Axpo, resulting in lower margins at the company and, by extension, greatly reduced profits.

Axpo's approach: In this challenging situation, Axpo will place the focus on positive free cash flow (FCF). Consequently, Axpo will reduce operating costs, selectively invest and increase its revenues from new or expanded areas of business. By taking this approach, Axpo is seeking to maintain its good credit rating (currently "investment grade"), because of which Axpo is viewed as a trustworthy business partner and is able to obtain favourable financing terms. This enables it to make investments in the expansion of new business areas and in the maintenance of its power plants, for example.

2. Axpo reduces its carbon footprint and increases energy efficiency

The challenge: Climate change is one of the global mega trends of our time – the mostly negative consequences can likewise only be countered by a global rethink and global action. Under the Paris Agreement of December 2015, the member states of the United Nations Framework Convention on Climate Change commit to limiting man-made global warming to a maximum of 2°C compared with pre-industrial levels. Developed industrial nations such as Switzerland can play an exemplary role in achieving this goal.

Axpo's approach: Axpo's contribution involves the low greenhouse gas intensity of its production mix and boosting its energy efficiency. The relevant possibilities for increasing energy efficiency lie in maintaining the production plants with the most up-to-date and most efficient technology, reducing energy losses on the distribution grids and making careful and efficient use of energy when operating buildings. Moreover, Axpo supports its customers in their plans to boost their own energy efficiency.

3. Axpo enforces sustainability principles among its business partners

The challenge: In today's globalised world, supply chains are complex and there are often few opportunities for influencing downstream suppliers and their own suppliers in particular.

Axpo's approach: To do justice to its understanding of sustainable corporate governance, Axpo creates a binding basis on which its business partners can engage with their own corporate responsibility. Axpo does so by means of its Code for Business Partners.

4. Axpo plays an active role in shaping the energy turnaround

The challenge: Energy systems are in the process of transformation throughout Europe. The energy system comprises an increasing number of decentralised elements, the passive consumer is transforming into a discerning customer and "prosumer" and, due to changing customer needs and politically determined subsidisations, renewable energies are booming. The increase in volatile electricity production this entails also boosts the significance of energy storage technologies.

Axpo's approach: Axpo already makes a considerable contribution to reshaping the energy system, in its role as one of the leading Swiss producers of renewable energies and through the expansion and continuing development of its capacity for storing electricity. With the takeover of wind farm developer Volkswind in 2015, Axpo has stepped up its activities in the construction of onshore wind farms in Germany and France. Axpo is also contributing to the energy turnaround through the construction of the Limmern pumped-storage power plant, which will enable additional capacity of around 1,000 MW to be provided, and through opening up new business areas such as the distribution and installation of battery storage devices for homeowners with the related intelligent control for "prosumers".

5. Axpo is a responsible employer

The challenge: The success and long-term continuance of Axpo as a going concern is based on the achievements, motivation and continuing development of its employees.

Axpo's approach: Particularly at times when it is focusing on new business areas and services, Axpo seeks to maintain a high level of employee satisfaction, as this is the prerequisite for good performance and the driver of innovations. Employee satisfaction is periodically gauged by means of a Group-wide employee survey, which then serves as a basis for improvement measures. In addition, guaranteeing safety at work, in particular during the construction and operation of production systems and grids, is a central priority.

6. Axpo makes a contribution to society

The challenge: As a public-sector enterprise, Axpo has a particular duty towards society.

Axpo's approach: For Axpo, credible commitment is based on open and honest dialogue with all stakeholders and on setting down roots in the regions where it is located. In this respect, Axpo focuses on the transparent and politically neutral communication of knowledge on all aspects of energy at its visitor centres and power plants, a comprehensive annual reporting suite on all sustainability topics of relevance to Axpo, and support for over 200 different organisations, institutions and projects which are committed to culture, the environment or young and disabled sporting talent.

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An overview of our fields of action, goals and performance

A few targets have been updated since the last financial year, because either the 2017 time horizon or the target has been reached. The targets have also been reviewed to ascertain whether they still cover the sustainability aspects that Axpo deems critical. Targets have been adjusted as necessary.

Fields of action	Goals	Performance 2016/17
1) Axpo ensures its long-term corporate success	Ensure long-term capital market viability	The ability to access the capital market was ensured by maintaining an investment grade rating.
	Ensure the company's risk capacity	Maintaining a solid equity ratio of 25.7% enabled risk capacity to be ensured.
2) Axpo reduces its carbon footprint and increases energy efficiency	Annual measurement of greenhouse gas emissions in accordance with ISO 14064	Verification of group-wide greenhouse gas inventory conducted by independent auditors Ernst & Young Ltd.
	The greenhouse gas intensity of electricity generation from our own plants and associates is below the European target path for the electricity sector to achieve the 2°C target set in the Paris Agreement.	The greenhouse gas intensity of Axpo's electricity generation is 103 kg/MWh <input checked="" type="checkbox"/>
	By the end of the 2021/22 financial year, improvement of 150,000 MWh in energy efficiency as regards electricity in the production and distribution of electricity, in operations and at customers, compared with the 2015/16 base year.	<p>The European target reductions for the electricity sector are:</p> <ul style="list-style-type: none"> • 2017: approx. 300 kg/MWh; • 2022: approx. 200 kg/MWh; <p>An increase of 12,200 MWh was achieved (planned: 15,900 MWh)</p>
3) Axpo enforces sustainability principles among its business partners	By the end of the 2018/19 financial year, 60% of the order volume ¹ in excess of CHF 100,000 that Axpo can influence will be placed with business partners who have accepted the Axpo Code for Business Partners on compliance with the principles of business ethics and minimum social and environmental standards, rising to 90% by the end of the 2021/22 financial year.	Around 50% of the order volume that Axpo can influence was placed with business partners who have accepted the Axpo Code. <input checked="" type="checkbox"/>

¹ The order volume that Axpo can influence involves the purchase of goods and services. It does not include official levies and charges, costs for energy procurement and grid utilisation, financing, membership and association fees, sponsorship and insurance.

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Fields of action	Goals	Performance 2016/17
4) Axpo plays an active role in shaping the energy turnaround	Annual development and creation of renewable energy capacity in Switzerland and abroad, in MW.	<p>Expansion of 110.7 MW (Previous year: 62.6 MW):</p> <p>Wind: +93.9 MW</p> <p>Hydroelectric power: +16.7 MW</p> <p>Photovoltaics: +0.1 MW</p> <p>Wind:</p> <p>Completion of six onshore wind farms in France by Volkswind, with a total of 87 MW. Terravent has increased the portfolio by a total of 27.6 MW (Axpo's share 25%).</p> <p>Hydroelectric power:</p> <p>Expansion/construction of small-scale hydro power plants at Tschär (14.2 MW), Gurtellen (10 MW) and Bristen (4.2 MW). Axpo directly or indirectly holds majority shares in all the power plants.</p> <p>Photovoltaic plants:</p> <p>As part of the "CKW meinSolarstrom" programme, a third PV facility has been built in Escholzmatte Marbach with a capacity of 30 kWp. In addition, EW Altdorf built two PV facilities with a total of 50 kWp and EW Schwyz built one with 20 kWp.</p> <p>The production of electricity from new energies totalled 1,096 GWh and from all renewable energies 8,942 GWh.</p>
5) Axpo is a responsible employer	The annual rate of occupational accidents (= number of occupational accidents per 1,000 FTEs) is below the industry average for insurance group 55A (energy suppliers), as calculated by Suva.	At 37, the annual rate of occupational accidents was well below the industry average of 66. <input checked="" type="checkbox"/>
	The absence rate (= number of lost days due to illness (including work-related mental illness such as burn-out), occupational and non-occupational accidents per FTE) is below the industry average for insurance group 55A (energy suppliers), as calculated by Suva.	At 5.2, the absence rate was below the industry average of 6.2. calculated by Suva. <input checked="" type="checkbox"/>

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Fields of action	Goals	Performance 2016/17
6) Axpo makes a contribution to society	Each year, Axpo imparts transparent and politically neutral knowledge on all aspects of energy at its visitor centres and power plants to between 60,000 and 70,000 visitors.	With around 60,000 visitors, the target was just reached.
	Each year, Axpo reports with the greatest possible transparency on its sustainability performance in line with the Global Reporting Initiative (GRI) requirements.	Reporting with the “Comprehensive” option in compliance with the GRI G4 guidelines was achieved.
	Through sponsoring and cooperation, Axpo supports over 200 different organisations, institutions and projects, which are committed to culture, the environment or young and disabled sporting talent. In addition, Axpo is involved in a national innovation project – the Park Innovaare in Villigen – and supports innovative start-ups in the energy sector.	<p>Four Headwaters Trail: Axpo is patron of the eponymous foundation. The Four Headwaters Trail is a family-friendly hiking trail in the Gotthard range that leads to the sources of four rivers; the Rhine, Reuss, Ticino and Rhone.</p> <p>PluSport: Axpo is committed to disabled sport and partners closely with PluSport, the umbrella organisation for disabled sport in Switzerland. Activities in this area include the PluSport Day and regional football training sessions and tournaments with people with disabilities.</p>

Stakeholder dialogue

Axpo attaches great importance to an open, active and honest exchange of views with all key stakeholders, with an emphasis on communication that meets the needs of the target groups. On the one hand, Axpo provides its stakeholders with transparent information on its activities, performance and goals. This is achieved by producing annual, sustainability and financial reports and numerous other publications, as well as through its visitor centres and power plants. On the other, it engages in a direct exchange of views between representatives of Axpo and its key stakeholders, and through associations and organisations in which Axpo is a member and can thus voice its position.

Axpo's key stakeholders are customers, shareholders, suppliers, politicians, employees, suppliers, concession grantors (cantons and municipalities), the local population, NGOs, the media and the general public, all of whom can be affected by Axpo's activities and/or are able to influence such activities. Active and continuing dialogue is therefore key to successfully managing the company. (GRI: G4-24, G4-25)

Concrete dialogue (GRI: G4-26, G4-27)

Dialogue with the local population, cantons, municipalities and non-governmental organisations

The expansion of both new energies and hydro power as well as the grid infrastructure are caught up in the interplay between business, the environment, supply security and society. A high degree of social acceptance for an energy project speeds up the approval process, thus often improving its cost effectiveness. That is why Axpo is committed to a close dialogue with the population, interest groups, nature conservation and environmental associations. Involving these groups at an early stage and conducting a regular exchange of views builds trust, facilitates compromises and helps to convey technically complex topics in a way that is understandable and factually correct. The main concerns of the parties differ. In the case of NGOs, for example, the emphasis is often on maintaining biodiversity and making sparing use of unspoilt natural areas. For the cantons and municipalities that award concessions the primary focus is on the local security of supply and the public revenues that will flow to the local communities. The local population worries first and foremost about the specific impacts of projects: including the construction and operation of power plants, expansion of the infrastructure (e.g. access roads), changes to the environment, but also the creation of jobs and impact on tourism. For further information on the dialogue with local municipality stakeholders, please turn to p. 70 of the 2016/17 Sustainability Report.

Examples relating to hydro power:

Advisory groups are set up for Axpo's new or concession renewal projects for hydro power plants. These groups consist of representatives of the authorities, municipal governments and environmental organisations. Information events for concession municipalities are also organised. For projects already in the process of realisation, construction site visits and various information events are held. Discussions and coordination meetings with neighbouring residents and representatives of interest groups enable solutions to be developed that adequately address the concerns and objections of the local population, authorities and environmental organisations. The public dialogue held in this way meets with broad acceptance. The main topics of discussion with support groups and external organisations include the demands of environmental conservation organisations concerning run-off water, replacement measures, fish passage and the higher-level planning of projects.

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During the reporting year, the Tschar Power Plant optimisation project and the Röchlig Power Plant optimisation project, which were completed, and the Limmern pumped-storage power plant operated by Kraftwerke Linth-Limmern AG, which is in the project completion phase, all yielded successful results. As work continues, authorities and environmental protection organisations will be invited to visit the site on a regular basis and see how the project is progressing.

Example relating to the distribution grid:

Grid operation and, in particular, grid expansion sometimes meet with a hostile attitude among the affected residents. Many are afraid of the potential health effects of electromagnetic radiation and worry about the impact on the landscape. To raise the level of social acceptance of a power line construction project and thereby simplify the approval process, Axpo engages in a direct dialogue with all stakeholders. This also serves to strengthen the relationship of trust, clarify critical questions at an early stage and enables technically complex topics to be conveyed at first hand in an understandable manner.

Dialogue with employees

Employee performance and motivation is a decisive factor in successfully establishing a leading position for a company in the face of competition and rapidly changing markets. Axpo maintains a regular dialogue with its staff members. Another focus during the last twelve months was Axpo's strategy in response to the persistently challenging market environment and the resulting tasks and scope of each individual. The expansion of the growth areas, in particular individual customer solutions throughout Europe and beyond, was a major topic, as were Axpo's activities in the sphere of Renewable Energies, in particular hydro power and wind energy.

Information-sharing and dialogue take place at institutionalised employee information events at the head offices and other locations, through line management and in electronic form. The Intranet is a forum for interactive dialogue and staff members are actively and specifically encouraged to get involved. The online version of Energy Dialogue creates even greater scope for participation and interaction. The magazine was supplemented with an external version during the reporting year, so that most articles published are accessible to other stakeholders as well. The Executive Board also uses various communication channels to provide regular information about important decisions and the latest core issues.

Employee concerns are discussed at regular meetings between the Group CEO, the Head of Corporate Human Resources and employee representatives, from which actions are developed.

A Group-wide employee survey is carried out once every two to three years, the most recent one having taken place in 2016. The results are shown to all staff members and, based on them, specific measures are developed for implementation in the following financial year.

Dialogue with politicians

Dialogue with politicians always relates to specific issues that reflect the current political debate and takes place through two channels: either through direct dialogue with Axpo representatives (employees from Public Affairs or top management) or through associations of which Axpo is a member. In the reporting year, for instance, there was direct dialogue between members of the Executive Board of Axpo Holding and representatives of the Committee for the Environment, Spa-

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tial Planning and Energy of the National Council as well as the Chairman of the Board of Directors of Axpo Holding and government representatives at cantonal and federal level. As part of the consultation process on the electricity grids strategy, there were various other contacts with members of the two Employees' Committees of the Public Affairs department. The meetings were held to discuss potential support measures for the hydro power plants.

Reporting principles

Axpo has once again prepared its report for the 2016/17 financial year in accordance with the Global Reporting Initiative's guidelines. The sustainability report has been prepared in compliance with the GRI G4 guidelines, "Comprehensive" option. External assurance has been retained and is explicitly indicated for each indicator that has been assured (see Sustainability Report 2016/17, Content Index, p. 80).

Important sustainability aspects are addressed in the annual report; comprehensive reporting now takes place separately in this Sustainability Report, as is the case with the financial reports (for further information, see www.axpo.com).

In preparing this report, Axpo has adhered to the GRI reporting principles, which set out the processes for defining both report content and report quality. When it came to choosing the report content, an active dialogue was held with stakeholders to include them in the sustainability reporting process. The developed action fields provide context, illustrating just how important the topic of sustainability is for Axpo. The choice of indicators is ultimately based on the principle of materiality and provides concrete benchmarks for the goals set out in the action fields. Care is taken to achieve a clear and balanced presentation of key figures, to facilitate the comparability of Axpo's performance overtime and in the reporting year and enable an overall assessment to be made available to all stakeholder groups.

Due to the new way of determining materiality introduced this year, some aspects are no longer as relevant to Axpo (see Sustainability Report 2016/17, Materiality analysis, p. 14). There are no other structural changes compared with last year's sustainability report.
(GRI: G4-22, G4-23)

Materiality analysis



Significance for external stakeholders (external perspective)	Importance for Axpo (internal perspective)		
	low	medium	high
	low	medium	high
high	29) Safeguarding electricity supply in the supply areas	1) Adaptability of the business model in light of regulatory uncertainties 7) Ensuring energy supply to customers in accordance with contract 21) Ensuring supply chain transparency 36) Reduction of greenhouse gas emissions 43) Increasing energy efficiency at customers	2) Maintaining capital market viability 3) Ensuring risk capacity 8) Opening up new business fields 13) Safe operation of power plants and grids 14) Safe handling of radioactive materials 15) Ethical business conduct 22) Compliance with environmental and social standards in supply chains 42) Increasing energy efficiency of power plants and grids
medium	23) Expansion of new energies in Switzerland 30) Regional procurement 32) Protecting biodiversity 38) Reduction of water consumption 40) Reduction of conventional waste	9) Green electricity products 17) Minimisation of non-occupational accidents and work days lost due to illness 18) Promotion of diversity of skills among employees 19) Employee satisfaction 20) Training apprentices 24) Expansion of new energies abroad 25) Engagement with external stakeholders 33) Protecting the landscape 34) Contaminated sites 35) Reduction of harmful emissions 39) Reduction of radioactive waste	4) Cost-efficient and profitable operation of power plants and grids 5) Generating and increasing revenues through trading and services 6) Products and services for wholesale customers ("origination") 16) Minimisation of occupational accidents
low	10) Regional electricity products 11) Financing research & development 12) Financing pilot and demonstration facilities 26) Volunteering / philanthropy 27) Donations and sponsorships 31) Axpo as an economic factor* 37) Compensation of greenhouse gas emissions 41) Reduction of noise emissions 44) Improving office environment	28) Communication of (energy-related) knowledge	

Materiality matrix: the sustainability topics in the grey shaded area are relevant to Axpo; **economic dimension:** topics 1 – 12; **social dimension:** topics 13 – 31; **environmental dimension:** topics 32 – 44.

The matrix above shows how sustainability topics are graded at Axpo according to three levels of relevance. Only those topics that are of at least medium importance to Axpo and its external stakeholders (grey area of the matrix) were addressed in the report. The Axpo internal view is the result of this year's assessment by Axpo's Executive Board. The external perspective comprises assessments from recent years by members of the Board of Directors of Axpo Holding (owner's view), by members of UREK-N (view of political decision-makers), by the NGOs WWF Switzerland

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and Economiesuisse, by lenders (Zürcher Kantonalbank), by customers (SH Power) and by employees from various functional levels and departments. (GRI: G4-18)

The topics deemed relevant were assigned to the respective GRI aspects and indicators. For all indicators, the reporting boundaries refer to the fully consolidated companies. Differences in reporting periods are highlighted in context and explained accordingly. No further restrictions are made. For some topics, whilst the company bears some of the responsibility, there is significant impact outside the confines of the company. Important examples include indirect greenhouse gas emissions from the procurement of energy for the operation of pumped-storage power plants (see GRI indicators p. 51, G4-EN16 and G4-EN17) and compliance with environmental and social standards in supply chains. Improvements to sustainability performance in these topics are sought to the extent that we can exert influence. Axpo thus applies a Code for Business Partners to enforce compliance with environmental and social standards in supply chains. (GRI: G4-17, G4-20, G4-21)

Material aspects and indicators from the materiality test (GRI: G4-19)



Material sustainability topics for Axpo from the economic dimension:

No.	Topic	Action field (AF) reference and GRI aspect	Pages
1	Ensuring the adaptability of the business model in light of regulatory uncertainties in Switzerland and Europe	AF 1: Axpo ensures its long-term corporate success; GRI aspects: Availability and reliability; economic performance	6 41 38
2	Maintaining long-term capital market viability to ensure that future investments can be financed at favourable costs	AF 1: Axpo ensures its long-term corporate success; GRI aspect: economic performance	6 38
3	Ensuring the company's risk capacity, e.g. by maintaining a sound equity ratio	AF 1: Axpo ensures its long-term corporate success; GRI aspect: economic performance	6 38
4	Cost-efficient and profitable operation of power plants and grids	GRI aspect: economic performance	38
5	Revenue generation and continually increasing revenues through trading activities and the provision of services	GRI aspect: economic performance	38
6	Offering specific products and services for wholesale customers in the European environment (origination)	GRI aspect: economic performance; GRI standard disclosure G4-4: Brands, products and services	38 20
7	Ensuring energy supply to customers in accordance with contract	GRI aspect: Availability and reliability	41
8	Opening up new business fields	GRI aspect: economic performance	38
9	Providing environmentally-friendly electricity products	GRI standard disclosure G4-4: Brands, products and services	20

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Material sustainability topics for Axpo from the social dimension:

No.	Topic	Action field (AF) reference and GRI aspect	Pages
13	Guaranteeing the safe operation of power plants and grids	GRI aspect: Disaster/emergency planning	76
14	Guaranteeing the secure handling of radio-active materials	GRI aspects: Customer health and safety, decommissioning of nuclear power plants	77 43
15	Enforcing ethical business conduct	GRI aspects: Compliance, anti-competitive behaviour, anti-corruption	73 72 72
16	Minimisation of occupational accidents	AF 5: Axpo is a responsible employer; GRI aspect: Occupational health and safety	7 61
17	Minimisation of non-occupational accidents and work days lost due to illness	AF 5: Axpo is a responsible employer; GRI aspect: Occupational health and safety	7 61
18	Promotion of diversity of skills among employees	AF 5: Axpo is a responsible employer; GRI aspect: Training and education	7 65
19	Promotion of employee satisfaction	AF 5: Axpo is a responsible employer; GRI aspects: Employment, training and education – non-discrimination	7 57 65 70
20	Training apprentices	GRI aspects: Employment, training and education	57 65
21	Ensuring supply chain transparency	AF 3: Axpo enforces sustainability principles among its business partners; GRI aspects: Supplier assessment, anti-corruption, anti-competitive behaviour	7 68 72 72
22	Compliance with environmental and social standards in supply chains	AF 3: Axpo enforces sustainability principles among its business partners; GRI aspects: Compliance, supplier assessment	7 73 56 68 70 75
24	Expansion of new energies abroad	AF 4: Axpo plays an active role in shaping the energy turnaround; GRI aspect: Availability and reliability	7 41
25	Engagement with external stakeholders (e.g. in construction projects)	GRI aspect: local communities	70

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Material sustainability topics for Axpo from the environmental dimension:

No.	Topic	Action field (AF) reference and GRI aspect	Pages
33	Protection of the visual landscape	GRI aspect: local communities	70
34	Proactive evaluation of contaminated sites	GRI aspect: Effluents and waste	52
35	Reduction of harmful emissions	GRI aspect: Energy and Emissions	45
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General Standard Disclosures

Strategy and analysis

G4-1 Statement by CEO

Statement from the CEO about the relevance of sustainability to the organisation and its strategy for addressing sustainability.

Interview with CEO Andrew Walo, Sustainability Report 2016/17, p. 3

G4-2 Description of key impacts

Description of key impacts, risks and opportunities (the organisation's key impacts on sustainability and effects on stakeholders, the impact of sustainability trends, risks and opportunities on the long-term prospects of the organisation).

As a European energy company with Swiss roots which is owned by the cantons of North Eastern Switzerland, Axpo is particularly committed in its traditional sales area to achieving financial success and to acting in a socially and environmentally responsible manner in its dealings with the general public, the residents of the region, its customers and its employees. Axpo's impacts on sustainable development lie, among others, in its contribution to the sufficient, secure and environmentally benign production of energy through its climate-friendly electricity mix.

In addition, Axpo is engaged in the expansion of renewable energies. With the acquisition of Volkswind in 2015, a leading developer and operator of wind farms in Germany and France, Axpo strengthened its position in the sphere of renewable energies and entered the business of constructing and developing wind power plants in Germany and France. Axpo took over 29 operating wind farms from Volkswind, with a total capacity of 147 megawatts (MW), and acquired a major project pipeline in France and Germany, 460 MW of which has already been granted construction approval and another 2,740 MW of which is in various stages of development. In the year under review, another six wind farms were successfully built, with around 87 MW of installed capacity.

Axpo is active in 36 European countries as well as the USA, Tunisia and Ukraine, not least through its origination activities in niche markets in the energy sector, thereby contributing to the development of the market. Axpo is also successfully establishing itself as a buyer and marketer of energy produced by wind farms and photovoltaics. Axpo manages portfolios of renewable energies throughout Europe with an installed capacity of around 14,000 MW, chiefly wind power and photovoltaics.

In addition, customer satisfaction is a central priority for Axpo and, as an important employer, it places great emphasis on the occupational training and education of its employees. It provides a stimulating environment that offers equal opportunities to all employees, while clearly defined rules protect them from discrimination.

In line with Axpo's understanding of sustainability and with a view to managing risks and opportunities, the company continued to work on the implementation of its sustainability strategy in the reporting year and on the sustainability focus topics set. For example, the Code for Business Partners continued to be rigorously applied and energy efficiency was further increased, particularly in its own power plants but also at customers.

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A risk lies in securing the long-term success of the company and preserving Axpo's capital market viability. Wholesale prices have been contracting for some years now and are exerting pressure on Axpo's margins and thus also on its revenues. The low wholesale prices are partly the result of the sluggish European economy, low prices for CO₂ and coal, and the remuneration for feed-in to the electricity grid paid for electricity generated with new energies. This diminishes the value of hydro power plants and the other conventional power plants, which is directly reflected in the reduced investment values for power plants reported by plant operators. Axpo can only partly cushion the reduction in earnings resulting from the low wholesale prices for electricity by cutting its costs, reducing its investments or increasing its revenues, primarily from new or expanded business areas.

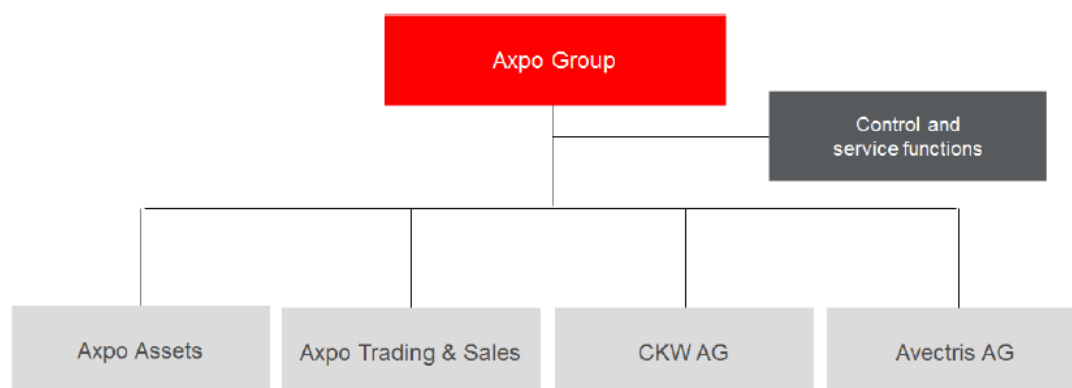
Organisational profile

G4-3 Name of the organisation

Axpo Holding AG

G4-4 Primary brands, products and services

Axpo is a Swiss energy company and is wholly owned by the cantons of North Eastern Switzerland and a few North Eastern Swiss cantonal utilities. Together with its partners, Axpo delivers electricity to most of the population of North Eastern Switzerland – safely, without harming the climate and at affordable prices. Axpo has local roots and a global reach. The Group produces, distributes and sells electricity. It is also involved in international energy trading and provides energy services to customers in Switzerland, Europe and the USA.



The Axpo Group consists of Axpo Holding with its four business areas Axpo Assets, Axpo Trading & Sales, Centralschweizerische Kraftwerke (CKW) and Avectris.

The Business Area Assets operates the power plant fleet (nuclear energy, renewable energies, gas) as well as Axpo's distribution grids. The Business Area Assets also optimises the power plant fleet and invests in new power plant and grid capacity.

The Business Area Trading & Sales markets energy from the power plant fleet and is engaged in energy trading throughout Europe. It trades in physical energy volumes and financial products in around 39 countries and on numerous broker platforms throughout Europe and the USA, as well as directly with counterparties (OTC business). Axpo trades in the most diverse commodities, such as

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electricity, natural gas, oil, coal, biomass, CO₂ certificates and green certificates for energy from renewable sources. Its trading activities cover the entire time spectrum from what is termed intra-day trading to multi-year contracts. Axpo not only offers standardised products, but also customised products which are used to assume and manage the risks of its customers (origination).

Centralschweizerische Kraftwerke AG was established in 1894 and is the leading provider of energy services in Central Switzerland. It plays an important role in the supply business of the Axpo Group. Together with its regional Group companies, CKW provides electricity to around 200,000 private customers in the cantons of Lucerne, Uri and Schwyz.

As the competent IT partner for the energy industry, Avectris AG provides technical and commercial IT services to Axpo, the cantonal electricity utilities of North Eastern Switzerland and third-party customers.

G4-5 Location of the organisation's headquarters

Axpo Holding AG
Parkstrasse 23
5401 Baden
Switzerland

G4-6 Number of countries where the organisation operates

Axpo operates in 36 European countries as well as the USA, Tunisia and Ukraine. In 26 of those, it is locally represented with local offices. In addition, as the Group's internal IT service provider, Avectris AG looks after international customer sites.

The key European countries for Axpo, besides Switzerland, are Germany, France, Italy, Spain, Bulgaria, Poland and Norway.

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G4-7 Nature of ownership and legal form

The cantons and cantonal utilities of North Eastern Switzerland own 100% of the shares of Axpo Holding AG (see table below).

The shareholders of Axpo Holding AG

	in %	in CHF millions
Canton of Zurich	18.342	67.9
Electricity utilities of the Canton of Zurich	18.410	68.1
Canton of Aargau	13.975	51.7
AEW Energie AG	14.026	51.9
SAK Holding AG	12.501	46.3
EKT Holding AG	12.251	45.3
Canton of Schaffhausen	7.875	29.1
Canton of Glarus	1.747	6.5
Canton of Zug	0.873	3.2
Total share capital	100.000	370.0

G4-8 Markets

Markets served (including geographic breakdown, sectors served and types of customers and beneficiaries).

As a Swiss energy company, Axpo has local roots and a global reach. It is involved in all phases of the value chain: electricity production, electricity distribution, trading with electricity, natural gas, other commodities, certificates and energy-based financial products, as well as electricity sales and services. Axpo operates in 36 European countries as well as the USA, Tunisia and Ukraine.

G4-9 Scale of organisation

The Group-wide permanent and temporary full-time equivalents (without apprentices) as at 30 September 2017 was 3,880 for the reporting year. These full-time equivalents comprise 4,182 persons or 834 women (20%) and 3,348 men (80%). Axpo employs 3,537 persons in Switzerland (85%) and 645 abroad (15%).

Total income: Financial Report of Axpo Holding AG 2016/17, p. 9.

Total capitalisation: Financial Report of Axpo Holding AG 2016/17, p. 8.

Quantity of products provided:

Electricity sales totalled 67,981 million kWh and gas sales amounted to 9,368 million kWh.

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G4-10 Breakdown of total number of employees



Report the total number of employees by employment contract and gender, employment type and region.

Number of employees (excluding apprentices, as total number of persons)	Total for Group		Switzerland		International	
	2016/17	2015/16	2016/17	2015/16	2016/17	2015/16
Total	4,182	4,211	3,537	3,614	645	597
Women	834	797	602	585	232	212
Part-time	386	343	344	311	42	32
Fixed-term	7	1	7	1	0	0
Permanent	379	342	337	310	42	32
Full-time	448	454	258	274	190	180
Fixed-term	8	4	7	4	1	0
Permanent	440	450	251	270	189	180
Men	3,348	3,414	2,935	3,029	413	385
Part-time	369	361	354	353	15	8
Fixed-term	4	5	4	5	0	0
Permanent	365	356	350	348	15	8
Full-time	2,979	3,053	2,581	2,676	398	377
Fixed-term	15	26	14	26	1	0
Permanent	2,964	3,027	2,567	2,650	397	377

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Number of apprentices (individuals)	Switzerland		International	
	2016/17	2015/16	2016/17	2015/16
Total	365	403	6	2
Women	37	38	2	0
Part-time	0	0	0	0
Full-time	37	38	2	0
Men	328	365	4	2
Part-time	1	4	0	0
Full-time	327	361	4	2

G4-10-EU Workforce of contractors

It is not possible for Axpo to record the full details of all employment contracts signed by subcontractors. In the energy sector in Switzerland and Europe, far fewer activities are typically outsourced to external subcontractors than in other regions of the world. In Switzerland, subcontractors in the energy sector typically operate as general contractors who accept full responsibility for the performance of their mandates without providing detailed data on every aspect of employment (including details of collective bargaining agreements) to the customer.

For more information, please consult the Sustainability Report 2016/17, Days worked by contractors and subcontractors, p. 60.

G4-11 Collective bargaining agreements

Percentage of total employees covered by collective bargaining agreements.

	Switzerland		International	
	2016/17	2015/16	2016/17	2015/16
Total	9.99%	9.01%	34.87%	37.40%
Women	0.63%	0.48%	34.62%	35.38%
Men	11.93%	10.58%	35.01%	38.50%

Note: Permanent and fixed-term employees receiving a monthly salary or hourly wage, including apprentices

G4-11-EU Collective bargaining agreements at contractors

Axpo cannot quantify this key figure. For more on this, please refer to the Sustainability Report 2016/17, Workforce of contractors, p. 24.

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G4-12 Supply chain

Axpo is involved in all phases of the energy sector value chain: from the construction and operation of energy-related infrastructure, to trading with energy products and customer-specific services and products.

Important business activities and suppliers of Axpo at a glance:



Important suppliers:

Primary activities of Axpo in Switzerland and Europe:

Manufacturers of components (e.g. generators, transformers, power plant components), fuels (gas, nuclear fuels), operating supplies and materials.	Acquisition/construction (incl. procurement of services) for:	Operation/maintenance/ renovation/modernisation (incl. procurement of raw materials and supplies, components and services) of:	Trading with electricity, gas and other commodities as well as certificates (green, energy performance and CO ₂ certificates)
Providers of construction, engineering and other services	<ul style="list-style-type: none"> – Hydro power plants – New energy plants including projects – Electricity grids – Substations and infrastructural facilities – Gas infrastructure – Telecommunications facilities 	<ul style="list-style-type: none"> – Hydro power plants – Nuclear power plants – Gas-fired combined-cycle power plants – New energy plants – Electricity grids – Gas infrastructure – Telecommunications facilities 	Customer-specific energy products and services for wholesale customers (cantonal and municipal utilities), local distributors and energy producers
Service providers for maintenance work and repairs			Grid-related services
Providers of financial and advisory services			CO ₂ services
Suppliers of energy products and energy services			Supply of electricity, heat and other services to end customers
			Electrical, lighting, IT and telecommunication services

As Axpo operates in many different areas along the value chain, both in Switzerland and in Europe – from the construction of large hydro power plants or wind farms to the operation of nuclear power plants, from trading and sales to sales of IT services – a diverse range of business partners is involved in the supply chain. Axpo has a total of around 20,000 different business partners. These include international technology companies such as ABB, Siemens, Westinghouse and GE-Power, international trading partners for energy products such as EDF, E.On, GDF Suez (Engie) and Vattenfall, as well as a large number of international, national and even regional suppliers from the most diverse sectors.

The order volume for the procurement of goods, materials, third-party services and investments in, for example, power plants totalled around CHF 640 million during the reporting year, excluding

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procurement that Purchasing cannot influence. We strive to adhere to the following principles and guidelines for such procurement:

- GATT/WTO tender procedures to ensure the equal treatment of all providers (Swiss and foreign) as of the agreed thresholds;
- Axpo Code for Business Partners on compliance with the principles of business ethics and minimum social and environmental standards.

By signing the Code, Axpo's business partners will expressly commit to Axpo's guiding principles for sustainable, ethical and law-abiding conduct, which are based, among other things, on principles of the United Nations Global Compact (UNGC) and the OECD's Guidelines for Multinational Enterprises.

By consolidating contract-related information within the Axpo Group (at the end of 2017) and implementing the master data management process (expected for mid-2018), Group Purchasing can help ensure that the Code for Business Partners is applied as widely as possible throughout the Axpo Group.

By the end of the 2018/19 financial year, at least 60% of the order volume is to be placed with suppliers who have signed the Code for Business Partners, rising to at least 90% by the end of the 2021/22 financial year. The attainment of this target will be monitored on a monthly basis. At the end of the financial year, the figure for this KPI was around 50%.

G4-13 Structural changes

Significant changes during the reporting period regarding the organisation's size, structure, ownership or supply chain.

Detailed information on all changes to the scope of consolidation is provided in the Financial Report of Axpo Holding AG for 2016/17, p. 38.

Detailed information about the capital structure is provided in the Financial Report of Axpo Holding AG for 2016/17, p. 8.

The supply chain did not see any significant changes either in the reporting year.

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G4-14 Addressing the precautionary principle

Report on whether and how the precautionary approach or principle is addressed by the organisation.

Axpo is obliged to take a precautionary approach to risks. When it comes to the environment and the population, the safe operation of its production plants is of central importance.

To ensure the safety of its nuclear plants, Axpo is committed to complying with the international nuclear safety standards specified by the IAEA Safety Convention (International Atomic Energy Agency) and ratified by Switzerland. National and international authorities carry out nuclear safety checks on a regular basis. Regular safety checks are very important. They serve as the basis for all measures to maintain and improve safe plant operation. In addition, safety at the nuclear installations is analysed and appraised by WANO (World Association of Nuclear Operators) on a regular basis. WANO is a global association of nuclear power plant operators for the mutual exchange of information. Axpo's aim is for its nuclear installations to be among the best, and therefore safest, by international standards. Since its commissioning, the Beznau nuclear power plant has been regularly refurbished. Safety precautions at the Beznau nuclear plant are thus on a par with those at new power plants. The Beznau nuclear plant has passed all the European stress tests carried out in the wake of the Fukushima disaster. In addition to the safety of its nuclear plants, the proper treatment of radioactive waste is a key concern for Axpo (see Sustainability Report 2016/17, Effluents and waste, p. 52).

Axpo's dams also meet the most stringent safety standards. They are permanently monitored and regularly checked. Dams of a certain category have to be resistant to earthquakes of a magnitude that is only expected once every 10,000 years. They are subject to supervision by the Swiss Federal Office of Energy (SFOE).

In operating electricity grids, Axpo makes sure that all the legal rules and limits with regard to non-ionising radiation ("electrosmog") are strictly observed.

G4-15 Agreements and initiatives

Externally developed economic, environmental and social charters, principles or other initiatives which the organisation has signed or endorses or to which it subscribes.

Axpo applies the following established international standards: International Financial Reporting Standard (IFRS), IAEA Safety Convention, nuclear safety performance indicators of the World Association of Nuclear Operators (WANO), environmental product declarations pursuant to ISO 14025 and certified greenhouse gas inventory pursuant to ISO 14064. Axpo also has ISO 9001-, ISO 14001-, ISO 50001- and OHSAS 18001- certified companies, divisions and business units. Axpo erects its own office buildings in compliance with the Swiss Minergie standard.

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G4-16 Memberships of associations and organisations

Axpo represents its interests directly or indirectly as a member or in a supporting/advisory function of a large number of associations and organisations. The most of important of these are:

Association/organisation	Description of membership
<i>National level</i>	
VSE Association of Swiss Electricity Companies	Umbrella association of Swiss electricity companies: <ul style="list-style-type: none"> - Axpo is a sector member - Axpo is represented on the board - Axpo is represented in all strategically relevant working groups
Swisselectric	Association of Swiss electricity grid operators (the association was disbanded at the end of September 2017). <ul style="list-style-type: none"> - Axpo is a member - Axpo is represented on the board and appoints the chairman - Axpo is represented in all strategically relevant working groups
Economiesuisse	Umbrella association for the Swiss business community: <ul style="list-style-type: none"> - Axpo is a member - Represented on the Board of VSE, and Chairman of the Board at Swisselectric (representation on the Board is to lapse as Swisselectric is disbanding) - Swisselectric and VSE represented on the standing committee - Axpo is represented in some working groups

Association/organisation	Description of membership
<i>International level</i>	
Eurelectric The Union of the Electricity Industry	Umbrella association of the European electricity industry: <ul style="list-style-type: none"> - The Swiss member is the VSE - Axpo is represented in all strategically relevant working groups - Axpo CEO was involved in drafting the <i>Eurelectric Presidency Manifesto 2017 – 2019</i>
EFET European Federation of Energy Traders	Association of European energy traders: <ul style="list-style-type: none"> - Axpo is a full member - Axpo is represented on the board - Axpo is represented in all strategically relevant working groups
WindEurope	Umbrella association of the European wind energy industry <ul style="list-style-type: none"> - Axpo is a full member - Axpo is represented in strategically relevant working groups
Energy Charter	International organisation for countries to ensure investment security and cross-border energy trading: <ul style="list-style-type: none"> - Axpo is a member of the Industry Advisory Panel (an advisory committee consisting of representatives of the energy sector)
RECS Renewable Energy Certificate System	Association for the development and organisation of trading in green certificates: <ul style="list-style-type: none"> - Axpo is a full member

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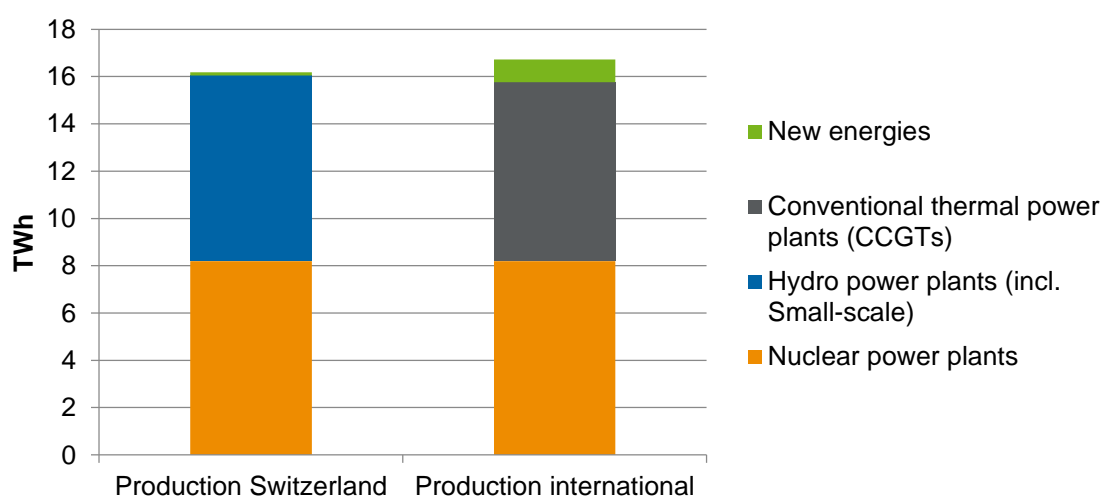
EU1 Installed capacity

Axpo (including CKW) has a total installed power plant capacity of around 9,600 MW. This includes the fully consolidated plants as well as all investments in other companies based on the shareholdings (renewable energies) and share-ownership ratios (other technologies). The breakdown by technologies and countries is as follows:

Technologies and countries	Installed capacity 2016/17 FY	Installed capacity 2015/16 FY
Hydro power Switzerland, including small-scale hydro power plants	approx. 4,400 MW	<i>approx. 3,500 MW</i>
Nuclear energy Switzerland, including long-term contracts	approx. 1,600 MW	<i>approx. 1,700 MW</i>
New energies Switzerland, without small-scale hydro power plants, mainly biomass	approx. 30 MW	<i>approx. 30 MW</i>
Foreign hydro power	0 MW	<i>approx. 5 MW</i>
Foreign nuclear energy (long-term contracts with France)	approx. 1,400 MW	<i>approx. 1,400 MW</i>
Foreign gas-fired combined-cycle power plants (CCGTs, Italy)	approx. 1,700 MW	<i>approx. 1,800 MW</i>
New energies abroad, mainly wind power (Germany, France, Italy, Spain)	approx. 470 MW	<i>approx. 410 MW</i>
Total	approx. 9,600 MW	<i>approx. 8,845 MW</i>

The values in the table have been rounded off. The main changes compared with the previous year as regards hydro power Switzerland chiefly relate to the commissioning of the new Limmern pumped-storage power plant. As regards nuclear energy Switzerland, the main change was a revised calculation method (energy procurement shares of AEW at KKB and KKL are to be excluded). For foreign hydro power, the main change was the sale of an investment, for gas-fired combined-cycle power plants the age-related reduction in output, and for new energies abroad the construction of new wind farms.

EU2 Net energy production 2016/17 FY



Energy procurement from fully consolidated power plants and power plant holdings in the 2016/17 financial year.

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EU3 Number of private, industry and business customers

In Switzerland, Axpo mainly sells electricity to the B2B sector. Its biggest customers are 5 cantonal utilities and 2 municipal utilities. Axpo also delivers electricity to around 50 energy supply companies (local distributors) and 30 industrial customers (end users). It also supplies 10 industry customers with gas.

Through its subsidiary CKW, Axpo delivers electricity directly to some 200,000 private customers and 5,000 business customers as well as indirectly to other customers through a total of eleven local distributors.

Through its sales partners, Axpo Italia supplies around 170,000 customers in all with electricity and gas; Axpo Iberia supplies around 10,000 customers with electricity and gas.

EU4 Length of transmission and distribution grids

Grid level	Overhead line	Cable
Grid level 1 (stub lines – Axpo only)	0 km	3 km
Grid level 3 (cross-regional distribution grid)	2,167 km	452 km
Grid level 5 (regional distribution grid)	793 km	1,513 km
Grid level 7 (local distribution grid, including home electricity connections – CKW only)	308 km	4,542 km

EU5 Allocation of CO₂ emission rights in accordance with the emissions trading system

The production of electricity by the gas-fired combined-cycle power plants in Italy falls under the European Union's emissions trading system (EU ETS). In the 2016 calendar year, Rizziconi emitted 1,120,756 tonnes of CO₂ and Calenia 848,538 tonnes of CO₂ in total. For the 2017 calendar year, the following amounts of CO₂ had been emitted by the end of the reporting period: Rizziconi: 831,899 tonnes of CO₂; Calenia: 765,054 tonnes of CO₂. More information about the EU ETS can be found in the Sustainability Report 2016/17, G4-EC2, p. 39.

Identified material aspects and boundaries

G4-17 Entities included in the organisation's consolidated financial statements

All indicators for the reporting period refer to the fully consolidated companies. Differences in reporting periods are highlighted in context and explained accordingly.

Financial Report of Axpo Holding AG 2016/17, Notes to the consolidated financial statements, p. 70–72. Sustainability Report 2016/17, Materiality analysis, p. 15

G4-18 Defining the report content and aspect boundaries

Sustainability Report 2016/17, Materiality analysis, p. 14

G4-19 List of material aspects

Sustainability Report 2016/17, Material aspects and indicators, p. 15

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G4-20 Material aspects within the organisation

Sustainability Report 2016/17, Materiality analysis, p. 14

G4-21 Material aspects outside the organisation

Sustainability Report 2016/17, Materiality analysis, p. 14

G4-22 Effects of restatements

Report on the effect of any restatements of information provided in previous reports and the reasons for such restatements.

Sustainability Report 2016/17, Reporting principles, p. 13

G4-23 Significant changes in scope

Report on significant changes from previous reporting periods in regard to the scope and aspect boundaries.

Sustainability Report 2016/17, Reporting principles, p. 13

Stakeholder engagement

G4-24 Stakeholders

List of stakeholder groups engaged by the organisation

Sustainability Report 2016/17, Dialogue with stakeholder groups, p. 11

G4-25 Selection of stakeholders

Sustainability Report 2016/17, Dialogue with stakeholder groups, p. 11

G4-26 Approach to stakeholder engagement

Sustainability Report 2016/17, Concrete dialogue, p. 11

G4-27 Key topics and concerns raised in the reporting period through stakeholder engagement

Sustainability Report 2016/17, Concrete dialogue, p. 11

Dialogue with the general public:

Its dialogue with the public enhances the Group's credibility and promotes understanding of its business policies. The general public can contact Axpo via its website, its media office and various social media channels to register any concerns. In addition, the visitor centres and various power plants operated by Axpo encourage direct exchange, by acting as a source of information for anyone interested.

Dialogue with the media:

More than 70 media releases regarding current events at the Group and its subsidiaries were sent out to the media. Axpo also calls media conferences and media briefings as well as teleconferences where it informs the media directly of important developments affecting the Group. Axpo's media office is staffed round the clock, 365 days a year. Media representatives and other stake-

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holders are also sent a newsletter roughly ten times a year informing them about the latest news. Twice a year, they receive the Energy Dialogue magazine, another source of updates. Interested parties can subscribe to the newsletter and magazine free of charge at www.axpo.com, where all the media releases and other information and dossiers on key topics such as water or wind power can also be found.

Dialogue with shareholders:

The shareholders' rights of participation are described in detail in the chapter on corporate governance in the Annual Report of Axpo Holding AG 2016/17, p. 10. Exchanges with shareholders mainly took place at the six meetings of the Board of Directors, the Board of Directors' two-day retreat and the Annual General Meeting. In order to comply with the politically determined governance strategies of some cantons that apply to the management of companies in which the cantons hold an investment, regular and institutionalised meetings between the specialist units and employees of Axpo's Public Affairs department are also scheduled. One example of such an event in the reporting year was the meeting with the management of the Energy department of the Office for Waste Management, Water, Energy and Air (AWEL) of the Canton of Zurich. The agenda items included the mutual exchange of information, including forward-looking information regarding the possible political implications of Axpo's activities and projects.

Dialogue with business associations:

An important dialogue with the business sector was channelled through Economiesuisse, the umbrella association for the Swiss business community. Axpo is represented in this association through Swisselectric and the VSE. Exchanges were topic-focused and took place in working groups. In the reporting year, the main concerns of both sides were the general conditions for the electricity market and the possible future structure of the market. The dialogue will no longer take place in the current institutionalised setting as Swisselectric is disbanding.

Dialogue with non-governmental organisations, government offices and municipal representatives: For more information, please consult the Sustainability Report 2016/17, Local communities, p. 70.

Report profile

G4-28 Reporting period

The information in this report covers the 2016/17 financial year (1 October 2016 to 30 September 2017).

G4-29 Date of the most recent previous report

The last Sustainability Report was published for the 2015/16 financial year on 21 December 2016.

G4-30 Reporting cycle

The first two GRI reports issued by Axpo each covered a period of two years (2005/06 and 2006/07 as well as 2007/08 and 2008/09). Since the publication of the Annual and Sustainability Report 2009/10, Axpo has issued annual reports based on the GRI guidelines.

G4-31 Contact point for questions regarding the report

For contact information, please consult the Sustainability Report 2016/17, Publishing details and contact persons, p. 85.

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G4-32 Chosen “in accordance” option

In compliance with the GRI G4 guidelines, “Comprehensive” option.

G4-33 External assurance

On selected indicators Ernst & Young Ltd has provided limited assurance. The indicators concerned have been identified in the Sustainability Report 2016/17 ☒. Please consult the Sustainability Report 2016/17, External assurance, p. 80.

Governance

G4-34 Governance structure

Corporate governance refers here to the governance structure of the organisation, including committees that report to the highest governance body and which are responsible for specific tasks. See Annual Report of Axpo Holding AG 2016/17, Corporate governance, p. 10–14.

The duties of the Board of Directors are based on the provisions of the Swiss Code of Obligations. The Board of Directors is responsible for formulating the corporate strategy, which incorporates objectives relating to the economic, environmental and social aspects. The Board of Directors is also responsible for the top-level management of the company and for supervising the Executive Board. In particular, it is responsible for establishing organisational structures, arranging the accounting system, financial controlling and financial planning, appointing the members of the Executive Board and determining their salaries, producing the annual report, and preparing the Annual General Meeting and implementing its resolutions. There are currently three standing committees whose task is to analyse in greater depth all business or personnel-related decisions submitted by the Executive Board: the Audit and Finance Committee (AFC), the Remuneration and Nominations Committee and the Strategy Committee.

G4-35 Delegation of authority for economic, environmental and social topics by the highest governance body

Sustainability is one of the strategic objectives that was incorporated into the corporate strategy adopted by the Board of Directors. As the Executive Board is responsible for the operational implementation of the corporate strategy, it takes all strategic decisions on sustainability. The Executive Board also approves the sustainability strategy. Responsibility for the preparation and implementation of this strategy lies with the Head of Corporate Development, who delegates this task to the Head of Sustainability Management.

The Executive Board monitors the implementation of the sustainability strategy and developments in group-related sustainability performance by reviewing the annual internal sustainability reports and topic-specific motions submitted to the Executive Board for decisions. This is the remit of the Head of Corporate Development who delegates this task to the Head of Sustainability Management.

G4-36 Responsibility for economic, environmental and social topics

Developing the Group’s sustainability is the responsibility of Sustainability Management, a Group function reporting to the CEO Staff Office, which falls under the Corporate Development Group function. The Head of Sustainability Management submits all internal sustainability reports to the Executive Board.

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G4-37 Processes for consultation between stakeholders and the highest governance body on economic, environmental and social topics

Engagement with stakeholders primarily takes place during the process of operational implementation of the corporate strategy, for which the executive management is responsible (see Sustainability Report 2016/17, Dialogue with stakeholders, p. 11). The CEO regularly updates the Board of Directors on business performance and important events.

G4-38 Composition of the highest governance body

Annual Report of Axpo Holding AG 2016/17, Board of Directors and Executive Board, p. 15–18

G4-39 Chair of the highest governance body

The Chairman of the Board of Directors is not a member of the Executive Board.

G4-40 Nomination and selection processes for the highest governance body

As the owners, the cantons of North Eastern Switzerland appoint the members of the Board of Directors of Axpo Holding AG. As a result, several members of cantonal governments sit on the Board of Directors.

The composition of the Board of Directors is important for the performance of the tasks and responsibilities of the Board of Directors of Axpo Holding AG. The newly created Requirements and Skills Matrix forms the basis for formulating a meaningful proposal to the owners for the selection and nomination of members of the Board of Directors. This matrix illustrates the relevant criteria in regard to professional experience and expertise for the various necessary roles on the Board of Directors. They serve as the basis for the detailed requirement profile for holding a mandate on the Board of Directors and are taken into account when identifying and nominating new Board members.

G4-41 Avoidance of conflicts of interest by the highest governance body

None of the members of the Executive Board belong to any other boards or own shares in any supplier companies or other stakeholder companies. Furthermore, no controlling shareholders are represented on the Executive Board and none of the members have ties to any related companies or persons.

G4-42 Role of the highest governance body and senior executives in developing the corporate strategy with regard to its economic, environmental and social impacts

It is part of the remit of the Board of Directors to adopt the corporate strategy, which incorporates an objective to improve Axpo's sustainability performance in all three dimensions.

The Executive Board is responsible for the operational implementation of the corporate strategy, including the sustainability objectives. To this end it has adopted a sustainability strategy designed to achieve the operational implementation of the 'sustainability' corporate objective.

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G4-43 Measures taken to develop and enhance the highest governance body's collective knowledge of economic, environmental and social topics

The Board of Directors' Strategy Committee deals with all strategically relevant topics that affect the Group, which it subsequently submits to the full Board of Directors. As it is also responsible for monitoring the implementation of the corporate strategy, it is informed of all measures taken to ensure the achievement of the "sustainability" corporate objective.

The Sustainability Report was submitted to the full Board of Directors for information prior to publication.

G4-44 Evaluation of the highest governance body's performance with respect to the governance of economic, environmental and social topics

All senior managers are given a sustainability target as part of their personal targets. The target may be geared towards the environmental, economic or social aspects, or alternatively governance or safety.

For more information, please consult the Sustainability Report 2015/16, CEO interview, p. 3, and Employee performance appraisal, p. 67.

G4-45 The highest governance body's role in the identification and management of economic, environmental and social risks and opportunities with stakeholder support

Axpo's risk management process has been in place for many years. As part of this process, Axpo identifies the risks in the Group companies and at Group level every six months and assesses them according to probability of occurrence and impact. Basically, each Group company is responsible for its own risks according to the principle of causation and manages them under its own responsibility. Risks that affect all Group companies are captured together, and measures to manage these risks are coordinated at Group level. By aggregating the individual risks using Monte Carlo simulation, the risks can be presented on a consolidated basis at Group level. The results of this Group-wide risk analysis are compiled every six months in a risk report and a catalogue of measures that are processed by the Corporate Risk Council. The Corporate Risk Council consists of the Executive Board, representatives of various Group functions and a representative of the Board of Directors of Axpo Holding AG. The risk report is subsequently discussed by the Audit and Finance Committee as well as the Board of Directors.

G4-46 The highest governance body's role in reviewing the effectiveness of the organisation's risk management processes for economic, environmental and social topics

The Board of Directors performs its role of monitoring and controlling the risk management process by having a representative of the Board on the Risk Council and by having the Audit and Finance Committee as well as the full Board of Directors discuss the risk reports.

G4-47 Frequency of the highest governance body's review of economic, environmental and social risks and opportunities

The risk reports are submitted to the Board of Directors and are prepared and discussed every six months.

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G4-48 Review and approval of the Sustainability Report

The Executive Board of Axpo Holding AG is responsible for reviewing and approving the Sustainability Report.

G4-49 Communication of critical concerns to the highest governance body

The CEO regularly updates the Board of Directors on important economic, environmental and social developments and events.

G4-50 Nature and total number of critical concerns communicated to the highest governance body and the mechanisms used to address and resolve them

Anonymity is guaranteed as a principle of whistleblowing; for this reason, Axpo does not divulge any details about this. For more on complaints, discrimination and corruption, please consult the Sustainability Report 2016/17, Compliance, p. 73

G4-51 Remuneration policies for the highest governance body and senior executives

The Board's Remuneration and Nominations Committee reviews the fees paid to the members of the Board of Directors and the committees and submits requests for changes if required. The Board of Directors determines the fee to be paid to its members. The members of the Board of Directors receive a fixed fee which differs for the positions of Chairman, Vice-Chairman, the Chairman of the Audit and Finance Committee (AFC), the members of the AFC and the other members of the Board of Directors. The (fixed) remuneration for a Board member consists of a fixed annual fee plus a meeting attendance fee (except for the Chairman of the Board of Directors). Axpo Holding AG does not generally make severance payments to members of the Board of Directors or Executive Board who resign.

The remuneration of the members of the Executive Board consists of a fixed basic salary, a variable salary component of (usually) up to 50% of the basic salary which depends on the degree of attainment of the financial and thematic objectives defined by the Board of Directors, as well as pension benefits and benefits in kind. The thematic objectives can refer to all three sustainability dimensions. There are no other payments.

G4-52 Determination of remuneration

No external advisors have been involved in drawing up the remuneration principles for the members of the Board of Directors and the Executive Board. The remuneration is periodically validated with reference to various external benchmarks. The remuneration paid to the members of the Board of Directors and the Executive Board is set out in the Financial Report (see Financial Report for Axpo Holding AG 2016/17, p. 68 and p. 90–92).

G4-53 Taking into account of stakeholders' views regarding remuneration

The Remuneration and Nominations Committee prepares proposals regarding the remuneration for the members of the Board of Directors. The Board of Directors takes the final decision regarding the salaries. Changes to the salaries and allowances of the Axpo employees are only approved by the Executive Board after consultation with the Staff Council. Any decision deviating from the Staff Council's recommendation must be justified.

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G4-54 Ratio of annual total compensation for the highest-paid individual employee to the median annual total compensation for all employees

Calculated for the fixed-term and permanent full-time equivalents in Switzerland, the ratio is 9.9 to 1 (previous year: 9.2 to 1).

G4-55 Ratio of percentage increase in the annual total compensation

The ratio of the percentage increase in compensation between the highest paid staff members and all employees is 9.8 percent.

Correction: an error was made in the calculation of the previous year's figure as part-time employees were mistakenly included. The previous year's figure thus has no informative value.

Ethics and integrity

G4-56 The organisation's values, principles, standards and norms

Sustainability Report 2016/17, Compliance, p. 73

G4-57 Internal and external mechanisms for seeking advice on ethical and lawful behaviour

Sustainability Report 2016/17, Compliance, p. 73

G4-58 Internal and external mechanisms for reporting concerns about unethical or unlawful behaviour

Sustainability Report 2016/17, Compliance, p. 73

Specific Standard Disclosures

Economic dimension

Economic performance

Relevance

Axpo is one of the largest Swiss energy companies and is wholly owned by the cantons of North Eastern Switzerland. Axpo produces and delivers electricity to most of the population of North Eastern and Central Switzerland – safely, climate-friendly and at market-related prices.

As the need to secure the company's long-term economic success is an indispensable requirement for all of Axpo's activities, it is also the Group's key objective. Even more so as Axpo and the entire energy sector in Switzerland and Europe are currently fighting to survive in a difficult market environment.

Management approach

The changed economic environment requires a revision of the business model: In future, Axpo will focus not only on producing and trading in electricity, but also on providing innovative energy management services. The difficult market environment, caused mainly by the collapse in wholesale prices, poses three big challenges for Axpo. Firstly, costs have to be cut even further. Secondly, investment projects have to be reviewed carefully and downsized where necessary, and thirdly, new earnings potential has to be exploited consistently (for more information, see Sustainability Report 2016/17, Action field 1, Axpo ensures its long-term corporate success, p. 6).

Impacts and results

Cost savings made a significant contribution towards improving the operating result. In this area, further potential was created through optimised procurement and in IT. The target of making sustainable cost savings of CHF 200 million by the end of the financial year was, in fact, slightly exceeded. Investments fell by around two thirds year-on-year but without jeopardising any investment projects relevant to operational safety. Further cost cuts and adaptation to current market needs will remain on the permanent list of management tasks. In addition, new earnings potential will be exploited. For example, Axpo has worked to generate more added value from subsidised renewable energies. Axpo subsidiary Volkswind has connected six wind farms in France to the grid, containing 35 turbines in all. Volkswind has now installed an impressive 60 wind farms with output of over 700 MW, with a further 3,000 MW in the pipeline. With Volkswind, Axpo now has a presence along the entire wind energy value chain, from development, construction and operation of the turbines through to the marketing of the electricity. The international customer business, which involves marketing and procuring energy for customers from various segments, also continued to develop well during the last financial year. The associated profits from Europe help cushion the earnings problems affecting the Swiss production fleet (for more information, see the Axpo Annual Report 2016/17, Profits in Europe but continuing losses from Swiss production p. 4-6)

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G4-EC1 Direct economic value generated and distributed

	2016/17	2015/16
Total income (in CHF m)	5,567	5,416
Result for the period (in CHF m)	310	-1,252

G4-EC2 Financial implications and other risks and opportunities for the organisation's activities due to climate change

As confirmed by the climate change scenarios published by the Federal Office for the Environment (Swiss Climate Change Scenarios CH2011) and by the latest studies,¹ climate change will substantially affect future climatic conditions in Switzerland. Because of changes to the distribution of rainfall (less rain in summer) and the general decline in run-off on the one hand, and a possible increase in extreme weather events with high rainfall volumes and the resulting increase in soil erosion on the other, climate change will have a particularly strong impact on the water management sector. This could have a negative financial impact on Axpo as the largest Swiss producer of hydro power.

Combating climate change is a global mega trend of our times. Efforts to combat climate change involve the adoption of a new political mindset and concerted action on the international stage. As part of its mission to play a pioneering role, in 2005 the EU launched the EU emissions trading system (EU ETS) as an important tool of EU climate policy. Internationally, this objective was underpinned by the UN Climate Conference in Paris in 2015, which adopted a climate agreement seeking to limit global warming to well below 2°C. This will mean reducing greenhouse gas emissions to zero worldwide between 2045 and 2060.

Significant changes to the allocation of certificates were introduced in the third phase of the EU emissions trading system. As there are now no national allocation plans any more, the European Commission sets an EU-wide cap on the total CO₂ emissions. In 2013, this was 2.04 billion tonnes of CO₂. This cap is being reduced by 1.74% per year, starting in 2014. Allocation depends on the type of emitting industry: electricity producers have already had to pay for all their required certificates since 2013. This does not apply to EU member states who only joined the EU in 2004 or later and who still have a comparatively high percentage of coal-fired power plants, but this exemption will end in 2019.

As the prices for CO₂ emission rights have dropped, the EU decided in 2013 to introduce an artificial shortage of 900 million tonnes of CO₂ emission rights, known as "backloading". The EU has also adopted a stabilisation mechanism (Market Stability Reserve – MSR) which will automatically withdraw emission rights from the market, according to the specified rules, when prices fall and will feed emission rights into the market when prices rise. The Market Stability Reserve will take effect from 1 January 2019.

Additionally, in July 2015 the European Commission presented legislative proposals for a revision of the EU ETS for the period after 2020: as part of the EU's ordinary legislative procedure, the European Parliament and the EU member states that are part of the Council are currently involved in the legislative procedure. The European Commission's legislative proposal is geared towards creating a more robust EU ETS, including reducing the total volume of CO₂ emission rights by 2.2% a

¹ Swiss Federal Office for the Environment 2017: Impulse für eine klimaangepasste Schweiz (Impetus for adapting Switzerland to climate change, not available in English)

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year from 2021 onwards. The legislative procedure relating to the design of the EU ETS in the period from 2021 to 2030 could be complete by the middle of 2018.

As Axpo's gas-fired combined-cycle power plants in Italy are covered by the EU ETS, electricity production could become more expensive compared with low-CO₂ production. Conversely, Axpo's low-CO₂ production mix in Switzerland might benefit from a more robust EU ETS.

In October 2014, the heads of the EU member states reached a decision of principle on the EU's energy and climate policy until 2030 ("2030 Climate and Energy Package"). This decision provides the framework for the EU's energy policy until 2030:

- Greenhouse gas emissions to be reduced by at least 40% below 1990 levels by 2030
- Share of renewable energy to be at least 27% of the EU's final energy consumption by 2030
- Increase of at least 27% in energy efficiency by 2030; with the explicit option of raising this target to 30%.

The European Commission presented eight draft laws in the form of a "Clean Energy Package (CEP)" in November 2016 as part of efforts to implement the decision of principle of October 2014. The European Parliament, which is involved in the legislative procedure, is demanding more ambitious targets, particularly with regard to the percentage of renewable energies and energy efficiency; the legislative procedure is likely to last until the end of 2018.

Discussions are also ongoing over France's proposal for a "carbon price floor", which would function as a minimum price for CO₂ emission rights. Should this proposal be implemented as part of a Franco-German venture, it would have considerable ramifications for the electricity mix and, by extension, the price of electricity, as coal-fired power plants, where production is cheap, would be replaced by gas power plants.

Such changes in the demands placed on the energy sector also present Axpo with opportunities to launch new products and services. For example, the rapid growth of wind energy in Europe has made it possible for Axpo to increasingly establish itself as a buyer and marketer of electricity produced by wind farms. Axpo manages customer portfolios of renewable energies throughout Europe with an installed capacity of around 14,000 MW, chiefly wind power and photovoltaics.

CKW believes there is potential for new products and services in the area of energy efficiency and in new renewable energies in the installation business. In general, social change in regard to the environment increases demand for the associated products, but political changes are also breaking new ground.

G4-EC3 Coverage of the organisation's defined benefit plan obligations

Most of the Axpo Group's employees in Switzerland are insured under the defined contribution plan of the PKE Energy Pension Foundation. The employees of the Leibstadt nuclear power plant and other partner plants (equity-consolidated) are insured under the defined benefits plan of the PKE Energy Pension Fund Cooperative. The PKE Energy Pension Foundation (established in 2002) and the PKE Energy Pension Fund Cooperative (established in 1922) are both communal institutions of the energy sector.

Depending on the age category, the total savings contributions paid by employers and employees amount to between 11% and 33% of the pensionable salary, whereby the employer pays 50% to 72% of the contributions.

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From 1 January 2017, the risk contribution is 0.8% (previous year: 0.8%) of the pensionable salary, with the employer contributing 60%. The funding ratio of the collective pension fund is:

- PKE Energy Pension Foundation: 119.8% (30.09.2017) and 113.6% (30.09.2016)
- PKE Energy Pension Fund Cooperative: 108.5% (30.09.2017) and 103.6% (30.09.2016)

Therefore, neither the defined benefits plan nor the defined contribution plan reports a funding deficit.

Employees of the Axpo Group working in foreign countries are insured under defined contribution plans.

The CKW employees are insured exclusively with the PKE defined contribution plan. The CKW Group's pension cost for the 2016/17 financial year was CHF 19.1 million (previous year: CHF 18.5 million). The funding ratio of the PKE Energy Pension Foundation was 119.8% (30.09.2017) and 113.6% (30.09.2016) respectively. The partner plants of the CKW Group (not consolidated in the report) are insured separately.

G4-EC4 Financial assistance received from the government

The company does not receive any significant financial allocations from state funds. Axpo receives contributions from subsidy programmes and the compensatory feed-in remuneration (CFR) in Switzerland for the operation of its power plants in the sphere of new energies, e.g. for the wood-fired power plant in Domat/Ems or under similar European subsidy programmes such as the German Renewable Energies (Expansion) Act (abbreviated as the Renewable Energies Act [Erneuerbare-Energien-Gesetz, EEG 2014]) for the Global Tech I offshore wind farm. The subsidies are the same for all market players.

Sector-specific aspect: Availability and reliability of energy supply

Relevance

Meeting its energy supply obligations to its customers is a central priority for Axpo. In Switzerland in particular, the large volumes of electricity delivered by the company mean that Axpo also makes an essential contribution to maintaining socio-economic stability. In addition to the supply of electricity, the provision of reliable transmission capacities is an important task. For example, Axpo operates the largest national transmission grid in Switzerland, thereby making an important contribution to securing the national supply of electricity.

Management approach

Axpo relies on various options to meet its supply obligations. For one thing, Axpo has a broad mix of energy produced in its own power plants. With its "Linthal 2015" project, for example, Axpo is investing CHF 2.1 billion in building a pumped-storage power plant with an output of 1,000 MW, one of the largest in Europe. Pumped storage technology makes a significant contribution to security of supply and system stability. The technology supports system stability in relation to the increased use of new energy solutions, where stochastic electricity is fed into the system. Pumped-storage power plants help to smooth out the residual load. Ongoing investments are also made to maintain and refurbish the existing power plant fleet.

To continue fulfilling its supply obligations in the future, Axpo relies on a diversified production portfolio and also invests in the expansion of its new energies production, mainly in regions where the conditions for new energies are excellent. One example is Axpo's takeover of Volkswind GmbH, a

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leading developer and operator of wind farms in Germany and France. This strengthens Axpo's position in renewable energies and marked its first foray in the business of constructing and developing wind farms in Germany and France. During the reporting year Axpo subsidiary Volkswind connected six wind farms in France to the grid, containing 35 turbines in all. In total, Volkswind has now installed an impressive 60 wind farms with output of over 700 MW, with a further 3,000 MW in the pipeline.

In addition to producing its own electricity, Axpo also buys energy from power plants in France under long-term electricity procurement contracts.

Sustainable access to the European electricity markets is another important pillar in meeting its supply obligations. Axpo secures this access through its pan-European trading business.

Aside from the supply of electricity, the company also invests in existing and new infrastructure facilities for the transmission of energy, such as transmission grids in Switzerland and gas pipelines abroad that can also help to meet the demand for electricity by transporting primary energy carriers. The reliability of the transmission grids is ensured by means of intensive maintenance, renovation and optimisation projects as well as redundant systems, thus providing backup lines to ensure that deliveries can still be made to any given location in the event of a component failure ([n-1]-principle).

Impacts and results

In the reporting year Axpo fully guaranteed the supply of energy to its customers. Investments in the power plant fleet and transmission grids are constantly reviewed against the background of the current difficult market conditions to ensure that Axpo can continue to guarantee a secure supply of energy to Axpo customers in future.

The Swiss transmission grid maintained by Axpo is in good condition. Axpo uses the distribution codes developed by the Association of Swiss Electricity Companies (VSE) to measure the reliability of electricity supply. The average interruption frequency per end user and year (SAIFI, System Average Interruption Frequency Index) was 0.007 [1/a] for Axpo grids and 0.245 [1/a] for CKW (excluding the grids of EW Altdorf and EW Schwyz) in 2015. The average interruption duration per end user and year (SAIDI, System Average Interruption Duration Index) was 0.08 [min/a] for Axpo grids and 16.3 [min/a] for CKW (excluding the grids of EW Altdorf and EW Schwyz).

EU10 Planned expansion of capacity to meet expected demand for electricity

Sustainability Report 2016/17, Availability and reliability, p. 41

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Sector-specific aspect: Provisions for the dismantling of nuclear power plants

Relevance

The task of guaranteeing the safe operation or safe handling of radioactive substances involves the entire value chain and the life cycle of nuclear energy plants. In particular, the funds for the decommissioning of the nuclear power plants must be secured. As the biggest producer of nuclear energy in Switzerland, Axpo has a special responsibility in this regard.

Management approach

The operators of nuclear power plants make regular contributions to the Federal Decommissioning Fund and the Federal Nuclear Waste Disposal Fund for Nuclear Installations to ensure that financial liabilities will be covered even after a nuclear power plant has reached the end of its useful life.

Effectiveness and results

In the reporting year, Axpo Power AG contributed CHF 8.0 million (previously CHF 32.1 million) to the Decommissioning Fund and CHF 14.8 million (previously 59.1 million) to the Nuclear Waste Disposal Fund. These contributions relate to the Beznau nuclear power plant. The contributions payable from 2017 onwards are based on the unaudited decommissioning and nuclear waste disposal costs from the 2016 cost study. The previous year's figures, however, are still based on the interim order for 2015 and 2016, applying a fixed safety supplement of 30 percent to the calculated decommissioning and nuclear waste disposal costs. The fund contributions by Kernkraftwerk Leibstadt AG and Kernkraftwerk Gösgen-Däniken AG, in which Axpo has significant stakes, are made by the companies themselves.

The fund contributions are calculated based on the five-yearly cost estimates for decommissioning and dismantling nuclear power plants and disposing of nuclear waste in accordance with the Ordinance on the Decommissioning Fund and the Disposal Fund for Nuclear Installations (DDFO). The cost estimates are reviewed by the Swiss Federal Nuclear Safety Inspectorate (ENSI) and by external experts. In 2015 and 2016, the 2016 cost study was prepared, followed in 2017 by the reviews. The contributions paid from 2017 onwards to the Decommissioning and Nuclear Waste Disposal Funds are based on the results of the as-yet unaudited 2016 cost study. The expectation is that the Administration Committee will be able to submit an application to the Federal Department of the Environment, Transport, Energy and Communications (DETEC) to set the annual contributions towards decommissioning and nuclear waste disposal costs at the end of 2017. Based on DETEC's decision, which is expected in mid-2018, the annual contributions paid by operators to the two funds for the period 2017 to 2021 will then be finalised.

For more information, please consult the Financial Report of Axpo Holding AG 2016/17, Uncertainty of estimates for Beznau nuclear power plant (KKB) p. 22 - 23.

Sector-specific aspect: System efficiency

Sustainability Report 2016/17, Availability and reliability, p. 41.

EU11 Generation efficiency of thermal power plants

The net generation efficiency of the Beznau nuclear power plant in the reporting year was 0% for Block 1 (Block 1 has been idle since the refurbishment shutdown in 2015) and 34.1% for Block 2.

The gas-fired combined-cycle power plants in Italy reported an average generation efficiency for the reporting year of 52.7% (Calenia) and 52.8% (Rizziconi).

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EU12 Transmission and distribution losses

Losses on the distribution grids of Axpo Grids (grid levels 1 to 5) amounted to 0.55% and those on the CKW grids (grid levels 3 to 7) were 2.90%.

Environmental dimension

Energy and emissions

Relevance

The entire Axpo Group has a binding commitment to environmental protection that is documented in the sustainability policy (see Sustainability at www.axpo.com). As the products and services of the Axpo Group are all related to energy, the focus falls on the environmentally benign and, most importantly, climate-friendly production, use and distribution of energy. Axpo consistently strives to minimise the impact of its business activities on humans, animals and the environment as much as possible.

Management approach

The different companies, in particular the planning and producing units, are individually responsible for the practical implementation of environmental protection in line with regulatory requirements and the Group-wide sustainability strategy.

Measures to improve energy efficiency are being successfully applied in the following four areas: increases in production in power plants, reductions in transmission losses, reductions in consumption in building management, and reduction in consumption by the customers. For Axpo, it is important not only to generate more electricity with the same resources, but also to offer more services that can help customers make energy savings. Measures intended to increase energy efficiency – where economically feasible – are also being consistently implemented within the company itself. For instance a five-year company programme to improve energy efficiency, ending in late 2016, was implemented together with the Energo association (see www.energo.ch) for the office buildings in Baden.

The generation and distribution of power always affect nature. To reduce this impact as much as possible, Axpo constantly optimises its production facilities. The environmental aspects of energy – in particular with regard to the use of non-renewable primary energy carriers and emissions, mainly greenhouse gas emissions – are carefully monitored throughout the Group with the help of an ISO 14064-certified greenhouse gas inventory (see Sustainability Report 2016/17, Emissions, p. 49).

As part of our commitment to the sparing use of resources, Axpo's 15 Kompogas plants recycle biowaste from households, gardens, commerce and industry into materials and energy. The fermentation of this waste produces energy in the form of biogas, which can then be converted into electricity, heat, fuel or biogas that has the same high quality as natural gas. Moreover, the residual waste from the fermentation process contains important nutrients, which means it can be used as a fertiliser to encourage new plant growth, thus completing the material cycle.

With respect to water and effluents, Axpo's business activities have two main impacts: the warming of the Aare river by the inflow of cooling water from the Beznau nuclear power plant and the effects of hydro power plants in terms of residual flows, hydropeaking, bedload balance and the disruption of fish migration patterns. The necessary compensation habitats and other compensation measures (environmental mitigation and replacement measures) are defined in detail during the Environmental Impact Assessments. Environmental Impact Assessments are part of the standard approval procedure for new and rehabilitation projects. For hydro power plants, the concession conditions for using the water often also include measures to protect biodiversity. In special cases, additional protection plans agreed with the authorities have to be implemented. Investments and

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expenses related to environmental protection are usually part and parcel of all major infrastructure projects and are therefore included in the project costs.

Impacts and results

All energy efficiency and environmental measures that are mandatory by law, including the conditions attached to power plant concessions, are monitored by the competent government offices. Axpo did not receive any fines for breaches of environmental laws and regulations in the reporting period. For more information, please consult the Sustainability Report 2016/17, Compliance, p. 73.

In the reporting period, energy efficiency was improved by 12,200 MWh in total. The biggest contributions were made by efficiency improvements at production plants (+ 9,200 MW) and at customers of Axpo (+ 2,700 MW). For more information, please consult the Sustainability Report 2016/17, Reduction of energy consumption, p. 47.

Axpo makes a further important contribution to the protection of the climate with its low-CO₂ production mix: measured for Axpo's entire power plant fleet, greenhouse gas intensity is only 103 g of CO₂ equivalents per kWh. This is just a fraction of the GHG intensity of the European electricity mix of around 500 g of CO₂ equivalents per kWh¹. ☒

G4-EN3 Energy consumption within the organisation ☒

Direct energy usage covers the fuel used in the company's fully consolidated production facilities, buildings and vehicles, namely natural gas, oil and renewable fuels.

Energy consumption at the Beznau nuclear power plant rose due to the increased operating hours of Block 2. Moreover, operating hours for the Italian CCGTs have increased further. The use of renewable fuels also increased significantly as the Tegra wood-fired power plant in Domat/Ems is now fully operational again since the addition of the new wood chip drying plant.

Direct energy consumption in production and operations in TJ	2016/17	2015/16	2014/15	2013/14
Nuclear fuel for production: Beznau nuclear power plant, gross thermal energy production	31,688	24,096	46,104	67,058
Fossil fuels for production: Natural gas for gas-fired combined-cycle power plants, diesel for emergency backup generators, oil for boilers and gas turbines (until FY 2013/14) and gas for boilers (until FY 2014/15)	40,137	38,144	36,379	17,351
Fossil fuels for operations: Building heating with gas and oil; fuel for cargo, delivery and passenger vehicles	61	56	56	64
Renewable fuels: Biomass, biogas and wood for energy production	2,392	1,380	1,493	3,010
Total	74,278	63,676	82,539	87,483

Indirect energy consumption refers to the fuel volume supplied by pipeline and cable used within the company, such as electricity and district heating. It should be noted that the energy losses in-

¹ Source: ETH ecoinvent database, UCTE electricity mix

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clude all grid losses attributable to Axpo even if part of the transported energy is only forwarded on behalf of other companies.

Pump energy consumption rose sharply compared with previous years because full use could be made of “hydraulic short-circuiting”¹ at the Linth-Limmern power plants (KLL) for the first time. There were also major changes to system services. Besides KLL, this has had the biggest impact on the Sarganserland power plants.

Indirect energy consumption for production, in buildings and via transmission losses in TJ	2016/17	2015/16	2014/15	2013/14	✓
Energy procurement for production: Electricity required for pumped-storage power plants (fully consolidated power plants) and for production facilities	3,511	1,982	1,147	1,282	
Energy lost via transmission: Total transmission losses via Axpo's grids (caused by Axpo energy and third parties)	773	787	807	801	
Energy required for building management: District heating and electricity used in buildings and computer centres	49	53	57	63	
Total	4,333	2,822	2,011	2,146	

G4-EN3 Energy consumption outside of the organisation

Indirect energy consumption for production, in buildings and via transmission losses in TJ	2016/17	2015/16	2014/15	2013/14	✓
Energy procurement for production: Electricity required for pumped-storage power plants (partner plants)	701	528	488	513	

G4-EN5 Energy intensity

Total energy consumption per full-time equivalent is around 18,700 GJ (previous year: 15,000 GJ).

G4-EN6 Reduction of energy consumption

Sustainability Report 2016/17, Energy and Emissions, p. 45

As regards electricity, improvements in energy efficiency are targeted in the following four areas: increases in production in power plants, reductions in transmission losses, reductions in consumption in building management, and reduction in consumption by the customers.

Production increases in power plants are achieved by boosting generation efficiency. The measures vary, depending on the technology and the type and location of the power plant (particularly relevant for hydro power plants). The following measures to increase production were implemented successfully in the reporting year:

Hydro power plants: energy efficiency gains of around 9,200 MWh in total were recorded for the power plants at Central de Riddes, Tschar, Fionnay Bürglen and Windisch in the reporting year.

¹ Simultaneous use of turbines and pumps to increase flexibility at the power plant.

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Nuclear energy: no efficiency gains were realised in the reporting year.

Biomass fermentation: no efficiency gains were realised in the reporting year.

Transmission grids: no efficiency gains were realised in the reporting year.

With a view to increasing energy efficiency in terms of building management, energy efficiency gains of 289 MWh were achieved in the buildings operated by Axpo and CKW, chiefly by optimising operations. In addition, energy efficiency was increased by 16.7 MWh at the two computer centres used by Avectris, thanks to the use of new technology standards (server and storage).

Increasing energy efficiency for customers

With the help of two “ProKilowatt” support programmes (circulating pump programme), consumption by CKW’s customers was also reduced by around 110 MWh of electricity. The installation at customer premises of CKW VoltControl devices, which reduce the supply voltage to a constant 210 volts, makes it possible to use an average of 15% less electricity, depending on the device and local voltage level. In total, these devices enabled customers to reduce their electricity consumption by 1,000 MWh.

In Spain and Italy too, Axpo offers a wide range of services for increasing energy efficiency for customers from commerce and industry. In addition to consumption analyses and energy audits, the following specific energy efficiency measures were also implemented in the areas of heating technology and lighting at its customer premises and resulted in a reduction in electricity consumption:

- Replacement of old heat pumps with new devices some 20% more efficient. The energy savings made within the Axpo Italy customer portfolio as a result of this measure amount to 95 MWh.
- Replacement of old neon lighting or sodium vapour lamps with new LEDs or induction lamps featuring the latest control technology including sensors and dimmers. This measure enabled customers to reduce the electricity they use for lighting by up to 60%. The energy savings achieved within the Axpo Italy and Axpo Iberia customer portfolio as a result of this measure amount to 1,454 MWh.

Annual energy efficiency gains in MWh	2016/17	2015/16	2014/15
Production increases in power plants	9,207 MWh	7,397 MWh	20,647 MWh
Reductions in transmission losses	0 MWh	4,690 MWh	1,500 MWh
Reductions in consumption in building management and at computer centres	306 MWh	529 MWh	200 MWh
Reductions in consumption by customers (CKW, Axpo Italy, Axpo Iberia)	2,659 MWh	560 MWh	1,680 MWh
TOTAL	12,172 MWh	15,176 MWh	24,027 MWh

G4-EN7 Reductions in energy requirements of products and services

Sustainability Report 2016/17, Energy and Emissions, p. 45

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G4-EN15 Direct greenhouse gas emissions (Scope 1)



In the reporting year, Axpo once again drew up an ISO 14064-certified greenhouse gas inventory for the Group as a whole. Greenhouse gas emissions are expressed in CO₂ equivalents. As with the Axpo Annual Report and Sustainability Report, the fully consolidated Group companies form the system boundaries for the greenhouse gas inventory. Exceptions are listed under voluntarily disclosed emissions (Scope 3 emissions). Additional, relevant emissions sources are shown over which Axpo exerts little influence, because they are non-controlling interests. The breakdown by source is as follows:

Detailed greenhouse gas emissions in tonnes of CO ₂ equivalents	2016/17	2015/16	2014/15	2013/14
Production				
Direct emissions international	2,204,180	2,036,050	1,950,830	930,900
Direct emissions Switzerland	25,770	27,930	24,020	28,900
Indirect emissions international	4,110	4,250	3,850	6,860
Indirect emissions Switzerland	254,640	177,240	73,310	78,900
Voluntarily ¹ disclosed, indirect emissions in Switzerland (Scope 3 emissions from pump energy of shareholdings from pumped-storage power plants)	49,300	-	-	-
Voluntarily ¹ disclosed direct emissions international (Scope 3 emissions from non-controlling interests from CCGTs)	626,640	-	-	-
Transmission (only relevant for Switzerland)				
Direct emissions (SF ₆ emissions)	980	830	1,220	3,570
Indirect emissions (transmission losses)	13,820	10,210	10,480	10,360
Operation administration buildings				
Direct emissions international	210	180	200	200
Direct emissions Switzerland	4,330	4,000	3,950	4,500
Indirect emissions international	380	310	270	270
Indirect emissions Switzerland	840	680	780	840
Total greenhouse gas emissions	3,185,180	2,261,680	2,068,890	1,065,000

The values in the table have been rounded off. In previous years, voluntarily disclosed indirect emissions in Switzerland from purchased pump energy were subsumed under indirect emissions Switzerland. In this reporting year, we have added the listing of voluntarily disclosed direct emissions international from non-controlling interests in CCGTs.

¹ Voluntary in the sense that, in order to fulfil the requirements of ISO 14064 on the preparation of greenhouse gas emissions inventories, direct emissions (Scope 1 emissions) and indirect emissions from purchased electricity (Scope 2 emissions) must be disclosed. All other emissions (Scope 3 emissions) may be listed voluntarily.

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In the reporting year, Axpo emitted a total of around 3.19 million tonnes of CO₂ equivalents. The sharp rise compared with previous years is due partly to including Scope 3 emissions from the non-controlling interests in CCGTs in Italy (interest in the Ferrara power plant) in the greenhouse gas inventory for the first time. Moreover, operating hours for the Italian CCGTs have increased slightly compared with the last financial year. The indirect emissions from purchased pump energy have also increased compared with previous years, totalling around 300,000 tonnes of CO₂ equivalents. This is chiefly because hydraulic short-circuiting could be used in full for the first time at the Linth-Limmern AG power plants in particular during the reporting year. It was also possible to make greater use of pumped-storage power plants last winter across the board due to more favourable market conditions. The reason for the increase in indirect emissions from transmission is the increase in the greenhouse gas intensity of the Swiss delivery mix as per the 2015 fuel mix disclosure, version May 2017.

The breakdown of emissions by scope is as follows:

Greenhouse gas emissions by scope in tonnes of CO ₂ equivalents	2016/17	2015/16	2014/15	2013/14
Total greenhouse gas emissions	3,185,180	2,261,680	2,068,890	1,065,000
of which direct emissions (Scope 1)	2,235,390	2,068,950	1,980,150	968,000
of which indirect emissions from the generation of purchased energy (Scope 2)	273,170	155,000	65,760	73,000
of which voluntarily disclosed emissions (Scope 3)	676,620	37,730	22,980	24,000

The values in the table have been rounded off.

The breakdown by greenhouse gas is as follows:

Emissions by greenhouse gas in tonnes of CO ₂ equivalents	2016/17	2015/16	2014/15	2013/14
Total greenhouse gas emissions	3,185,180	2,261,680	2,068,890	1,065,000
of which CO ₂	3,158,460	2,234,590	2,044,230	1,035,200
of which CH ₄	22,170	22,320	20,090	22,440
of which N ₂ O	3,560	3,950	3,330	4,030
of which SF ₆	950	790	1,190	3,540
of which coolants	40	30	50	24

The values in the table have been rounded off.

G4-EN15-EU Greenhouse gas intensity in CO₂ per MWh for i) total electricity generation capacity and ii) conventional thermal power plants

Greenhouse gas intensity of Axpo's Swiss production mix:

- 7 kg CO₂ equivalents per MWh (direct and indirect emissions, previous year: 6 kg CO₂ equivalents per MWh)



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Greenhouse gas intensity of Axpo's total production mix:

- 103 kg CO₂ equivalents per MWh (direct and indirect emissions, previous year: 88 kg CO₂ equivalents per MWh).



Greenhouse gas intensity for fossil-based generation:

- The two gas-fired combined-cycle power plants in Calenia and Rizziconi (Italy) report direct greenhouse gas emissions of 390 and 367 kg CO₂ equivalents per MWh, respectively.

G4-EN16 Energy indirect greenhouse gas (GHG) emissions (Scope 2)



Sustainability Report 2016/17, G4-EN15, p. 49

G4-EN16-EU Greenhouse gas intensity in CO₂ per MWh for electricity supplied to end customers

Axpo supplies its end customers in Switzerland via its subsidiary CKW. The delivery mix disclosure is prepared per calendar year. In the 2016 calendar year, the greenhouse gas intensity of CKW's delivery mix was 2.4 kg CO₂ equivalents/MWh (direct emissions) or 9.6 kg CO₂ equivalents/MWh (direct and indirect emissions).

G4-EN17 Other indirect GHG emissions (Scope 3)



Sustainability Report 2016/17, G4-EN15, p. 49

G4-EN18 Intensity of greenhouse gas emissions



The greenhouse gas emissions (Scope 1 and 2) per full-time equivalent is around 590 tonnes of CO₂ equivalents (previous year: 514 tonnes of CO₂ equivalents). The increase in greenhouse gas intensity is mainly due to the increase in operating hours for the CCGTs in Italy.

G4-EN19 Reduction of greenhouse gas emissions



As a project developer, Axpo has registered many Swiss CO₂ reduction projects with the Federal Office for the Environment in compliance with CO₂ legislation. For example, district heating networks powered by wood energy were commissioned in a number of municipalities over the past year. Heating facilities fired by locally sourced wood are replacing decentralised heating plants mostly fired by fossil fuels, which leads to a substantial reduction in greenhouse gas emissions. Thanks to the compensation for this reduction, the buyers of the generated heat pay attractive prices for energy compared to fossil fuels. However, savings cannot be reliably quantified.

CKW has reduced and partially electrified its vehicle fleet. With 50 electric vehicles, CKW has had the biggest electric fleet in Switzerland for over a year now. Consolidating workspaces, reducing the number of locations, modernising office workstations (energy-efficient computers and modern building management system) and selling smart energy and efficiency products all have an indirect effect on greenhouse gas emissions. However, savings cannot be reliably quantified.

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G4-EN20 Emissions of ozone-depleting substances

Axpo prepared environmental product declarations for the Beznau nuclear power plant, the Kompogas plant in Otelfingen, the Wildegg-Brugg run-of-river power plant, the Löntsch regular storage power plant, the Au-Schönenberg small-scale hydro power plant, the Tegra wood-fired power plant in Domat/Ems and the Rizziconi gas-fired combined-cycle power plant. These declarations report the total emissions of ozone-depleting substances per kWh over the entire life-cycle of the plant. However, in the overall context of Axpo's environmental impacts these emissions do not play a major role.

Axpo is constantly drawing up new environmental product declarations for the rest of its power plants and technologies. All current studies and figures can be found at: www.axpo.com – Sustainability – Climate protection.

G4-EN21 NO_x, SO_x and other significant air emissions

The main power plants that emit air pollutants are the two gas-fired combined-cycle power plants in Italy. Changes compared with the previous year are due primarily to different operational circumstances of the plants. Emissions data is measured continuously at both power plants.

Air pollutant emissions in tonnes	NO _x emissions		CO emissions	
	2016/17	2015/16	2016/17	2015/16
Calenia combined-cycle gas turbine plant	269	165	60	14.8
Rizziconi combined-cycle gas turbine plant	277	310	17	27

G4-EN21-EU Emissions per MWh from combustion power plants

The main power plants that emit air pollutants are the two gas-fired combined-cycle power plants in Italy.

Air pollutant emissions in kg/MWh	NO _x emissions		CO emissions	
	2016/17	2015/16	2016/17	2015/16
Calenia combined-cycle gas turbine plant	0.09	0.09	0.021	0.008
Rizziconi combined-cycle gas turbine plant	0.10	0.09	0.006	0.008

Effluents and waste

Relevance

Radioactive waste is the most important type of waste for Axpo. Axpo is responsible to the public and its employees for its nuclear facilities. The protection of the public, its employees and the environment against radiation has absolute priority. This also involves the proper treatment of radioactive waste.

Management approach

Radioactive waste originating from the operation of Beznau nuclear power plant is grouped into operational waste, spent fuel rods and waste from reprocessing.

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The health and safety of employees are ensured by consistently implementing all the relevant regulations. The permitted radiation levels for employees defined in the Swiss Federal Nuclear Safety Inspectorate (ENSI) guideline G15¹ are monitored in accordance with the ENSI guideline B09² and reported to ENSI in accordance with its guideline B03³.

Operational waste (IAEA classification: Low-level and short-lived intermediate-level waste (LILW)):

At the Beznau nuclear power plant, radioactive operational waste (raw waste) is regularly generated by the water purification systems and the flue gas and exhaust air cleaning processes. Other waste is generated by the replacement of components when doing maintenance, refurbishment or retrofitting work and by the consumables used during these processes.

The radioactive raw waste is collected, conditioned in batches and transferred to intermediate storage. Unconditioned waste at the Beznau nuclear power plant is stored in special areas in the controlled zone⁴. At the Beznau nuclear power plant, waste is conditioned by mixing resins with polystyrene and cementing the radioactive sludge. Flammable and fusible raw waste and exhaust air filters are prepared for treatment at the ZWILAG plasma plant. Specific approval has been obtained for all processes in accordance with the Nuclear Energy Ordinance and ENSI guideline B05⁵. It is routine to store the conditioned waste packages in the power plant's own interim storage facility (residue storage and low-level waste storage in the interim storage facility ZWIBEZ). The Beznau nuclear power plant also uses the facilities of the central interim storage facility in Würenlingen.

The Beznau nuclear power plant's radioactive waste is captured in an electronic accounting system used by all Swiss nuclear facilities. This means that information about the volumes, storage location and radiological features of the waste is always available.

A key element in the minimisation of radioactive waste is the testing of materials from the controlled zone to confirm that the levels of residual radioactivity are below regulatory limits. In the reporting year, 54.4 tonnes of material at the Beznau nuclear power plant were tested and confirmed to be inactive in accordance with ENSI guideline B04⁶.

Spent fuel rods and waste from reprocessing (IAEA classification: High-level waste, HLW):

After their final removal from the reactor core, spent fuel rods are stored in the power plant's own spent fuel pool for cooling for several years. As the temperature of the spent fuel rods decreases significantly during this time, the spent fuel rods can subsequently be packed safely into interim storage casks. These storage casks are built in compliance with international standards⁷ and are licensed and stored in Switzerland in accordance with ENSI guidelines G04⁸ and G05⁹. The packed casks are stored in the plant's own ZWIBEZ interim storage facility. Two consignments were transported from Block 1 and 2 to ZWIBEZ in the reporting year.

¹ ENSI-G15: Radiation protection objectives for nuclear installations, November 2010.

² ENSI-B09: Calculation and documentation of dosage for persons exposed to radiation, July 2011.

³ ENSI-B03: Notifications by nuclear facilities, September 2008, rev. 2, 15 February 2010.

⁴ Controlled zones are marked or demarcated areas reserved for working with radioactive materials pursuant to Art. 69 of the Radiological Protection Ordinance (RPO 814.501)

⁵ ENSI-B05: Requirements for the conditioning of radioactive waste, February 2007.

⁶ ENSI-B04: Tests to confirm that the levels of residual radioactivity of materials and areas from controlled zones are below the regulatory limits, August 2009.

⁷ Regulations for the Safe Transport of Radioactive Material, 2012 edition, IAEA Safety Standards no. SSR-6.

⁸ ENSI-G04: Design and operation of storage facilities for radioactive waste and spent fuel rods, rev. 1 March 2012.

⁹ ENSI-G05: Requirements for transport and interim storage casks, April 2008.

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Waste from the reprocessing of fuel rods from the Beznau nuclear power plant is transported from the reprocessing facility to Switzerland and stored in the ZWILAG interim storage facility in accordance with ENSI guideline G04. The Swiss regulations for the road and rail transport of radioactive materials are based, among others, on the international regulations on the transport of hazardous goods by road¹ and by rail². The IAEA recommendations for the safe transport of radioactive materials apply to all transport carriers³.

Impacts and results

To ensure consistency with the information provided in the 2016 ENSI safety report, the following figures concern the 2016 calendar year.

All radiation limits were met in 2016, so that the safety and health of the employees are guaranteed.

The volume of unconditioned operational waste (raw waste) generated at the Beznau nuclear power plant was 32 m³. The nuclear plant also produced another 4 m³ of conditioned waste. In addition, the Beznau nuclear power plant reported 6.5 tonnes of high-level waste from spent fuel rods.

At the Leibstadt partner plant (KKL), which is managed by Axpo, 32 m³ of unconditioned, 21 m³ of conditioned and around 15 tonnes of high-level waste from spent fuel rods were generated.

	LILW unconditioned		LILW conditioned		HLW from nuclear fuel	
	m ³	m ³ /MWh	m ³	m ³ /MWh	tU	tU/MWh
Beznau NPP	32	1.1×10^{-5}	4	1.3×10^{-6}	6.5	2.1×10^{-6}
Leibstadt NPP	32	5.3×10^{-6}	21	3.5×10^{-6}	14.9	2.4×10^{-6}

In addition, 2016 saw the transportation of long-lived intermediate-level waste (ILW) resulting from the reprocessing of spent fuel rods back to Switzerland (for the Beznau nuclear power plant 18 CSD-C⁴ moulds, total 3.2 m³ and 105 CSD-V⁵ moulds, total 18.9 m³; for the Leibstadt nuclear power plant 18 CSD-C moulds, total 3.2 m³). Thus all obligations to take back waste for reprocessing were fulfilled.

Additional information for energy companies: Strategy for the storage and handling of nuclear waste.

Sustainability Report 2016/17, Effluents and waste, p.52

¹ 0.741.621 European Agreement of 30 September 1957 concerning the International Carriage of Dangerous Goods by Road (ADR).

² 0.742.403.1 Convention of 9 May 1980 concerning International Carriage by Rail (COTIF).

³ IAEA Safety Standards: Regulations for the Safe Transport of Radioactive Material, 2012 Edition, Specific Safety Requirements SSR-6.

⁴ CSD-C: Colis Standard de Déchets Compactés.

⁵ CSD-V: Colis Standard de Déchets Vitifiés.

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G4-EN22 Total water discharge by quality and destination

The technologies used by Axpo to generate electricity do not produce large volumes of effluents. As a result, total water discharge by quality and destination is not captured in detail.

G4-EN22-EU Thermal discharges associated with planned and unplanned water discharges

The Beznau nuclear power plant (Beznau NPP) is the only power plant in Axpo's fleet whose operation causes a significant temperature increase in a body of water. The cooling water of the Beznau NPP discharged back into the river Aare is on average 8.6 degrees Celsius warmer than the original temperature of the river water. Once the discharged cooling water has mixed with the rest of the water in the river, the temperature increase is minimal at about 0.6 degree Celsius. The introduction of heated cooling water is set out in detail within the water removal concessions.

G4-EN23 Total weight of waste by type and disposal method

Radioactive waste is the most important type of waste for Axpo (see Sustainability Report 2016/17, Effluents and waste, p. 52). This is why other forms of waste are not captured and reported in detail.

G4-EN23-EU Polychlorinated biphenyls and radioactive waste

Polychlorinated biphenyls (PCBs) used to be used as insulating oil in equipment such as transformers, capacitors and breakers. Insulating oils containing PCBs have been prohibited in Switzerland since 1986. During the 1990s, Axpo Grids ran a broad-based project to identify all accessible volumes of insulation oils containing PCBs. Since this campaign, only PCB-free insulating oils have been used. Old insulating oils (from containers that are not marked "Free of PCBs") are tested for disposal before being transferred to the old oil bunker for interim storage. Before old oils can be released for disposal, they have to be tested and confirmed free of PCBs prior to transportation. Waste disposal specialists at special institutions handle the disposal of contaminated batches. For radioactive waste, please consult Sustainability Report 2016/17, Effluents and waste, p. 52.

G4-EN24 Total number and volume of significant spills

Since 2010, nuclear plant operators have communicated all nuclear energy key figures (reportable incidents, operational availability, dose values) on a calendar year basis only in order to ensure comparability with the official ENSI and WANO reports. To avoid contradictory data and misinterpretation of the ENSI and WANO reports, a conscious decision was taken to forgo the additional effort of converting and communicating these figures for other time periods (hydrological year).

Reportable incidents do not necessarily entail the accidental leakage of measurable quantities of radioactive substances. They only indicate that an irregular event took place during operations, which had to be monitored and reported. There were no accidental incidents with leakage of measurable quantities of radioactive materials during the 2016 reporting year.

Reportable incidents (2016):	
Beznau Block 1 and Block 2:	8 (1 INEA NA, 7 INES 0)
Leibstadt (partner plant):	11 (2 INES NA, 8 INES 0, 1 INES 1)
Gösgen (partner plant):	20 (8 INES NA, 12 INES 0)

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G4-EN25 Weight of transported, imported, exported or treated waste deemed hazardous under the terms of the Basel Convention 2, Annex I, II, III and VIII, and percentage of transported waste shipped internationally

The transport of radioactive materials and waste is relevant for Axpo. Rather than falling under the Basel Convention, however, these are regulated by other international treaties (see Sustainability Report 2016/17, Effluents and waste, p. 52). Consequently, this performance indicator does not apply to Axpo.

G4-EN26 Identity, size, protected status and biodiversity value of water bodies and related habitats significantly affected by the organisation's discharges of water and run-off

The operation of Axpo's power plants does not result in any discharges of water that materially affect any water bodies.

Compliance Environmental protection

Sustainability Report 2016/17, Compliance, p. 73

G4-EN29 Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations

Axpo did not receive any fines for breaches of environmental laws and regulations in the reporting period.

Supplier environmental assessment

Sustainability Report 2016/17, Supplier assessment for labour practices, p. 68.

G4-EN32 Percentage of new suppliers that were screened using environmental criteria



Sustainability Report 2016/17, Supplier assessment for labour practices, p. 68

G4-EN33 Significant actual and potential negative environmental impacts in the supply chain and actions taken

Sustainability Report 2016/17, Supplier assessment for labour practices, p. 68

Social dimension: Labour practices and decent work

Employment

Sustainability Report 2016/17, Management approach towards training and education, p. 65

Additional information for energy companies: Programmes and processes to ensure the availability of a skilled workforce, please consult Sustainability Report 2016/17, Training and education, p. 65; Policies and requirements regarding health and safety of employees and employees of contractors and subcontractors, please consult Sustainability report 2016/17, Occupational health and safety, p. 61.

G4-LA1 Total number and rates of new employee hires and employee turnover by age group, gender and region



	Total new hires (persons)		Rate of new hires		Total departures (persons)		Turnover rate*	
	2016/17	2015/16	2016/17	2015/16	2016/17	2015/16	2016/17	2015/16
Total for Group	403	370	9.97%	8.76%	402	358	9.95%	8.47%
Total for Switzerland	309	247	8.77%	6.69%	352	317	9.99%	8.59%
Women	45	44	7.80%	6.90%	66	65	11.44%	10.20%
< 20	1	2	13.85%	11.11%	1	0	13.85%	0.00%
20–29	15	12	23.84%	19.35%	7	9	11.13%	14.52%
30–39	16	11	10.25%	6.81%	18	15	11.53%	9.29%
40–49	12	17	7.08%	8.90%	24	17	14.15%	8.90%
50–59	1	2	0.65%	1.22%	14	19	9.12%	11.55%
≥ 60	0	0	0.00%	0.00%	2	5	7.32%	12.35%
Men	264	203	8.96%	6.65%	286	252	9.71%	8.25%
< 20	10	5	37.50%	2.33%	0	3	0.00%	1.40%
20–29	73	60	19.41%	17.47%	52	51	13.82%	14.85%
30–39	77	69	12.04%	11.72%	65	67	10.16%	11.38%
40–49	65	38	7.82%	4.71%	68	54	8.18%	6.69%
50–59	35	25	4.22%	3.20%	40	44	4.82%	5.64%
≥ 60	4	6	1.64%	1.88%	61	33	25.06%	10.34%

Notes: The data is based on employees with a permanent employment contract who earn a monthly salary or an hourly wage; the rates are based on the number of new hires and departures as a ratio of the total number of employees.

*Turnover excluding retirements based on average values.

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	Total new hires (persons)		Rate of new hires		Total Departures (per- sons)		Turnover rate*	
	2016/17	2015/16	2016/17	2015/16	2016/17	2015/16	2016/17	2015/16
Total interna- tional	94	123	18.11%	23.06%	50	41	9.63%	7.69%
Women	31	45	14.87%	22.22%	11	16	5.28%	7.90%
< 20	0	2	0.00%	0.00%	0	0	0.00%	0.00%
20–29	19	20	47.50%	46.08%	1	6	2.50%	13.82%
30–39	9	17	9.18%	18.37%	6	7	6.12%	7.56%
40–49	2	6	3.54%	11.17%	4	2	7.08%	3.72%
50–59	1	0	8.33%	0.00%	0	0	0.00%	0.00%
≥ 60	0	0	0.00%	0.00%	0	1	0.00%	66.67%
Men	63	78	20.29%	23.56%	39	25	12.56%	7.55%
< 20	2	1	80.00%	100.00%	0	1	0.00%	100.00%
20–29	18	36	36.73%	61.86%	5	8	10.20%	13.75%
30–39	28	26	20.59%	18.26%	18	8	13.24%	5.62%
40–49	15	14	15.54%	14.72%	14	5	14.51%	5.26%
50–59	0	1	0.00%	3.19%	2	2	8.33%	6.39%
≥ 60	0	0	0.00%	0.00%	0	1	0.00%	33.33%

Notes: The data is based on employees with a permanent employment contract who earn a monthly salary or an hourly wage; the rates are based on the number of new hires and departures as a ratio of the total number of employees.

*Turnover excluding retirements based on average values.

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G4-LA1-EU Average length of tenure of employees leaving

Age bracket	Departures (persons)		Average length of tenure in years	
	2016/17	2015/16	2016/17	2015/16
Total for Group	402	358	9.16	6.61
Women	77	81	6.45	5.15
< 20	1	0	0.00	0.00
20–29	8	15	3.88	3.32
30–39	24	22	4.79	2.70
40–49	28	19	5.71	7.87
50–59	14	19	11.29	2.95
≥ 60	2	6	16.50	17.00
Men	325	277	9.80	7.03
< 20	0	4	0.00	0.50
20–29	57	59	2.85	3.29
30–39	83	75	4.75	4.10
40–49	82	59	7.52	4.64
50–59	42	46	10.83	5.48
≥ 60	41	34	25.55	27.03

EU15 Employees eligible to retire in the next five to ten years

	Age 55-59				Age > 60			
	2016/17	2015/16	2016/17	2015/16	2016/17	2015/16	2016/17	2015/16
Functional levels 1-8	By persons		In percent		By persons		In percent	
Group	418	394	11.47%	10.79%	255	259	7.00%	7.09%
Switzerland	410	384	13.37%	12.32%	252	257	8.22%	8.24%
International	8	10	1.38%	1.87%	3	2	0.52%	0.37%
Functional level 9+ incl. ExB	By persons		In percent		By persons		In percent	
Group	60	62	11.65%	11.68%	29	31	5.63%	5.84%
Switzerland	56	60	12.58%	12.88%	27	29	6.07%	6.22%
International	4	2	5.71%	3.08%	2	2	2.86%	3.08%

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EU17 Days worked by contractor and subcontractor employees involved in construction, operation and maintenance activities

Axpo can only collect material statistical data on the number of external employees involved or the days worked by them where the work activities awarded to subcontractors are substantial. During the reporting year, this was only the case at the Beznau nuclear power plant, the “Linthal 2015” construction site and in the Grids division. At the Beznau nuclear power plant, the workforce was supported by external specialists. In this case, the external employees worked 267,298 man-hours. In the grids business, subcontractors worked approx. 2,500 days in the reporting year. On average, around 180 employees worked on Axpo’s Linthal 2015 construction site on behalf of Kraftwerke Linth-Limmern AG (KLL). In some cases, subcontractors also took care of smaller jobs. For the rest of Axpo’s power plants, external subcontractors are appointed by the operational management as needed to carry out general maintenance work that cannot be done by in-house employees.

EU18 Percentage of contractor and subcontractor employees that have undergone relevant health and safety training

Axpo does not gather any key figures on the health and safety training undergone by contractor and/or subcontractor employees. All mandates given to third-party companies are governed by the law of the country concerned. Axpo therefore assumes that the statutory requirements regarding health and safety are met and that the employees receive the required training and instructions.

G4-LA2 Benefits provided to full-time employees that are not provided to temporary or part-time employees, by significant locations of operations

In Switzerland, all employees, whether full-time or part-time, receive the same benefits. However, employees with a fixed-term contract of up to three months are not subject to the general employment conditions, but to the Swiss Code of Obligations. Annual leave entitlement is also due to employees with fixed-term contracts of up to three months under the general employment conditions.

Internationally, company benefits depend on the country and employment contract and may vary for full-time and part-time employees. The statutory provisions, however, are always observed.

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G4-LA3 Total number of employees who were entitled to and took parental leave, return to work and retention rates after parental leave, by gender



	Number of employees entitled to parental leave		Number of employees who took parental leave	
	2016/17	2015/16	2016/17	2015/16
Group	4,519	4,580	138	146
Switzerland	3,870	3,981	105	115
Women	625	618	21	24
Men	3,245	3,363	84	91
International	649	599	33	31
Women	233	212	20	19
Men	416	387	13	12

	Number of employees who returned to work after parental leave		Number of employees who were still employed 12 months after returning from parental leave	
	2016/17	2015/16	2016/17	2015/16
Group	132	137	135	149
Switzerland	105	107	105	121
Women	22	16	17	16
Men	83	91	88	105
International	27	30	30	28
Women	14	18	16	17
Men	13	12	14	11

Note: The data is based on employees with a permanent employment contract who earn a monthly salary or an hourly wage; for reasons related to the IT systems, the rate of return and retention rate for the reporting year cannot be calculated.

Occupational health and safety

Relevance

As a responsible operator of large power plants and other infrastructure relevant to the supply of energy, Axpo has a particular obligation to address all aspects of safety in a consistent, comprehensive and efficient manner. This also means taking into account various ethical, economic and social principles and any statutory provisions. Axpo sees its responsibility for people and the environment as central to everything it does. The emphasis here is on the health and safety of our employees, external contractors and the wider public.

The overarching objectives, rules of conduct and responsibilities associated with the protection of people (employees and third parties) are set out in the vision, mission, strategy, code of conduct and the Management and Organisational Manual.

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Management approach

A systematic approach to prevention goes beyond merely remedying Individual safety shortcomings and is designed, on a sustainable basis, to prevent such safety shortcomings being repeated or occurring in the first place across the business as a whole. This generally calls for a combination of systems-related, technical, organisational and HR measures. The occupational health and safety management system can deliver this kind of sustainability. It also brings together the main requirements in terms of occupational health and safety within a single handy tool. As regards implementation, Axpo abides by national directives (EKAS 6508), industry solutions and the occupational safety management system in accordance with OHSAS 18001. Core aspects of the established occupational health and safety management system include:

1. setting out safety objectives;
2. operating a safety organisation and setting out responsibilities and competences accordingly within the area of health and safety;
3. systematic identification of dangers and risk assessment with a view to recognising and evaluating actual hazards;
4. establishing and consistently implementing measures for reducing or eliminating the dangers identified;
5. monitoring of whether objectives are being achieved.

The elements shown are repeated continuously in a kind of cycle with a view to achieving constant improvements in health and safety. The Swiss Accident Insurance Institution (Suva) is responsible for monitoring whether the EKAS directive is being properly implemented at Axpo.

Axpo refers all cases showing signs of long-term absenteeism due to disease or accident to a professional case manager as soon as possible. These cases are managed by the health insurer, where case managers analyse the situation together with the employee who is unable to work. The next steps are decided in cooperation with Axpo. They specifically coordinate the case and liaise with the general practitioner and other professionals providing medical treatment, the company's medical officer, the relevant social or private insurance schemes, the employee's family and friends as well as line managers and work colleagues. Axpo's Social Counselling department can also be contacted for support.

For Axpo, an important element of prevention is to avoid cases of burnout. Managers are trained to recognise the relevant signs and employees are offered courses on how to consciously manage the body's energy balance.

At Axpo, the health and safety of employees take top priority. Protective measures are implemented to remove or mitigate potential risks. As a result there are no occupations with a high incidence or high risk of diseases.

Operational Health Management is a high priority at the CKW Group and encompasses occupational and leisure time safety, measures to promote health, absenteeism management and case management. CKW is thus creating a supportive foundation to ensure that employees remain healthy and efficient even during periods of change. Besides planning and implementing measures pertaining to relationships and behaviour, the aim of Operational Health Management is to systematically integrate health aspects into corporate structures and management processes.

Over the last year, the focus was on strengthening existing programmes and processes. This included developing and implementing a tool for the efficient analysis of absenteeism data and increasing the internal accessibility and visibility of occupational health management. Employees

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were entitled to a health check at a reduced price and various other services aimed at promoting health (such as advice on ergonomics).

Impacts and results

Axpo and the safety officers from the divisions are in regular contact with Suva. Monitoring has so far given rise to no significant complaints and has helped forge a healthy relationship built on trust.

On taking up their position, and periodically throughout their service, all employees are given the training and development they need to be able at any time to identify potential dangers, adopt appropriate measures and take suitable steps at their own initiative to prevent accidents and protect people's health. Line managers pick up on what each employee needs in the way of training and draft training plans accordingly. Training, instruction and informative measures are documented to provide the relevant evidence. Third parties working on our behalf have provided assurances that the protection they enjoy against accidents and occupational diseases is consistent with statutory requirements. They are informed about the dangers associated with their work at Axpo and their rights and obligations in terms of occupational health and safety.

G4-LA5 Percentage of total workforce represented in formal joint management-worker health and safety committees that help monitor and advise on occupational health and safety programmes

Safety officers are appointed in each Axpo Group company as process owners for the occupational health and safety management system. They give managers support and advice and help them assume their responsibility for occupational health and safety. The safety officer is responsible in this regard for ensuring the recommendations they make are factually correct. However, the responsibility for implementing occupational safety remains with managers. The safety officers, together with the Staff Council or staff representatives, form the Occupational Health and Safety Committee. The Staff Council/Staff Representatives have a right of co-determination regarding occupational health and safety.

At CKW, employee co-determination on matters of occupational health and safety is guaranteed. Employees are involved in the decision-making process, which entails identifying hazards and determining protective measures. The relevant GBN Safety Officer devises appropriate improvement and protective measures, together with managers and staff members concerned. The Suva safety charter has been signed by the Executive Board and employees.

A process for reporting dangerous situations or incidents has been established and is used by employees for reporting and to make suggestions for improvements.

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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



	Rate of occupational accidents		Rate of non-occupational		Rate of sickness		Absentee rate		Rate of injury	
	16/17	15/16	16/17	15/16	16/17	15/16	16/17	15/16	16/17	15/16
Group	28.79	32.25	96.53	78.83	409.76	426.05	535.07	537.12	14.44	19.49
Women	2.72	2.32	50.20	30.87	602.77	653.67	655.69	686.86	8.92	10.87
Men	33.72	37.98	105.28	88.02	373.30	382.41	512.29	508.41	15.48	21.14
Switzerland	32.51	36.05	107.99	89.33	391.89	436.20	532.39	561.59	16.10	22.21
Women	2.79	3.18	70.31	40.10	574.35	731.78	647.45	775.06	11.79	14.89
Men	36.84	41.18	113.49	97.01	365.28	390.11	515.62	528.29	16.73	23.35
International	1.41	6.66	12.02	8.28	541.41	357.79	554.83	372.73	2.21	1.26
Women	2.57	0.00	2.05	5.91	670.78	442.43	675.39	448.33	2.05	0.00
Men	0.66	10.02	18.44	9.48	458.04	315.12	477.14	334.61	2.31	1.90

Notes: Permanent and fixed-term employees receiving a monthly salary or hourly wage, including apprentices. Rates expressed as days per 200,000 regular working hours or number of injuries per 200,000 regular working hours. The rate for occupational accidents also includes occupational diseases. The breakdown of occupational accidents by gender is based partly on estimates. Last year's injury rate figures (15/16) had to be corrected due to a calculation error.

The rate of occupational accidents has fallen slightly, whereas that for non-occupational accidents has risen slightly. Both figures are in the middle of the range for the last two years. Accident rates are sensitive to individual cases involving many days of absence, which is why they can be expected to fluctuate in future too.

There was a further slight drop in the rate of sickness this year despite more people seeing their GP with flu symptoms, according to the seasonal flu report for 2016/2017 produced by the Federal Office of Public Health (FOPH). It should be borne in mind, however, that the highest overall incidence was reported amongst 0- to 4-year-olds and declined with increasing age. The rate of sickness thus reflects a "normal" average value and there is no need for urgent action due to the cyclical nature of the fluctuations.

As in the past, absenteeism is dominated by the rate of sickness.

There were no work-related fatalities during the reporting year.

To compare occupational accident and absence rates in the various Swiss sectors, the key figures are also obtained using Suva's calculation method (see Sustainability Report 2016/17, Fields of action and objectives, p. 9). The data basis for the Suva industry key figures is the 2015 calendar year.

At 37, the annual rate of occupational accidents (= number of occupational accidents per 1,000 FTEs) is well below the industry average of 66 for insurance group 55A (energy suppliers). With

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regard to the rate of occupational accidents, it should be borne in mind that the Group is a diverse collective body and the figure is affected by the insured office operations as well as the electrical installation business. Rather than being coincidence, however, the low number of occupational accidents can be attributed to the high level of safety awareness coupled with targeted preventive measures. The general environment in terms of processes and organisation is evidently designed to maintain the good safety standards. There is no need for urgent action.

At 5.2, the number of lost days due to illness (including work-related mental illness such as burn-out), occupational and non-occupational accidents per FTE (absence rate)) is below the industry average of 6.2 for insurance group 55A (energy suppliers) as calculated by Suva. The trend must continue to be monitored and preventive measures taken to avoid a rise in the figures.

G4-LA6-EU Health and safety performance of contractors and subcontractors

External contractors and/or subcontractors are obliged by contract to take occupational health and safety precautions for the benefit of their employees. They are informed about the dangers associated with their work at Axpo and their rights and obligations in terms of occupational health and safety. There were no known serious or fatal accidents suffered during the reporting year to employees of subcontractors which occurred while working on behalf of Axpo. No detailed data is recorded in Axpo's internal database regarding occupational health and safety at subcontractors (see also Sustainability Report 2016/17, Workforce of contractors, p. 24).

G4-LA7 Workers with a high incidence or high risk of diseases related to their occupation

Sustainability Report 2016/17, Occupational health and safety, p. 61

G4-LA8 Health and safety topics covered in formal agreements with trade unions

Sustainability Report 2016/17, Occupational health and safety, p. 61

Training and education

Relevance

The employees are the most important asset in Axpo's long-term success. This requires the company to successfully recruit qualified employees, in particular also young and well-trained university graduates, to ensure a balanced age structure.

Rapid developments in technology and IT as well as changing political and economic parameters also emphasise the importance of continuing education throughout an employee's professional career.

At Axpo, diversity is not a theory; it is a living culture: the diversity of skills that are needed in order to develop intelligent energy solutions for the future and the diversity of people at Axpo who ensure that Axpo is close to the market and close to the customer. Because of this, skills diversity among employees is promoted at Axpo with a broad range of training and education courses.

Management approach

The company showcases itself at various events for university graduates in order to attract young, well-educated employees. During the reporting year, Axpo participated in a total of nine events held at higher education establishments (informative lunches, guest lectures, fairs at higher education

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establishments). In the non-academic field, Axpo offers a wide range of apprenticeships, including training positions for electricians, electrical designers and cooks as well as careers in maintenance, information technology, mechanical and electrical engineering and commercial professions.

Given the challenges currently facing the energy sector, employee development at Axpo is an essential and well-planned process. The future challenges are also reflected in the new skills profiles prepared for managers and employees. These form the basis not only for employee development, training and education, but also for agreements on objectives and the assessment of employee performance. Employee reviews take place twice a year. Employee performance is assessed and compared to the agreed objectives and development options. Employees receive bonus payments based on the overall performance of Axpo and its subsidiary companies. Even in times of additional cost pressure the company offers attractive fringe benefits, excellent insurance cover and attractive employee benefits insurance. In addition to the line managers and a professional HR team, employees have access to a competent social counsellor when they need specific support.

The employee development programme also includes internal training and education courses to develop management and key skills as well as IT, language and specialist skills. The induction of new employees is supported in part by a comprehensive introduction to the energy sector that covers the entire value chain, from production to trading, transmission and distribution as well as sustainability in electricity production. In addition, employee development comprises advice on external training and education courses, special talent management and management programmes to promote upcoming young employees and managers, manager and development centre programmes, customised offers for teams (e.g. team development, team assessments), individual advisory options such as coaching, career guidance, 360° feedback and management of change processes.

Impacts and results

The commitment to university marketing pays dividends, but can be affected by external factors (a sceptical attitude towards the energy sector). Axpo was ranked the 42nd most popular employer in Switzerland. This was demonstrated by the results of the Swiss Student Survey for the engineering fields.

In total, Axpo appointed ten graduates directly after graduation, five trainees and one intern in the last financial year, as well as supporting one master's thesis. In addition, during the reporting year, 91 apprentices started at Axpo in 22 skilled trades. At the end of 2016/17, 360 apprentices and 11 trainees, i.e. a total of 371 apprentices were employed at the company. The training and education offer was much in demand in the reporting year. The average time spent on training and education was around 17 hours per employee and 20 hours per manager.

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G4-LA9 Average hours of training per year per employee, by gender and by employee category

	Employees		Management	
	2016/17	2015/16	2016/17	2015/16
Total	17.10	15.80	20.05	20.47
Switzerland	16.47	15.66	19.43	22.07
Women	13.06	10.73	13.38	12.38
Men	17.21	16.70	19.99	22.91
International	20.46	16.61	23.95	9.17
Women	21.79	14.30	31.30	44.00
Men	19.60	18.04	23.50	5.63

Note: This data is based on permanent employees who earn a monthly salary or an hourly wage.

G4-LA10 Programmes for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings

Sustainability Report 2016/17, Training and education, p. 65

G4-LA11 Percentage of employees receiving regular performance and career development reviews, by gender and by employee category

At Axpo, all employees receive a regular performance and skills review as part of the MbO process. At the same time, the option to define development objectives based on the review and feedback was created. A broad-based talent review was undertaken in the reporting year with a view to identifying employees with significant development potential. Objectives and ambitions were discussed with these people with the aim of devising and agreeing individual development plans. Support processes were also put in place for groups of talented employees in addition to support programmes for individuals.

Supplier assessment for labour practices



Relevance

Axpo attaches great importance to having business partners who share its values and its principles of compliance and ethics. To achieve a mutually fair, trusting and long-term partnership, Axpo therefore asks its business partners (suppliers of goods and service providers) to commit expressly to observing the guiding principles of Axpo for sustainable, ethical and law-abiding transactions.

Management approach

Axpo for the first time compiled and published its guiding principles in a Code for Business Partners in 2014. This Code, which applies worldwide to all business partners and their employees, follows the following conventions and standards in terms of its content:

- Principles of the United Nations Global Compact (UNGC)
- OECD Guidelines for Multinational Enterprises (issued by the Organisation of Economic Cooperation and Development)
- Agreements of the International Labour Organisation (ILO)
- ICC Business Charter for Sustainable Development (issued by the International Chamber of Commerce)
- SA8000 (standard for corporate social responsibility (CSR) in company management)
- Recommendations of the procurement offices of the Swiss Confederation

In a separate chapter, the Code lists the requirements for “socially acceptable working conditions”. Business partners are obliged to create fair working conditions that take adequate account of the following: occupational health and safety, living wages, acceptable working hours in compliance with local legislation, including regular annual leave, freedom of association (trade unions) and collective bargaining.

In another chapter, the Code states that business partners must respect prevailing human rights and treat their employees with dignity and respect. This includes a ban on child labour, forced labour, discrimination and disciplinary punishment.

The Code also expects business partners to run their business responsibly and in an environmentally compatible manner. They must reduce negative impacts on humans and the environment from their business operations while observing the applicable provisions. This includes using resources efficiently, avoiding and mitigating environmental pollution, dealing safely with hazardous materials and manufacturing environmentally benign products.

Impacts and results

The Code for Business Partners has a binding effect. It applies to public procurement processes and forms part of the Axpo Group General Terms and Conditions of Business. In other business relationships with suppliers of goods and services where the Axpo Group General Terms and Conditions of Business do not apply, the Code must be included as an integral contractual component. As a result, the Code applies to all direct business partners of Axpo. In addition, Axpo expects business partners to make sure that their important suppliers (and upstream suppliers) and sub-contractors also abide by the principles set forth in the Code. In fuel procurement contracts, business partners also have to explicitly undertake to apply the principles of the Code along the entire value chain.

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The Code contains regulations for controlling compliance: business partners must provide transparent information. On request, the business partner must give Axpo all the information needed for a correct and comprehensive initial assessment as part of a self-assessment. Axpo reserves the right to check implementation of the Code if there is a suspicion of any violations of the Code. With regard to fuel procurement, business partners agree that they, their suppliers, upstream suppliers and subcontractors may be visited by external experts and audits may be conducted of them. Axpo reserves the right to demand action in the case of non-performance of this code and, if need be, to end the business relationship.

A binding target was set (see also Sustainability Report 2016/17, Fields of action and objectives, p. 6). By the end of the 2018/19 financial year, at least 60% of the order volume is to be placed with suppliers who have signed the Code for Business Partners, rising to at least 90% by the end of the 2021/22 financial year. The attainment of this target will be monitored on a monthly basis. The figure for this KPI was around 50% in the reporting year.

When the Executive Board makes a business decision, the Group functions Sustainability Management, Compliance and Corporate Risk Management adopt a proactive approach – as part of the internal pre-steering process – to checking out potential new business partners against ecological, social and governance-related criteria.

G4-LA14 Percentage of new suppliers that were screened using labour practices criteria



No figures can be determined for the “percentage of new suppliers that were screened”. The measurement for the application of the Code for Business Partners in relation to order volume is deemed more relevant from a management perspective.

Sustainability Report 2016/17, Supplier assessment for labour practices, p. 68

G4-LA15 Significant actual and potential negative impacts for labour practices in the supply chain and actions taken

Sustainability Report 2016/17, Supplier assessment for labour practices, p. 68

Social dimension: human rights

Non-discrimination

Sustainability Report 2016/17, Compliance, p. 73

G4-HR3 Total number of incidents of discrimination and corrective actions taken

The Axpo Complaints Commission did not receive any complaints in the 2016/17 reporting year, nor were any incidents of discrimination registered.

Supplier human rights assessment

Sustainability Report 2016/17, Supplier assessment for labour practices, p. 68

G4-HR10 Percentage of new suppliers that were screened using human rights criteria

Sustainability Report 2016/17, Supplier assessment for labour practices, p. 68



G4-HR11 Significant actual and potential negative human rights impacts in the supply chain and actions taken

Sustainability Report 2016/17, Supplier assessment for labour practices, p. 68

Social dimension: society

Local communities

Sustainability Report 2016/17, Concrete dialogue, p. 11

Relevance

Particularly when expanding its infrastructure, Axpo is very aware that the company's activities have to be aligned with the specific needs of individual stakeholder groups. Acceptance of its business activities and an open exchange with all stakeholder groups are something Axpo values very highly. The main concerns of the various parties are very different, however. NGOs usually place most emphasis on the protection of biodiversity and the landscape and the sparing use of untouched areas of nature. The concession grantors are mainly interested in local security of supply and the public revenues flowing to the local community. The local population worries first and foremost about the specific impacts of projects: construction and operation of the actual energy plants, the required infrastructure (e.g. access roads), the harm done to the visual landscape, environmental changes versus job creation or the impact on tourism.

Management approach

To assess the impact of its business activities on the community, in particular during the construction and operation of infrastructure measures, Axpo engages in transparent communication and investigates the expected effect of all its projects. From the planning stage through to the completion of a project, Axpo works closely with local authority representatives and involves the local population from the outset. This also applies to topics such as the use and production of new energies. Information events and discussions are staged in the immediate communities and cantons where power plants are located as well as in municipalities with grid concessions. The frequency of such events is dictated by current developments and needs. At the national level, responsibility for public

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dialogue lies with the Axpo Group and is handled by the Corporate Public Affairs department. At the local level, the local companies are responsible for stakeholder dialogue. The broader public has access to a wealth of information on the company at www.axpo.com.

Impacts and results

Examples of results for the reporting year include:

Advisory groups are set up for new or concession renewal projects for hydro power plants. These groups consist of representatives of the authorities, municipal governments and environmental organisations. Information events for concession municipalities are also organised. For projects already in the process of realisation, construction site visits and various information events are held. Discussions and coordination meetings with neighbouring residents and representatives of interest groups enable solutions to be developed that adequately address the concerns and objections of the local population, authorities and environmental organisations. The public dialogue held in this way meets with broad acceptance. The main topics of discussion with support groups and external organisations include the demands of environmental conservation organisations concerning run-off water, replacement measures, fish passage and the higher-level planning of projects. During the reporting year, the completed Tschär Power Plant and Rüchlig Power Plant optimisation projects yielded successful results, as did the Limmern pumped-storage power plant operated by Kraftwerke Linth-Limmern AG, which is in the project completion phase. As work continues, authorities and environmental protection organisations will be invited to visit the site on a regular basis and see how the project is progressing.

To assess the social impact of business operations, CKW works closely with cantonal and municipal authorities as well as environmental organisations when developing new energy projects. Visits to existing power plants were organised for individual representatives of local government departments and associations. Further, specific implementation steps will be taken when developing power plants involving new energies. All stakeholders are involved in the project process early on and support the development process from idea to operational plant. Intensive discussions have been taking place for several months now with the authorities (at federal, canton and municipality level) and many of those directly affected in relation to the ongoing wind energy projects and, in particular, the Lindenberg wind farm. A participatory process will be established for this in the 2017/18 financial year. The municipal authorities are represented in the steering group that plans and conducts the advisory process. The project advisory group is comprised of representatives of the various stakeholder groups, including the regions, environmental associations, residents, committees in the municipalities, opponents and landowners. The advisory group is involved in project development and monitors the process. The full transparency of the process ultimately enables voters to make an informed decision during the zone plan amendment process.

Cooperation projects with cantonal agencies, municipal authorities and schools in the supply area for CKW also play an important role.

Additional information for energy companies: Participation of stakeholders in decision-making processes affecting energy planning and infrastructure development.

Sustainability Report 2016/17, Concrete dialogue, p. 11, and Local communities, p. 70

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G4-SO1 Percentage of operations with implemented local community engagement, impact assessments and development programmes

Axpo reviews the involvement of the local community for all infrastructure projects such as the construction of new power plants or grids. Local communities are involved in projects relating to existing power plants and administration buildings as and when needed.

G4-SO2 Operations with significant actual or potential negative impacts on local communities

By operating large hydro power plants and the Beznau nuclear power plant, Axpo provides important jobs for the local people. This is particularly true for hydro power plants in sometimes very remote mountainous areas. Apart from these positive impacts, the operation of such power plants also has potential negative impacts. Although Axpo gives top priority to the safety of its power plants and implements many measures to ensure that safety, it is the nature of the business that potential negative impacts cannot be entirely excluded. Examples include the effects of hydropeaking in hydro power plants, the safety of the dams and the safety of the nuclear power facilities.

EU22 Number of people displaced and compensated

There were no cases, either in Switzerland or abroad, where Axpo's direct activities made it necessary to displace any people.

Anti-corruption

Sustainability Report 2016/17, Compliance, p. 73

G4-SO3 Total number and percentage of operations assessed for risks related to corruption and the significant risks identified

Sustainability Report 2016/17, Compliance, p. 73

G4-SO4 Communication and training on anti-corruption policies and procedures

Sustainability Report 2016/17, Compliance, p. 73

G4-SO5 Confirmed incidents of corruption and actions taken

Sustainability Report 2016/17, Compliance, p. 73

Anti-competitive behaviour

G4-SO7 Total number of legal actions for anti-competitive behaviour, anti-trust and monopoly practices and their outcomes

Sustainability Report 2016/17, Compliance, p. 73

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Compliance

Relevance

The Axpo Group stands for reliability, sustainability and innovation. As a corporate group, Axpo is not only responsible for satisfying the steadily growing body of legal requirements, but also the high expectations of all stakeholders regarding its conduct as a company. True to its mission statement, Axpo will continue to run its business with great integrity and in accordance with the highest ethical standards, and will do so everywhere, at all times and regardless of what others may perhaps expect or demand. Axpo understands the term “compliance” to mean an unconditional commitment to integrity, ethics and abidance by the law.

Management approach

Since 1 October 2010, the Axpo Group has applied a Code of Conduct according to which Axpo is committed to compliance in its business activities. The Code of Conduct sets out in detail what is permitted and not permitted at the Axpo Group. Its rules of conduct also govern, among other things, Axpo’s responsibility towards people, the environment and society. The following twelve principles form part of the Code of Conduct and must be observed by all governance bodies and employees of the Axpo Group in their daily activities:

- Integrity in business operations
- Overriding importance of safety
- Protection of personal rights
- Fair competition guarantee
- Prohibition of corruption and other criminal acts
- No exertion of influence through gifts and invitations
- Disclosure of conflicts of interest
- Integrity of business partners
- Observance of confidentiality
- Professional communication
- Procedure for dealing with doubt
- Reporting of breaches of rules

In their daily work, all governance bodies and employees of the Axpo Group at all times comply with the applicable laws, the Code of Conduct and the ethical principles set forth in this Code – wherever Axpo operates and regardless of what others may expect or demand.

Axpo’s Corporate Compliance Programme serves to prevent, recognise and remedy any infringements of the law, ethical principles, internal rules and best practice standards and to promote a general understanding of compliance. The company must react to compliance breaches in an adequate manner.

a) Prevention of non-compliance:

When the Code of Conduct was introduced, all governance bodies and employees of the Axpo Group were trained in the Code of Conduct and the principles of anti-corruption. New employees are inducted into the rules of the Code of Conduct on an ongoing basis; internal processes are continuously improved, as required, as part of the compliance management process. Specific compliance courses were also held in the reporting year for traders in the Business Area Trading & Sales in Switzerland and abroad. Additionally, a compliance refresher campaign was staged, which used various compliance dilemma scenarios on the Intranet to refresh employees’ awareness of the correct behaviour in accordance with the Code of Conduct.

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In addition to the training courses offered by the Compliance Officer, Axpo's managers are obliged to ensure implementation of the compliance principles. They implement the Code of Conduct by serving as an example and creating a compliance culture shaped by ethics, integrity and trust.

Governance bodies and employees can (and should) ask for help at any time if they suffer any doubts, have any concerns or are unclear about the route that has to be taken to avoid compliance breaches. Governance bodies and employees can turn to their line managers, the Head of Compliance or the competent Compliance Officer. Early advice on compliance serves to avoid non-compliance. Ideas, concerns or questions of governance bodies and employees can be submitted via Axpo's Ethics Hotline, which can also be used on an anonymous basis.

Axpo's Code of Conduct, which is binding for all governance bodies and employees, including the members of the Board of Directors of Axpo Holding AG and the Executive Board, also regulates the process of handling conflicts of interest. The Board of Directors of Axpo Holding AG, which is responsible for overall compliance supervision under the law, uses the regular Corporate Compliance Report to form an overview of the status of compliance at the company.

b) Recognition and remediation:

Even the best code of conduct is useless if the company is unaware of breaches of its provisions or other rules. Axpo maintains a culture of trust and mutual respect, in which the Axpo values and the basic principles described in the Code of Conduct can and should be discussed sincerely, honestly and openly.

Governance bodies and employees are encouraged to report actual or suspected breaches of Axpo's rules or the law to their line managers, the Head of Compliance or the competent Compliance Officer. The same applies if governance bodies or employees are asked by someone to violate such rules or principles. Axpo prohibits any unlawful treatment (e.g. disadvantage, discrimination or retaliation) of governance bodies or employees who follow this Code of Conduct. It also prohibits the unlawful treatment of governance bodies or employees who report actual or suspected (in good faith) breaches by governance bodies, employees or third parties against the Code of Conduct or other regulations, or who help in investigating such allegations.

Breaches can be reported in person or anonymously (e.g. via Axpo's Ethics Hotline; see above). In early 2016, an employee survey regarding the compliance and corporate culture was conducted, to find out how things stand and further improve the Corporate Compliance Programme as required. The results of the survey were reported to the Board of Directors of Axpo Holding AG in September 2016.

In addition to the Code of Conduct, Axpo implemented internal directives "against bullying and sexual harassment in the workplace". These directives identify the persons in each Group company whom employees can contact in confidence when a matter is serious. If this does not stop the misconduct, the directive defines the process for submitting a formal complaint against the harassment. CKW has launched its risk assessment process with the aim of drawing up the Compliance Risk Map as at the end of the 2016/2017 financial year.

c) Reaction to breaches of compliance:

Breaches of the Code of Conduct or Axpo's ethical principles are not tolerated. Axpo does not pay "lip service" to compliance. The Code of Conduct must be followed to the letter and spirit of its contents by all governance bodies and employees. Breaches of the law, the Code of Conduct or other

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Axpo regulations may result in disciplinary action or consequences under labour and/or criminal law.

Impacts and results

The objective of Axpo's Corporate Compliance Programme is to ensure the consistent and permanent alignment of all actions taken by the Axpo Group with the requirements of the law, articles of association, regulations and internal policies as well as the principles of business ethics and integrity:

- The Axpo Complaints Commission did not receive any complaints in the reporting year. No incidents of discrimination were registered.
- As no cases of corruption were reported in the reporting year, no corrective action was needed.
- Axpo did not receive any fines for breaches of environmental laws and regulations in the reporting year.
- No breaches involving the rules on the use and provision of products and services were disclosed in the reporting year.
- During proceedings for anti-competitive behaviour or anti-trust and monopoly practices, the Italian competition authority launched an investigation into some energy companies in 2013, including Axpo's subsidiary Axpo Italy (previously EGL and the power plant company Calenia Energia) and issued a fine. The fine was appealed. The action could not be finalised in the reporting year.

G4-SO8 Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations

Sustainability Report 2016/17, Compliance, p. 73

Supplier social impact assessment

Sustainability Report 2016/17, Supplier assessment for labour practices, p. 68

G4-SO9 Percentage of new suppliers that were screened using social impact criteria

Sustainability Report 2016/17, Supplier assessment for labour practices, p. 68



G4-SO10 Significant actual and potential negative impacts for society in the supply chain and actions taken

Sustainability Report 2016/17, Supplier assessment for labour practices, p. 68

Sector-specific aspect: Disaster/emergency planning and response

Relevance

Axpo is responsible for the operation of large-scale technical facilities for the generation of electricity such as nuclear power plants and hydro power plants. As such, professional emergency and crisis management is an essential component of Axpo's safety culture.

Management approach

Axpo has a comprehensive emergency and crisis management policy. The Group directive "Crisis management" sets out the responsibilities and powers.

By setting up emergency and crisis teams, the company takes the preventive measures needed to ensure that all events which could negatively affect the company, the employees, the customers or other human beings and the environment can be managed in an orderly manner.

A uniform interpretation of the minimum number of scenarios that need to be included in a crisis management plan and the standard definition of all terms are key to the establishment of high standards. Each Group company has such a crisis management organisation. Crisis management at Group level is initiated and managed centrally by the CEO of the Axpo Group. The Head of Group Safety is in charge of superordinate coordination and controlling.

Efficient crisis management should achieve the following in the event of a crisis:

- Damage limitation or damage avoidance (employees, third parties and operation),
- Maintenance or immediate recovery of the most important business operations,
- Timely, active, transparent and reliable internal and external communication aimed at specific target groups (Axpo's reputation),
- Establishment of the conditions needed for the efficient return of operations to the status quo before the crisis (return to normal procedures).

Impacts and results

Axpo implements measures in advance to avoid future crises. As part of the risk, issue and crisis management process, all possible dangers to the Group are identified and measures suitable for dealing with the risks are implemented in order to avoid a crisis situation.

To secure the defined processes and structures in the event of a crisis, the crisis management process is continuously improved through the targeted training of the members of the crisis management team and regular crisis management drills.

Additional information for energy companies: Crisis planning, disaster/emergency planning, training programmes and recovery/restoration plans

Sustainability Report 2016/17, Disaster/emergency planning, p. 76

Social dimension: product responsibility

Customer health and safety

Relevance

The need to ensure safety in the production plants and the transmission of electricity, and thus also the safety and health of the customers, takes first priority. Axpo will continue to invest in the safety of its plants while complying with all official directives. The company is committed to the consistent management of all risks. The obligation to operate its power and transmission plants safely without harming the environment is a central concern.

Management approach

Compared to other countries, Switzerland has very strict official directives when it comes to protection against non-ionising radiation. Since the introduction of the Ordinance on Protection from Non-Ionising Radiation (NIR Ordinance) in 2000, places with sensitive use (where people regularly spend lengthy periods of time, i.e. apartments, offices, etc.) are much better protected. To ensure the best possible protection, a limit of 1 µT applies, which is considerably stricter than the international standard of 100 µT.

The NIR Ordinance prescribes a phase-optimised reduction of fields for existing power lines, which Axpo has already implemented throughout the Group. As the above directives are always implemented in full for new lines, all existing and new facilities comply strictly with all statutory regulations on electrosmog.

In terms of nuclear energy, the emergency safety measures of the Nuclear Energy Ordinance, the Radiation Protection Ordinance and the various ordinances of the Swiss Federal Nuclear Safety Inspectorate (ENSI) are also important. The Swiss nuclear power plants have been built to withstand extreme conditions such as earthquakes, floods and aeroplane crashes. Axpo's facilities meet all the relevant regulatory requirements in Switzerland; they are constantly modernised and upgraded. To highlight its commitment to nuclear safety and radiation protection, Axpo has adopted a Nuclear Safety Charter.

Also, thanks to consistent implementation of radiation protection provisions, normal operation of nuclear power plants does not result in any radiation exposure that might be dangerous to health in the immediate environment of nuclear plants. The local dose or local dose rate resulting from external radiation is monitored via the MADUK measurement network in the immediate environment of the nuclear plants and with passive dosimeters both in the immediate environment and at the perimeter fence. In addition, ENSI carries out random quarterly dose rate measurements at the perimeter fence, as well as specific measurement campaigns as required.

Axpo's dams also meet the most stringent safety standards. They are permanently monitored and regularly checked. Dams of a certain category have to be resistant to earthquakes of a magnitude that is only expected once every 10,000 years.

Impacts and results

All facilities for the production and distribution of electricity are subject to strict national statutory provisions and regulations, all of which are observed. Dams are subject to supervision by the Swiss Federal Office of Energy (SFOE). Axpo submitted the required confirmation of earthquake resistance for all 30 of its dams in this category. No cases of harm caused to the health of customers or safety shortcomings that could pose a danger to the public became known in the reporting period. No complaints or legal actions are pending in this regard.

The additional exposure to ionising radiation from ongoing operation of nuclear power plants was always below the emission threshold values for direct radiation outside the plant perimeter of 1

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mSv per year for places where people live, work or spend a lot of time and of 5 mSv per year for other areas as per Art. 102, Paragraph 3 of the Radiation Protection Ordinance.¹

Additional information for energy companies: Process for assessing community health risks including monitoring, prevention and long-term health-related studies.

Sustainability Report 2016/17, Customer health and safety, p. 77

G4-PR1 Percentage of significant product and service categories for which health and safety impacts are assessed for improvement

Sustainability Report 2016/17, Customer health and safety, p. 77

G4-PR2 Total number of incidents of non-compliance with regulations and voluntary codes concerning the health and safety impacts of products and services during their life cycle, by type of outcomes

Sustainability Report 2016/17, Customer health and safety, p. 77

EU25 Injuries and fatalities to third parties in connection with business activities

No cases are known in the reporting year.

Compliance

Sustainability Report 2016/17, Compliance, p. 73

G4-PR9 Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services

Sustainability Report 2016/17, Compliance, p. 73

¹ ENSI oversight report 2016

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Sector-specific aspect: programmes for safeguarding access to electricity

This aspect was not deemed to be significant to Axpo's strategic orientation within the Swiss market. The key figures concerned may be of relevance to external stakeholders, however, which is why they are reported here.

EU28 Power outage frequency

Reliability and security of supply are core requirements for electricity customers. Axpo uses the distribution codes developed by the Association of Swiss Electricity Companies (VSE) to measure the reliability of electricity supply.

The average interruption frequency per end user and year (SAIFI, System Average Interruption Frequency Index) was 0.0066 [1/a] for Axpo grids and 0.25 [1/a] for CKW (excluding the grids of EW Altdorf and EW Schwyz).

EU29 Average power outage duration

Reliability and security of supply are core requirements for electricity customers. Axpo uses the distribution codes developed by the Association of Swiss Electricity Companies (VSE) to measure the reliability of electricity supply.

The average interruption duration per end user and year (SAIDI, System Average Interruption Duration Index) was 0.08 [min/a] for Axpo grids and 16.3 [min/a] for CKW (excluding the grids of EW Altdorf and EW Schwyz).

EU30 Average plant availability

Axpo's main power plants reported the following availability in the reporting year:

Power plant	Beznau nuclear power plant	Calenia combined-cycle gas turbine plant	Rizziconi combined-cycle gas turbine plant
Block 1	0% (idle)	85.0%	79.5%
Block 2	69.5%	95.4%	96.2%

Availability is less important for hydro power plants than for a gas-fired combined-cycle power plant, for example. Current availability as measured is very high, as each of the hydro machine groups has a relatively low degree of complexity. Moreover, there is a very large number of machine groups in the entire hydro fleet, which greatly reduces the effect of the failure of a single machine group. The hydro fleet is very decentralised, thus reducing the risk of simultaneous failures. The hydro machine groups also use water supply settings that allow an annual average for the operating hours of less than 3,500 hours in total. This means that regular maintenance work can be planned and carried out without production losses.

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External assurance



Ernst & Young Ltd
Maagplatz 1
P.O. Box
CH-8010 Zurich

Phone +41 58 286 31 11
Fax +41 58 286 30 04
www.ey.com/ch

To the Executive Management of
Axpo Holding AG, Baden

Zurich, 14 December 2017

Report of the independent auditor on the Sustainability Report 2016/17

We have been engaged by Axpo Holding AG to perform a limited assurance engagement on the following information stated in the Sustainability Report 2016/17 (hereafter "report") for the reporting period 1 October 2016 to 30 September 2017, which has been compiled on the basis of the Global Reporting Initiative (GRI):

- ▶ Selected information in the sub-chapter „An overview of our fields of action, goals and performance“ (pages 8 to 10 of the report) which are identified with ☒
- ▶ Chapter „Materiality analysis“ (pages 14 to 17 of the report)
- ▶ Selected information in the chapter „GRI Report“ (pages 18 to 79 of the report) which are identified with ☒

Our engagement was limited to the information listed above (hereafter "specified information"). We have not assessed the following information disclosed in the report:

- ▶ All information contained in other sections of the report
- ▶ Forward-looking statements

The report was prepared by the Executive Management of Axpo Holding AG on the basis of the following criteria:

- ▶ GRI Sustainability Reporting Guidelines G4, Comprehensive option

The guidelines can be accessed on the GRI homepage (online at <https://www.globalreporting.org/information/g4/Pages/default.aspx>). We believe that these criteria are a suitable basis for our review.

Responsibility of Axpo Holding AG's Executive Management

The Executive Management is responsible for the preparation of the report in accordance with the criteria. This responsibility includes developing, implementing and safeguarding adequate internal controls regarding the preparation of a report that is free of material misstatement due to fraud or error. In addition, the responsibility of the Executive Management includes selecting and applying the criteria and maintaining appropriate records.

Responsibility of the auditor

Our responsibility is to perform a limited assurance engagement and to express a conclusion based on the procedures performed. We performed our engagement

in accordance with the Swiss Auditing Standard 950 "Assurance Engagements Other than Audits or Reviews of Historical Financial Information". This standard requires that we comply with professional standards as well as plan and perform our audit procedures in order to obtain limited assurance that the report is prepared in all material respects in accordance with the criteria.

Based on materiality and risk considerations, we performed procedures to obtain a sufficient and suitable basis for our conclusion. The selection of the procedures is based on the professional judgment of the independent auditor. In a limited assurance engagement, the procedures are less comprehensive than in a reasonable assurance engagement and therefore a lower degree of assurance is obtained.

The performance of our engagement included the following main procedures:

- ▶ Assessment of the suitability of the underlying criteria and their consistent application.
- ▶ Interviews with employees regarding the sustainability strategy of Axpo Holding AG.
- ▶ Interviews with employees responsible for preparing the report to assess the process of preparing the report, the reporting system, the data capture and compilation methods as well as internal controls to the extent relevant for a review of the report.
- ▶ Interviews of employees in specialist departments responsible for the related topics.
- ▶ Reviewing the documentation of the systems and processes for compiling, analysing and aggregating sustainability data and testing such documentation on a sample basis.
- ▶ Analytical considerations, interviews and review of documents on a sample basis with respect to the compilation and reporting of data during onsite visits to the sites in Baden and Rathsau.

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our conclusion.

Conclusion

Based on our limited assurance engagement, nothing has come to our attention that causes us to believe that the specified information in the report of Axpo Holding AG for the reporting period ended 30 September 2017 does not comply in all material respects with the criteria.

Ernst & Young Ltd



Roger Müller
Partner



Mark Vesper
Senior Manager

(Translation of the original report in German language)

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¹ This indicator is not applicable.

² The information is subject to confidentiality conditions.

³ The information is currently not available.

Glossary

Guidelines for Multinational Enterprises

The Guidelines for Multinational Enterprises of the Organisation for Economic Cooperation and Development (OECD) are a multilaterally agreed, comprehensive code for responsible business conduct. The OECD governments have agreed to promote this code; <http://www.oecd.org/daf/inv/mne/48004323.pdf>.

New energies

This includes all renewable energies except large-scale hydro power. In Switzerland, these include, for example, small-scale hydro power, firm biomass, biogas, geothermal energy, wind and solar power.

Load balancing energy

Energy needed in the electricity delivery system to deal with unforeseen load fluctuations and power plant outages.

Swiss Accident Insurance Institution (Suva)

Suva is an independent entity established under public law which insures around 121,000 companies and 1.95 million employees against the consequences of accidents and occupational diseases.

Swissnuclear

Swissnuclear is the nuclear energy working group of Swisselectric, which promotes the safe and profitable operation of the nuclear power plants in Switzerland.

Greenhouse gas inventory pursuant to ISO 14064

ISO 14064 regulates how companies should capture, report and request external audits of its emissions of CO₂, methane and SF₆.

Environmental product declarations pursuant to ISO 14025

Environmental product declarations (EPD®) are used to measure, report and request external audits of the environmental impacts of products, e.g. 1 kWh electricity, in accordance with a standard procedure.

United Nations Global Compact

The United Nations Global Compact is a strategic initiative under which companies agree to gear their business activities and strategies to ten universally accepted principles in the areas of human rights, labour practices, environmental protection and anti-corruption. www.unglobalcompact.org

Publishing details and contact persons

Published by

Axpo Holding AG
Parkstrasse 23
5401 Baden
Tel. +41 56 200 37 77
Fax +41 56 200 43 50
www.axpo.com

Consultation on GRI sustainability reporting

Sustainserv GmbH
Zurich/Boston
www.sustainserv.com

Contact persons for questions regarding the report

Media Office
Axpo Holding AG
Corporate Communications
Parkstrasse 23
5401 Baden

medien@axpo.com
Tel. +41 800 44 11 00