

A large concrete dam with solar panels mounted on its spillway. The dam is set against a backdrop of rugged, rocky mountains under a clear blue sky. The foreground shows a rocky, reddish-brown slope. A bright sun flare is visible on the left side of the image.

# Full of energy

Annual Report 2018/19 Axpo Holding AG

# Axpo results up: outstanding trading result and success with renewables

**Axpo can report a strong operating result for the 2018/19\* financial year. Earnings before interest and tax (EBIT) before one-off effects were up 56 percent to CHF 542 million, or CHF 850 million after one-off effects (previous year: CHF 348 million). The result for the period rose from CHF 131 million to CHF 865 million. The networking of production, trading business and international customer business has paid off, even in a difficult market environment, with all Axpo Group business areas achieving pleasing operating results in the 2018/19 financial year.**

## Dear Readers

Axpo performed very well in the past financial year. The key driver of this success was the exceptionally good result of the Trading & Sales business area. This was coupled with higher electricity sales volumes and solid proceeds from the sale of wind farms. The gratifyingly strong return on the Decommissioning and Waste Disposal Fund and the positive effect of regulatory changes likewise had a supporting effect. The contribution made by ancillary services again reached the high level of the previous year. Combined, these positive factors more than offset the impact of lower electricity revenues compared with the previous year, which resulted from the fact that electricity prices have been hedged for three years and consequently reflect the low prices seen in 2016. These low electricity revenues reduced EBIT by CHF 104 million.

## Networking of production, trading and customer business paying off

With innovative services such as long-term power purchase agreements (PPAs), Axpo has succeeded in further expanding its market position as an international leader in energy trading and the development of tailor-made energy solutions for its customers. With the successful takeover of the French photovoltaic company Urbasolar, Axpo has also strengthened its platform for promising growth in renewable energies.

The strong operating result proves that Axpo set the right course at an early stage. Axpo's strategy of positioning itself broadly and focusing on growth, optimisation and diversification is paying off. By networking the strongly expanded wind

**542**

EBIT before one-off effects rose by 56 percent to CHF 542 million.

**249**

Urbasolar has operational photovoltaic systems with a total capacity of 249 MW.

**4,958**

The number of employees at Axpo increased through takeovers and growth by 517 to 4,958 full-time equivalents.

**400,000**

In Italy, Axpo already has around 400,000 delivery points in electricity and gas sales for private customers.

**28.4**

The equity ratio climbed to 28.4 percent.

**Thomas Sieber (l.), Chairman and Delegate of the Board of Directors of Axpo Holding AG, and Andy Heiz, Deputy CEO of Axpo Holding AG and Head of the Assets business area.**



and solar business with the innovative services of the Trading business area and pursuing a consistent digitisation strategy, it has been possible to leverage synergies within the Group to greater effect and exploit competitive advantages both in Switzerland and abroad.

The total income of the Axpo Group in the 2018/19 financial year amounted to CHF 4,856 million, virtually unchanged year-on-year (previous year: CHF 4,850 million). EBIT rose to CHF 850 million (+144% year-on-year) on the back of an improved operating performance and one-off effects. These one-off effects mainly include the impairment reversals on power plants and energy purchase agreements totaling some CHF 400 million, which were already announced in September 2019. In addition, November saw the adoption of the third revision of the Ordinance on the Decommissioning and Waste Disposal Fund (SEFV), which lowers the real return on the funds from 2.0 to 1.6 percent. Axpo felt compelled to adjust the parameters for its provisions for the post-operational phase, decommissioning and waste disposal of the Beznau nuclear power plant, which had a negative impact of CHF 90 million. The result for the period was up sharply to CHF 865 million (previous year: CHF 131 million), while cash flow from operating activities contracted to CHF 146 million (previous year: CHF 474 million). This decline is due to an increase in funds tied up in net working capital as well as to lower electricity revenues. Net investments, including the acquisition of French photovoltaic company Urbasolar, totalled CHF 418 million, which was significantly higher than in the previous year (CHF 198 million). The very good business result boosted the equity ratio to 28.4 percent.

Thanks to strategic acquisitions and the growth strategy in international customer business, the number of employees increased by 517 to 4,958 full-time equivalents.

#### **Strong trading business exploits market dynamics**

Axpo's trading business achieved the best result in its history in a very dynamic market environment. EBIT markedly improved to CHF 323 million (previous year: CHF 230 million). Axpo made use of its strong presence abroad – Axpo is present in 28 countries and active in 39 markets – and consolidated its expertise as a leading marketer of renewable energies. This was supported by strong demand for long-term power purchase agreements (PPAs), particularly in the Nordics. PPAs are being used increasingly frequently in other markets as well in order to enable the construction of renewable energy facilities, even in the absence of government subsidies. In Germany, for example, Axpo has concluded its first long-term purchase agreement for solar power outside the state subsidy system, making it one of the very first PPAs on the German market. Axpo US, founded in 2016, also made positive contributions to earnings. In the United States, Axpo is active in the electricity and natural gas markets and has over 40 customers in 20 states. In Italy, Axpo already has around 400,000 delivery points in electricity and gas sales for retail customers.

On the global gas markets, Axpo is a medium-sized European company with a physical supply volume of more than 100 TWh, both for third parties and for its own requirements. Axpo further strengthened its LNG business with the supply of some 32 TWh of liquefied natural gas (LNG) in the past financial year; the total over the past four years is some 85 TWh.

**“This year Axpo was once again named the world's best energy trader.”**

Within the industry, the survey of customers and business partners conducted by the trade magazines “Risk” and “Energy Risk” has long been considered an important yardstick for evaluating energy traders. Around 1,500 participants assess the products and services of companies on the basis of criteria such as price, innovation, flexibility, market making, reliability and integrity. This year, Axpo was once again named the world's best energy trader.

#### **Continued growth with renewable energies**

With the acquisition of French photovoltaic company Urbasolar, which was completed in July 2019, Axpo was able to significantly strengthen its position in the solar energy sector. The portfolio currently comprises operational photovoltaic systems with a total capacity of 249 MW at the end of the 2018/19 financial year. In addition, the company has a development pipeline of more than 1,000 MW and offers services in the areas of construction, operation, maintenance and asset management. Urbasolar's specific know-how will be of benefit to all national companies for their photovoltaic projects going forward, including Switzerland.

The Axpo subsidiary erected, commissioned and sold four wind farms with a total capacity of 88 MW in France in the past financial year. This is in line with its strategy geared towards profitable growth in renewable energies, which includes sales as well as the construction and operation of wind farms. This income helped improve EBIT before one-off effects of the Assets area to CHF 222 million. In total, Volkswind has built more than 70 wind farms with a capacity of over 1,000 MW. The development pipeline amounts to around 3,000 MW in various stages of development.

Gas-fired combined-cycle power plants in Italy again made substantial contributions to earnings in ancillary services, on a par with the excellent prior-year figure.

### Substantial investments in Switzerland

With its power plant portfolio in Switzerland, a production capacity of around 25 billion kilowatt hours and its grid infrastructure, Axpo makes a substantial contribution to the security of supply. Axpo is currently in the process of upgrading its 50-kilovolt distribution grid to 110 kilovolts, significantly increasing the transmission capacity of the grid and reducing grid losses by 75 percent. These measures will help keep the grid systems energy-efficient and state-of-the-art, while at the same time ensuring security of supply throughout north-eastern Switzerland at a high level over the long term.

Over the past three years, Axpo has made substantial investments in modernising and maintaining its distribution grids. For the next three years, an average of around CHF 100 million per year has been earmarked for this purpose. This underlines Axpo's strong commitment to upholding the security of supply in Switzerland. Axpo would also like to harness its expertise – which has already been successfully applied in Europe in particular – to expand solar and wind energy in Switzerland. However, the conditions for major investments in Switzerland are not yet conducive for this.

**“This underlines Axpo's strong commitment to upholding the security of supply in Switzerland.”**

Axpo's subsidiary Centralschweizerische Kraftwerke AG (CKW) reported impairment reversals of CHF 88 million. Excluding these one-off effects, EBIT remained at the prior-year level, at CHF 99 million (previous year: CHF 103 million). Solar technology has developed into a successful business segment, with CKW Gebäudetechnik increasing its sales in this area by 93 percent. The number of systems installed was increased to 160, up from around 100 the year before. Together with the Assets business area, CKW is setting up a new business segment for battery storage systems. Given the expansion of volatile renewable energies, such electricity storage systems are increasingly necessary to ensure grid stability. A battery storage facility with a capacity of 2 MW was realised for a customer for the first time in the past financial year.

### Big data and solar pilot project in the Alps

In Switzerland, business that is not dependent on electricity prices developed positively. IT service provider and Axpo subsidiary Avectris continued its growth trajectory, both organically and through acquisitions. Avectris was again able to acquire a large number of new customers. With the acquisition of the SAP solution provider ERP sourcing, Avectris is taking targeted steps to strengthen its industry-specific SAP expertise. Avectris is also expanding its market position in the IT services sector by merging with IT provider Comicro.

Axpo continued to invest in the digital transformation of the Group in all business areas over the past financial year, focusing on added value, enhanced efficiency and cost savings through the application of state-of-the-art technologies for big data in energy trading. The first digitalised hydroelectric power plant in Switzerland is currently being built as a pilot project by Kraftwerke Sarganserland, promising fewer routine operations, less administration and greater efficiency. In Spain, Axpo Iberia has successfully launched an application that helps market the large wind power portfolio more effectively on the Iberian electricity exchanges. This application is based on artificial intelligence (AI) algorithms and is currently being introduced in other European markets as well.

Axpo has launched a pioneering project to install the first large-scale alpine photovoltaic plant in Switzerland on the Lake Mutt dam wall of the Limmern pumped-storage plant. The corresponding building application was submitted at the end of November 2019. The plant will have an installed capacity of 2 megawatts and an annual electricity output of 2.7 gigawatt hours. The alpine solar plant will supply around half of its electricity production during the winter – a time of year when there is usually too little electricity. However, the broader use of such alpine solar systems is still hampered by disadvantageous conditions.

### Change in the Board of Directors and Executive Board

At an Extraordinary General Meeting of Axpo Holding AG on 11 April 2019, Martin Keller from Nussbaumen was elected to the Board of Directors of Axpo Holding AG for the current term of office running from 2019 until 2021, having been nominated by the Canton of Aargau. He replaces Rudolf Hug, who resigned at the Annual General Meeting on 18 January 2019.

Joris Gröflin was appointed Chief Financial Officer (CFO) of the Axpo Group with effect from 1 April 2019. The former CFO of Rieter Holding AG replaces Ulrich Erkens, who had been heading up Finance at Axpo on an interim basis.

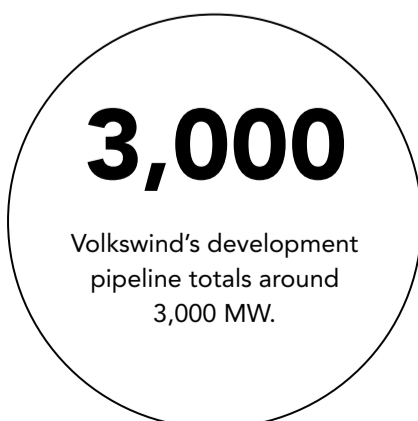
Christoph Brand, a 50-year-old Swiss national, is to be the new CEO of Axpo Holding AG. Mr Brand, currently Deputy CEO of the Management Board of Tamedia AG, was elected as the new CEO by the Board of Directors of Axpo Holding AG. He will take up his new position no later than summer 2020. Mr Brand follows Andrew Walo, who decided to pursue a different path and left Axpo in September. As of 1 October, Chairman of the Board of Directors Thomas Sieber, in his capacity of board delegate, has therefore taken over operational management of the Group on an interim basis for the transitional period until the new CEO takes up his post. For this period, Roland Eberle, Vice-Chairman of the Board of Directors, will additionally act as Lead Director. Andrew Walo took over the Axpo Group at a very difficult time in 2014, and led it with confidence through the phase of market turmoil. At the same time, in collaboration with the Board of Directors, he and his management team succeeded in consolidating and realigning Axpo's strategy. Andrew Walo is a strong leader who achieved very good operating results. We wish him all the best for the future.

### Rising electricity revenues – markets remain challenging

Given that electricity prices have been hedged for three years, the past 2018/19 financial year was once again characterised by low electricity revenues. For the current financial year (2019/20) and the subsequent two years, Axpo has been able to sell most of its production at higher prices, which will gradually have a positive impact on results from 2020 onwards.

However, European economic performance, developments on the energy markets as well as political regulation in Switzerland and Europe are clouded by uncertainties that could have a significant impact on Axpo's results. In the 2018/19 financial year, Axpo benefited from numerous positive effects and was largely spared any negative consequences; however, there is no guarantee that the same will be true for the current financial year. The result for the 2019/20 financial year is thus expected to be down on the previous year.

At the same time, Axpo will continue to focus on realising efficiency gains and synergies while exercising cost discipline. With that in mind, Axpo intends to consolidate the successful interplay of production, energy trading and international customer business, and seize market opportunities as and when they arise.



**Thomas Sieber**

Chairman and Delegate of the Board of Directors of Axpo Holding AG

**Andy Heiz**

Deputy CEO of Axpo Holding AG and Head of the Assets business area

# Artificial intelligence supports the marketing of wind power

As part of a big data project, Axpo has launched an innovative application on the Spanish market for the optimised distribution of wind power. This application provides continuously updated wind forecasts and trading recommendations, and has already met with some initial success shortly after its introduction.

With 15,500 MW under contract, Axpo is one of the largest marketers of renewable energy in Europe. More and more wind power plant operators are commissioning Axpo to sell their electricity on the market as profitably as possible. This comes with specific challenges, such as forecasting wind production as accurately as possible. One day in advance, Axpo determines the production forecast for the wind power plants under contract, positions itself accordingly in the market and reports the expected production volume to the respective grid operator.

**“The application that was developed uses innovative techniques such as machine learning and trains the model every night.”**

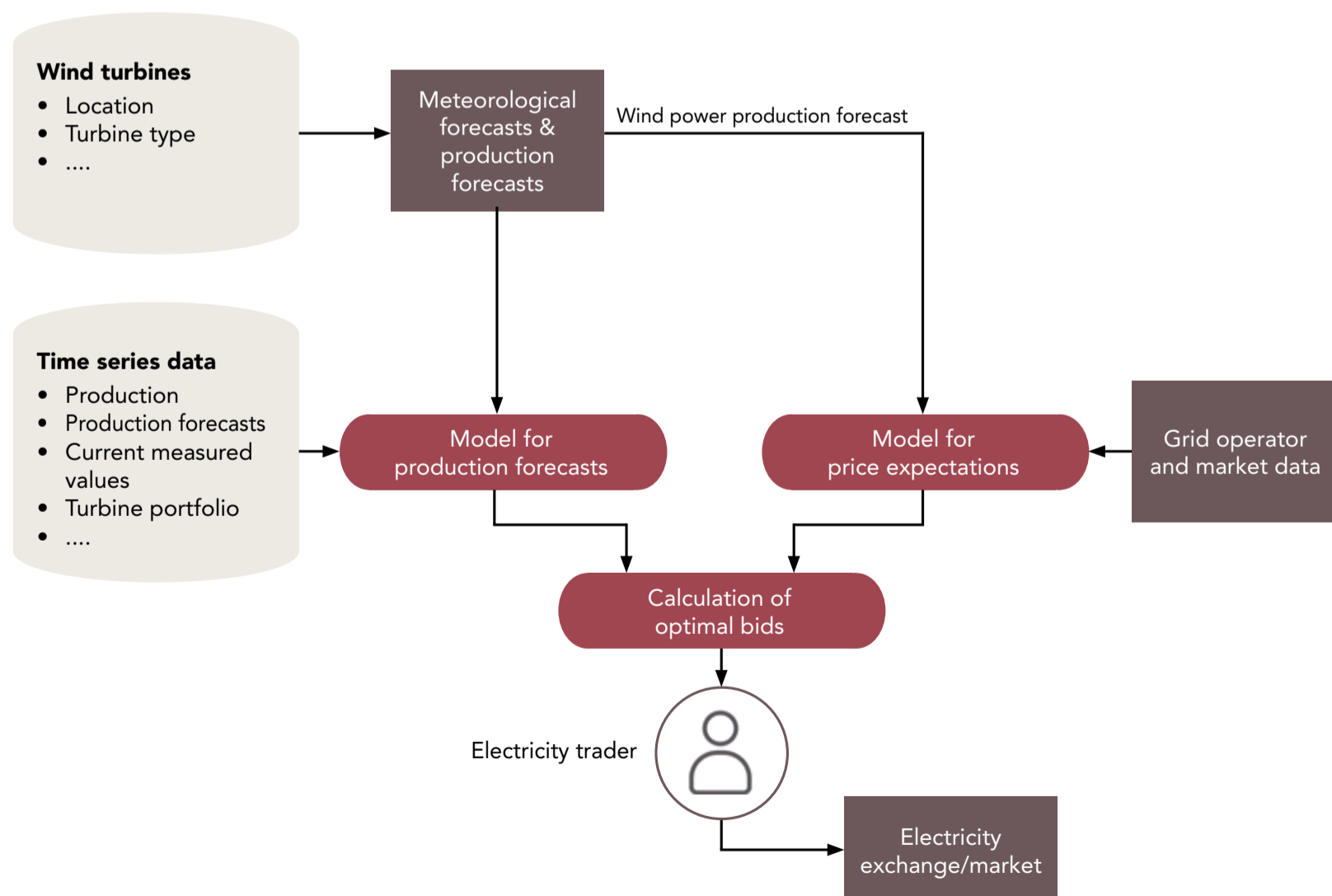
If the wind blows stronger or weaker than predicted on the day of delivery, Axpo has to reposition itself in intraday trading, and may have penalties imposed on it by the grid operator for any deviation from the production forecast. The cost of this balance energy can vary depending on the market. Whatever the scenario, however, Axpo has an interest in minimising forecasting errors and the costs resulting from them. There are two complementary approaches to this:

- With a more accurate wind energy forecast, the difference can be minimised between the forecast and the wind energy actually produced.
- With an optimised trading strategy, the excess or shortfall in electricity produced compared with the forecast can be systematically managed on the intraday market.

The combination of these two approaches means that wind power can be marketed to optimal effect. Techniques from the field of data science were used to realise this opportunity, since the forecasts need to be calculated as frequently as possible and using the most recent data available. The application that was developed uses innovative techniques such as machine learning and trains the model every night – based on the latest data.

This application was launched with Axpo Iberia for the Spanish market in April 2019, as a pilot big data project in trading. Because the results are so promising, the model has already been expanded for Italy and the Nordics and rolled out in testing. A cloud-based system is used for this purpose, which supports and facilitates international cooperation in particular.

Trading has always relied on the professional processing of information. Developments in the area of advanced analytics have opened up new possibilities, and a big data project was used to evaluate the potential offered by these developments for trading. Since the benefits and initial results have been convincing, an analytics strategy has been approved aimed at the coordinated integration of advanced analytics in the trading area. The implementation of this strategy is already under way.





Wind turbine at Maisontiers in western France.

# Axpo is a leader in renewable energies

**With Volkswind and Urbasolar, Axpo has a strong platform for further expansion in the solar and wind business – both worldwide as well as in Switzerland. Bolstered by this expertise, combined with innovative services such as power purchase agreements (PPAs), Axpo can offer tailor-made solutions to meet customer needs.**

The takeover of wind farm developer Volkswind in 2015 saw Axpo strengthen its activities in the development of onshore wind farms in Germany and France, and expand its own portfolio of wind power plants in those countries. In the past financial year, Axpo additionally acquired French photovoltaic company Urbasolar, which provides a platform for strategic expansion in the field of solar power. Axpo is also involved in the expansion of solar energy in Switzerland through its subsidiary CKW. Axpo would like to ramp up its investments in Swiss solar business, and hopes that this will also be supported by more favourable regulatory conditions in future. This has prompted Axpo to make plans for the first large-scale alpine photovoltaic plant in Switzerland.

**“Axpo would like to ramp up its investments in Swiss solar business and hopes that this will also be supported by more favourable regulatory conditions.”**

Axpo operates numerous large and small hydro power plants in Switzerland and is involved in the recycling of biogenic waste with Axpo Kompogas. Axpo Tegra is also making a contribution to sustainable and climate-friendly energy production with Switzerland’s largest wood-fired power plant.

Axpo not only operates its own power plants, but also markets their energy production on behalf of customers. The customer portfolios under management of 15,500 MW primarily comprise wind and photovoltaics, and are distributed across Europe. Axpo offers wind and solar energy investors individual and long-term power purchase agreements at guaranteed purchase prices, paving the way for new plants to be constructed that



Urbasolar’s photovoltaic system, which also provides shade for cars, in Bouches-du-Rhône, France.

are no longer subsidised with a fixed feed-in tariff. These PPAs give investors enhanced planning security, especially if they do not have their own electricity marketing expertise. Alongside institutional investors such as pension funds or other investment funds, large companies are increasingly emerging on the scene that are committed to a 100 percent renewable electricity supply as part of long-term initiatives (e.g. the RE100 initiative).

The combination of the wind and solar platform with innovative services in the area of PPAs will allow Axpo to respond more effectively to the increasingly complex customer needs of large energy consumers and producers, which in turn will help gradually make the energy system more CO<sub>2</sub>-efficient.

# Axpo contributes towards achieving UN Sustainable Development Goals

Through climate-friendly electricity production and the provision of innovative services such as customised power purchase agreements (PPAs), Axpo is playing a key role in achieving the Sustainable Development Goals (SDGs). Further information on the SDGs that are Axpo's main priority is provided below.

## Axpo is committed to climate-friendly electricity production

Climate-friendly or even completely CO<sub>2</sub>-free electricity production is the key to achieving the goals of the Paris Agreement, because this can "decarbonise" the "mobility" and "heat" sectors, making them greenhouse gas-free. The average greenhouse gas intensity of electricity production in Europe has fallen markedly in the last few years, but it still stands at around 300 g CO<sub>2</sub>/kWh. Under the Paris Agreement, all UN Member States have committed to keeping the increase in the global average temperature to below 2 degrees Celsius. This results in reduction pathways for greenhouse gas intensity from electricity production.



**Axpo's contribution to SDG goal 13.2 "Climate change measures":** Axpo's global electricity production mix is already very climate-friendly – due in part to nuclear power – and at approx.

100 g CO<sub>2</sub>/kWh is around three times lower than the current European average. This CO<sub>2</sub> output is attributable mainly to the operation of the company's gas-fired combined-cycle power plants in Italy, which have emitted an average of around 3 million tonnes of CO<sub>2</sub> p.a. in recent years. These power plants are used to stabilise the electricity grid. Despite the CO<sub>2</sub> emissions mentioned above, the Axpo mix is already roughly at the level targeted for Europe by 2035. With its climate-friendly electricity production mix, Axpo is thus making a contribution to meeting this SDG in Switzerland and in Europe.

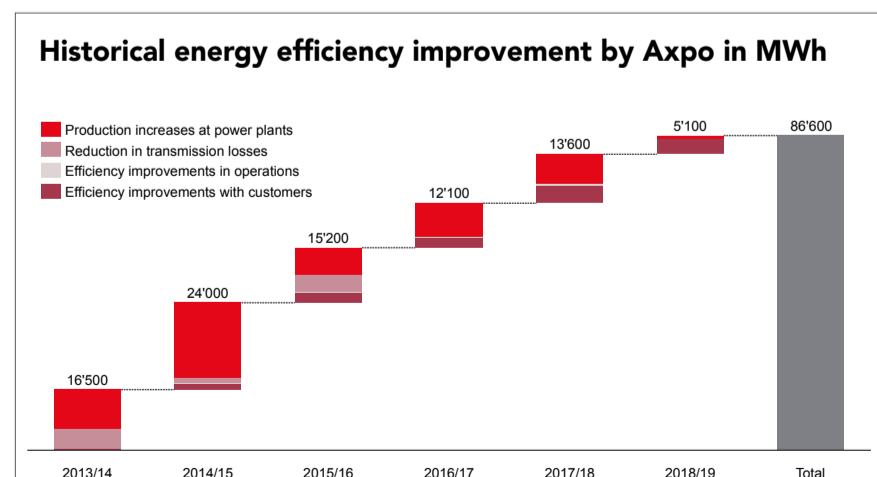
## Axpo improves energy efficiency

Axpo is committed to energy efficiency improvements in four areas: production increases in power plants; reductions in electricity transmission losses; reductions in consumption in the operation of its own buildings; and reductions in consumption by customers thanks to energy efficiency services.



**Axpo's contribution to SDG 7.3 "By 2030, double the global rate of improvement in energy efficiency":** Over the past six years, Axpo has achieved cumulative energy efficiency improvements of around 90 GWh. This volume of electricity saved corresponds to the requirement of a small town such as Meilen of around 80 GWh.

By implementing energy efficiency measures in these four areas, Axpo is making a significant contribution to achieving this SDG.



## Axpo expands renewable energies

Axpo is the largest Swiss producer of renewable energy. With the acquisition of wind farm developer Volkswind in 2015 and photovoltaic company Urbasolar last year, Axpo has strengthened its activities in the field of renewable energies.



**Axpo's contribution to SDGs 7.2 "Increase substantially the share of renewable energy in the global energy mix" and 13.2 "Climate change measures":** Since

the 2014/15 financial year Axpo has expanded its own portfolio of wind, solar and biomass energy from 350 MW to 620 MW. In addition, Axpo successfully offers investors in renewable energies long-term power purchase agreements, resulting in the addition of new capacities to date totalling 770 MW. Marketing around 15.5 GW of renewable energy on behalf of customers supports their profitable operation and helps these technologies achieve a breakthrough. In this way, Axpo is making a contribution to meeting the SDGs mentioned above.

## Axpo offers customers smart energy solutions

Axpo is responding to the trend towards increasingly decentralised and intelligently controllable elements in the energy system with numerous products and services, both in Switzerland (mostly via its subsidiary CKW), as well as in other European countries.



**Axpo's contribution to SDGs 9.4 "Upgrade infrastructure and retrofit industries" and 12.2 "Sustainable management and efficient use of natural resources":**

Axpo is pursuing projects in Europe and Switzerland to install combined heat and power plants, energy-saving boilers, photovoltaic/battery systems, heat pumps and LED luminaires. Axpo is also involved in e-mobility projects that help save fuel, as well as in large battery storage facilities and smart building/site products where planning for heat and electricity is provided from a single source. Through such tailor-made and innovative energy solutions for private and business customers, which help save energy and reduce emissions, Axpo is contributing to achieving these SDGs.



The United Nations adopted Agenda 2030 in 2015. The 17 Sustainable Development Goals (SDGs) with their 169 sub-goals are at the heart of Agenda 2030. These goals are to be implemented by 2030 by all UN Member States, including Switzerland. The private sector, and in particular energy companies, play a crucial role in this regard, because sustainable energy production is the key to achieving the targets of various SDGs.

# Key figures

## Finances

CHF million	2018/19	2017/18	2016/17	2015/16	2014/15
<b>Total income</b>					
Total income	4 856	4 850	5 567	5 416	5 860
of which revenues from energy sales and grid usage	4 725	4 764	5 330	5 169	5 596
<b>EBIT</b>					
Earnings before interest and tax (EBIT)	850	348	269	-1 226	-867
as % of total income	17.5%	7.2%	4.8%	-22.6%	-14.8%
<b>Result for the period</b>					
Result for the period	865	131	310	-1 252	-990
as % of total income	17.8%	2.7%	5.6%	-23.1%	-16.9%
<b>Cash flow and investments</b>					
Cash flow from operating activities	146	474	175	361	461
Net investment in non-current assets (excl. loan receivables)	-418	-198	-294	-890	-699
Free cash flow	-273	276	-119	-529	-238
<b>Balance sheet</b>					
Total assets	20 806	22 216	19 023	18 588	18 908
Equity (including non-controlling interests)	5 900	4 979	4 884	4 634	6 065
Equity ratio in %	28.4%	22.4%	25.7%	24.9%	32.1%
Net financial assets	-610	206	56	93	476
<b>Employees (full-time equivalents)</b>					
Average number of employees	4 653	4 357	4 231	4 293	4 312
Number of employees at balance sheet date	4 958	4 441	4 222	4 294	4 284

## Energy business<sup>1)</sup>

	2018/19 in million kWh	2017/18 in million kWh	Change year-on-year in %
<b>Procurement</b>			
Nuclear power plants	19 656	18 632	+5
Hydro power plants	9 644	9 307	+4
Conventional thermal power plants	8 470	6 499	+30
New energies (incl. other associates)	1 335	1 292	+3
From third-party companies and trading	25 482	24 386	+4
Gas (excl. gas-based electricity generation)	11 019	2 902	+280
<b>Total</b>	<b>75 606</b>	<b>63 018</b>	<b>+20</b>
<b>Sales</b>			
Electricity sales	63 826	59 339	+8
Gas sales	11 019	2 902	+280
Losses/own use	220	221	0
Direct sales from other associates	541	556	-8
<b>Total</b>	<b>75 606</b>	<b>63 018</b>	<b>+20</b>

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Cover photo: Axpo has launched a pioneering project to install the first large-scale alpine photovoltaic plant in Switzerland on the Lake Mutt dam wall of the Limmern pumped-storage plant. The picture is a visualisation of the project.

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<sup>1)</sup> The sales and procurement figures shown here relate only to the marketing of Axpo's own production output and to the SME sales business. They do not include origination business served using energy procured on the market.