



Assessment of the Sustainability Quality of the Green Bond Asset Pool of Zürcher Kantonalbank (ZKB)

13 April 2018

Aim and Scope of this Second Party Opinion

Zürcher Kantonalbank (ZKB) commissioned oekom research¹ to assist with the issuance of its first Green Bond by confirming the sustainable added value of the asset pool. The assessment of the asset pool was conducted using the criteria and indicators of the oekom Green Bond KPIs. The aim of the Green Bond issuance is to refinance Green Building projects that foster energy efficiency, resource protection and emissions avoidance.

oekom research's mandate included the following services:

- Definition of Green Bond KPIs ("oekom Green Bond KPIs") containing a clear description of eligible asset categories and the social and environmental criteria assigned to each category for evaluating the sustainability-related performance of the assets (re-) financed through the proceeds of the bond.
- Analysis of the alignment of the Green Bond to be issued out of the asset pool against ICMA's Green Bond Principles.
- Evaluation of compliance of the Green Bond Asset Pool with the oekom Green Bond KPIs.
- Review and classification of Zürcher Kantonalbank's sustainability performance on the basis of the oekom Corporate Rating.

Overall Evaluation of the Green Bond Asset Pool

oekom's overall evaluation of the Green Bond Asset Pool of Zürcher Kantonalbank is positive:

¹ On March 15, 2018, oekom research joined Institutional Shareholder Services Inc. ("ISS"). oekom research will be renamed ISS-oekom.

- Zürcher Kantonalbank has defined a formal concept for its Green Bond regarding use of proceeds, processes for project evaluation and selection, management of proceeds, and reporting. This concept is in line with the Green Bond Principles (Part I of this Second Party Opinion).
- The overall sustainability quality of the Green Bond Asset Pool in terms of sustainability benefits and risk avoidance and minimisation is good (Part II of the Second Party Opinion).
- The issuer itself shows a good sustainability performance (Part III of this Second Party Opinion).

Zürcher Kantonalbank applies good selection criteria regarding energy efficiency, as all assets in the Green Bond Asset Pool will refinance recent loans within the portfolio of the ZKB "Umweltdarlehen" (i.e. green loans for energy efficient buildings). Nevertheless, there are some aspects for potential improvement of the sustainability quality of the Green Bond Asset Pool. In order to enhance the overall sustainability quality, assets included in the asset pool could be chosen with the help of more sustainability criteria, for example sustainable procurement of building materials and measures regarding water use minimisation in buildings.

As no information on borrowers was provided to oekom research, a controversy assessment to safely rule out any controversies relating to the individual (large-scale) projects could not be carried out. Yet, the nature and the geographic location of the projects (Switzerland) implies a low risk of controversies.

CO₂ avoidance of the buildings in the Green Bond Asset Pool

Zürcher Kantonalbank carried out an impact reporting based on data as at 31 December 2017. ZKB deliberately applied conservative assumptions and only included certain buildings, for which calculations were readily available or estimations possible (representing about 90% of the Green Bond Asset Pool).

The Green Bond Asset Pool financed by ZKB has resulted at least in an annual CO₂ avoidance of 0.8 tons per million CHF compared to a comparable building park that is constructed in line with the relevant national legislation. Over the lifetime of the financed buildings, the ZKB Green Bond Asset Pool has resulted in a total CO₂ avoidance of 32,814 tons.

The calculations on energy and CO₂ data were carried out by ZKB in collaboration with Minergie Schweiz. oekom research carried out a basic plausibility check. More information on the calculations is provided by ZKB at <https://www.zkb.ch/de/uu/nb/investor-relations/obligationenanleihen.html>.

The following table shows the results of estimations and calculations on the minimum CO₂ performance of the buildings within the asset pool for the Green Bond Asset Pool.

Annual CO ₂ avoidance	Total CO ₂ avoidance over the lifetime of the financed buildings
0.8 t/mCHF	32,814 t

Part I – Green Bond Principles

1) Use of Proceeds

The proceeds of the Green Bond will be used exclusively to (re-) finance assets matching Zürcher Kantonalbank's Green Bond Framework. All assets are part of the recent ZKB "Umweltdarlehen" portfolio, i.e. a portfolio of green loans to finance energy efficient buildings. The underlying assets are private mortgage loans, commercial real estate loans as well as loans for housing cooperatives. From a sustainability point of view, the categories are positive as energy efficient buildings contribute towards a transition to a low carbon economy. Furthermore, housing cooperatives offer certain social advantages to their members, such as enhanced affordability and democratic governance.

All assets are situated in Switzerland, the assets are new builds and refurbishment of existing buildings.

Details regarding the assets included in the Green Bond are listed in the following table (based on loans outstanding):

Green Asset Category		Share of Green Bond Asset Pool (as per 31/12/2017)
A	Green Buildings: Private mortgage loans	CHF 713m (61%)
B	Green Buildings: Commercial real estate	CHF 288m (25%)
C	Housing cooperatives	CHF 161m (14%)
TOTAL		CHF 1,162m (100%)

2) Process for Project Evaluation and Selection

The purpose of the Green Bond is to refinance a portfolio of green loans for energy efficient buildings, the ZKB "Umweltdarlehen".

The requirements to receive an "Umweltdarlehen" are the following:

New builds:

- Minergie certificate or
- 2000-Watt-Areal certificate or
- Swiss energy performance certificate GEAK with a minimum performance of A

Refurbishments:

- Minergie certificate for refurbishments or
- Energy performance certificate GEAK Plus for refurbishments with a minimum performance of C and with an improvement by at least one efficiency class or
- Measures to improve energy efficiency (e.g. installation of solar panels)

3) Management of Proceeds

The Green Bond will exclusively refinance the selected portfolio and the loans will be earmarked within ZKB's internal system. ZKB will monitor that over the tenure of the Green Bond the volume of the eligible portfolio is greater than the nominal Green Bond volume. In case that ZKB's portfolio of "Umweltdarlehen" is not sufficiently large the proceeds of the Green Bond will either be invested in qualifying Green Bonds of other issuers or held in cash.

4) Reporting

Zürcher Kantonalbank will publish the following documents on the Green Bond on its website²:

- Green Bond Framework
- Green Bond annual reporting, including impact reporting
- Second Party Opinion
- Rating (Green Bond Assessment)

² <https://www.zkb.ch/de/uu/nb/investor-relations/kapitalinstrumente-.html>

Part II – Sustainability Quality of the Green Bond Asset Pool

1) oekom Green Bond KPIs

The oekom Green Bond KPIs serve as a structure for evaluating the sustainability quality – i.e. the social and environmental added value – of the use of proceeds of Zürcher Kantonalbank's Green Bond Asset Pool. It comprises firstly the definition of the use of proceeds category offering added social and/or environmental value and secondly the specific sustainability criteria by means of which this added value and therefore the sustainability performance of the Green Bond Asset Portfolio can be clearly identified and described.

The sustainability criteria are complemented by specific indicators, which enable quantitative measurement of the sustainability performance of the Green Bond Asset Pool and which can also be used for reporting. Details on the individual criteria and indicators for the categories can be found in Annex 1 „oekom Green Bond KPIs“.

2) Evaluation of the Assets within the Green Bond Asset Pool

Method

oekom research has evaluated whether the assets included in the Green Bond Asset Pool match the categories and criteria listed in the oekom Green Bond KPIs. The evaluation was carried out using information and documents provided to oekom research on a confidential basis by Zürcher Kantonalbank (e.g. information on credit guidelines). Further, national legislation and standards, depending on the asset location, were drawn on to complement the information provided by Zürcher Kantonalbank.

Amounts outstanding were used to calculate the share of underlying assets which fulfil an indicator requirement.

Findings

A. Green Buildings: Private mortgage loans

Sustainability Benefits and Risks of the Asset Category

Private mortgages for energy efficient buildings are beneficial from an environmental point of view as they contribute to climate protection through optimised energy use. Due to the small scale of work and resources involved in building private homes as well as due to the fact that the buildings are in Switzerland, environmental and social impacts from the construction of private homes are comparably low.

However, fair banking practices need to be in place in the retail client business in order to mitigate potential social risks, e.g. over-indebtedness or foreclosure.

All projects selected for the Green Bond are located in Switzerland, a highly regulated country.

- **Energy Efficiency prerequisites**

- ✓ All the assets underwent an appropriate and detailed selection process that ensures good standards regarding energy efficiency.

All the assets are part of the ZKB "Umweltdarlehen" portfolio for energy efficient buildings.

All the new assets meet the energy efficiency criteria of Minergie, 2000-Watt-Areal or received a Energy Efficiency Class of "A" (new builds).

All the refurbished assets received a Energy Efficiency Class of "C" with an improvement by at least one efficiency class (refurbishments) or underwent individual, small-scale upgrades to foster energy efficiency and renewable energy.

- 1. Construction standards

- ✓ 100% of the assets are located in Switzerland, where high labour and health and safety standards are in place for construction and maintenance work (e.g. ILO core conventions).

- 2. Responsible treatment of customers with debt repayment problems

- ✓ For 100% of the assets, pre-emptive actions to prevent client debt repayment problems (e.g. data collection on client indebtedness, long-term fixed interest rates) are in place.
- ✓ For 100% of the assets, sustainable solutions for customers with debt repayment problems are in place (e.g. debt counselling, foreclosure as a last resort).
- ✓ For 100% of the assets, the creditor excludes the selling of contractually serviced loans.

Controversy assessment

- Due to a low controversy risk, oekom research does not carry out a controversy assessment for private mortgage loans.

B. Green Buildings: Commercial real estate

Sustainability Benefits and Risks of the Asset Category

Green buildings are beneficial from an environmental point of view as they contribute to climate protection through optimised energy efficiency and air quality. Further, green buildings help to conserve natural resources and reduce environmental impact through the reduction of waste and wastewater. From a social point of view, green buildings can improve occupant health and comfort.

At the same time, there are possible sustainability risks that need to be taken into account. Possible social risks stem from working conditions at construction sites, the integration of new buildings into the social context and the safety of building users. Environmental risks stem from impacts on biodiversity at the planning stage, as well as from poor resource efficiency during construction phase and at the use stage.

All projects selected for the Green Bond are located in Switzerland, a highly regulated country.

- **Energy Efficiency prerequisites**

- ✓ All the assets are part of the ZKB "Umweltdarlehen" portfolio for energy efficient buildings.

All the new assets meet the energy efficiency criteria of Minergie, 2000-Watt-Areal or received a Energy Efficiency Class of "A" (new builds).

All the refurbished assets received a Energy Efficiency Class of "C" with an improvement by at least one efficiency class (refurbishments) or underwent individual, small-scale upgrades to foster energy efficiency and renewable energy.

- 1. Environmental standards for site selection

- No information is available on policies for responsible site selection.
- ✓ More than about 60% of the assets are located within a maximum of 1 km from one or more modalities of public transport. Regarding the remaining 40% of assets, no detailed information is available on the proximity to public transport, but a distance of less than 1 km is very likely.

- 2. Construction standards

- ✓ 100% of the assets are located in Switzerland, where high labour and health and safety standards are in place for construction and maintenance work (e.g. ILO core conventions).
- No information is available on sustainable procurement.

- 3. Water use minimisation in buildings
 - No information is available on measures to reduce water consumption.
- 4. Safety of building users
 - ✓ 100% of the assets provide for measures to ensure operational safety (e.g. requirements for fire protection, in line with national legislation).
- 5. Sustainability labels / certificates
 - None of the assets obtained a (or an equivalent of) BREEAM "Very Good", DGNB "Silver / Gold"³, LEED "Gold", HQE "excellent" certificate or better certification.

Controversy Assessment

- As no information on borrowers was provided to oekom research, a controversy assessment to safely rule out any controversies relating to the individual projects could not be carried out. Yet, the nature and the geographic location of the projects (Switzerland) implies a low controversy risk. A certain risk exposure relating to e.g. accidents on construction sites cannot be omitted.

³ With effect from 1 July 2015, DGNB updated its certification scheme, now ranging from "Bronze" to "Platinum": The "Bronze" certificate will be replaced by "Silver", "Silver" by "Gold" and "Gold" by "Platinum" for new certifications with immediate effect. "Bronze" will only be used for existing buildings in the future. The evaluation system and the assessment methodology remain unchanged.

C. Housing cooperatives

Sustainability Benefits and Risks of the Asset Category

Housing cooperatives are beneficial from a social point of view as they foster affordable rents and provide long-term right of residence. Further, they can contribute to democratic governance and fair decision-making in communities.

At the same time, there are possible sustainability risks that need to be taken into account. Possible social risks stem from working conditions at construction sites and the safety of building users. Environmental risks stem from impacts on biodiversity at the planning stage, as well as from poor resource and energy efficiency at the use stage.

All projects selected for the Green Bond are located in Switzerland, a highly regulated country.

- **Social prerequisites for housing cooperatives**
 - ✓ All financed housing cooperatives are non-profit-oriented housing organisations.
- 1. Standards for social housing and housing cooperatives
 - ✓ 100% of the assets are assigned to cooperatives which are democratically organised.
 - No information is available regarding the rent levels of the cooperatives in comparison to the average rent level.
 - ✓ 100% of the assets are assigned to cooperatives that charge a cost-induced rent that is not profit-oriented.
 - ✓ 100% of the assets are assigned to cooperatives which conclude unlimited lease contracts and aim at a life-long residence.
- 2. Site selection
 - No information is available on policies for responsible site selection.
 - ✓ 100% of assets are located within a maximum of 1 km from one or more modalities of public transport.
- 3. Construction standards
 - ✓ 100% of the assets are located in Switzerland, where high labour and health and safety standards are in place for construction and maintenance work (e.g. ILO core conventions).
 - No information is available on sustainable procurement.

- 4. Water use minimisation in buildings
 - No information is available on measures to reduce water consumption.
- 5. Safety of building users
 - ✓ 100% of the assets provide for measures to ensure operational safety (e.g. requirements for fire protection, in line with national legislation).
- 6. Energy efficiency
 - ✓ 100% of assets provide for good energy efficiency standards.

Controversy Assessment

- As no information on borrowers was provided to oekom research, a controversy assessment to safely rule out any controversies relating to the individual projects could not be carried out. Yet, the nature and the geographic location of the projects (Switzerland) implies a low controversy risk. A certain risk exposure relating to e.g. accidents on construction sites cannot be omitted.

Part III – Assessment of Zürcher Kantonalbank's Sustainability Performance

In the oekom Corporate Rating with a rating scale from A+ (excellent) to D- (poor), Zürcher Kantonalbank was awarded a score of C and classified as "Prime", meaning that it fulfils oekom research's demanding requirements regarding sustainability performance in its sector.

Corporate
Responsibility **Prime**

rated by

oekom r|e|s|e|a|r|c|h

As at 13 April 2018, this rating puts Zürcher Kantonalbank in place 11 out of 89 companies rated by oekom research in the Financials/Public & Regional Banks sector.

In this sector, oekom research has identified the following issues as the key challenges facing companies in terms of sustainability management:

- Sustainability impacts of lending and other financials services/products
- Customer and product responsibility
- Sustainable investment criteria
- Labour standards and working conditions
- Business ethics

In all key issues, Zürcher Kantonalbank achieved a rating that was above the average for the sector. A very significant outperformance was achieved in "Sustainable investment criteria" and "Labour standards and working conditions".

In recent years, the company was not involved in any controversial business practices or controversial areas of business, and thus does not breach any of the exclusion criteria frequently applied by sustainability-oriented investors. Overall, the company has a "minor" controversy level, which is the average level of the sector Financials/Public & Regional Banks.

Details on the rating of the issuer can be found in Annex 2 "Issuer rating results".



Robert Haßler, CEO

oekom research AG

Munich, 13 April 2018

Disclaimer

1. oekom research AG uses a scientifically based rating concept to analyse and evaluate the environmental and social performance of companies and countries. In doing so, we adhere to the highest quality standards which are customary in responsibility research worldwide. In addition we create a Second Party Opinion (SPO) on bonds based on data from the issuer.
2. We would, however, point out that we do not warrant that the information presented in this SPO is complete, accurate or up to date. Any liability on the part of oekom research AG in connection with the use of these SPO, the information provided in them and the use thereof shall be excluded. In particular, we point out that the verification of the compliance with the selection criteria is based solely on random samples and documents submitted by the issuer.
3. All statements of opinion and value judgements given by us do not in any way constitute purchase or investment recommendations. In particular, the SPO is no assessment of the economic profitability and credit worthiness of a bond, but refers exclusively to the social and environmental criteria mentioned above.
4. We would point out that this SPO, in particular the images, text and graphics contained therein, and the layout and company logo of oekom research AG are protected under copyright and trademark law. Any use thereof shall require the express prior written consent of oekom research AG. Use shall be deemed to refer in particular to the copying or duplication of the SPO wholly or in part, the distribution of the SPO, either free of charge or against payment, or the exploitation of this SPO in any other conceivable manner.

About oekom research

oekom research is one of the world's leading rating agencies in the field of sustainable investment. The agency analyses companies and countries with regard to their environmental and social performance. oekom research has extensive experience as a partner to institutional investors and financial service providers, identifying issuers of securities and bonds which are distinguished by their responsible management of social and environmental issues. More than 100 asset managers and asset owners routinely draw on the rating agency's research in their investment decision making. oekom research's analyses therefore currently influence the management of assets valued at over 600 billion euros.

As part of our Green Bond Services, we provide support for companies and institutions issuing sustainable bonds, advise them on the selection of categories of projects to be financed and help them to define ambitious criteria. We verify the compliance with the criteria in the selection of projects and draw up an independent second party opinion so that investors are as well informed as possible about the quality of the loan from a sustainability point of view.

Contact: oekom research AG, Goethestraße 28, 80336 Munich, Germany, tel: +49 / (0) 89 / 54 41 84-90, e-mail: info@oekom-research.com

Annex

- Annex 1: oekom Green Bond KPIs
- Annex 2: oekom Corporate Rating of Zürcher Kantonalbank

Annex 1: oekom Green Bond KPIs

The oekom Green Bond KPIs serve as a structure for evaluating the sustainability quality – i.e. the social and environmental added value – of the use of proceeds of Zürcher Kantonalbank's Green Bond Asset Pool. It comprises firstly the definition of the use of proceeds category offering added social and/or environmental value and secondly the specific sustainability criteria by means of which this added value and therefore the sustainability performance of the Green Bond Asset Portfolio can be clearly identified and described.

The sustainability criteria are complemented by specific indicators, which enable quantitative measurement of the sustainability performance of the Green Bond Asset Portfolio and which can be used for comprehensive reporting.

Use of Proceeds

The Zürcher Kantonalbank Green Bond Framework consists of the following project categories:

- A. Green Buildings: Private mortgage loans
- B. Green Buildings: Commercial real estate
- C. Housing cooperatives

Sustainability Criteria and Indicators for Use of Proceeds

In order to ensure that the environmental and social risks linked to the underlying assets are prevented and the opportunities clearly fostered, a set of sustainability criteria has been established for the project categories.

A. Green Buildings: Private mortgage loans

Energy Efficiency prerequisites: All projects underwent an appropriate and detailed selection process that ensures good standards regarding energy efficiency.

1. Construction standards

- Percentage of assets that provide for high labour and health and safety standards (e.g. ILO core conventions).

2. Responsible treatment of customers with debt repayment problems

- Percentage of assets that provide for pre-emptive actions to prevent client debt repayment problems (e.g. covenants limiting indebtedness, conservative loan-to-value ratios, long-term fixed interest rates).
- Percentage of assets that provide for sustainable solutions for customers with debt repayment problems (e.g. debt counselling, foreclosure as a last resort).
- Percentage of assets for which the creditor excludes the selling of contractually serviced loans or has implemented measures to ensure clients do not face unfavourable conditions as a result of the sale (e.g. required customer consent in case of sale, written confirmation of non-detrimental conditions).

Controversy Assessment

- Due to a low controversy risk, oekom research does not carry out a controversy assessment for private mortgage loans.

Impact indicators: Energy consumption and avoidance of CO₂ emissions

- Average energy consumption (in kWh/m²) / reduction of energy consumption after upgrade.
- Annual CO₂ emissions (in kg/m²) compared to the local average / reduction of CO₂ emissions after upgrade.

B. Green Buildings: Commercial real estate

Energy Efficiency prerequisites: All projects underwent an appropriate and detailed selection process that ensures good standards regarding energy efficiency.

1. Site selection

- Percentage of assets for which a policy on responsible site selection is in place (e.g. brownfield development, exclusion of protected areas and sites of high environmental value).
- Percentage of assets located within a maximum of 1 km from one or more modalities of public transport.

2. Construction standards

- Percentage of assets that provide for high labour and health and safety standards (e.g. ILO core conventions).
- Percentage of assets that provide for sustainable procurement regarding building materials (e.g. recycled materials, third-party certification of wood based materials).

3. Water use minimisation in buildings

- Percentage of assets that provide for measures to reduce water consumption (e.g. water metering, high-efficiency fixtures and fittings, rainwater harvesting).

4. Safety of building users

- Percentage of assets that provide for measures to ensure operational safety (e.g. emergency exits, fire sprinklers, fire alarm systems).

5. Sustainability labels / certificates

- Percentage of assets that obtained a (or an equivalent of a) BREEAM "Very Good", DGNB "Silver / Gold"⁴, LEED "Gold", HQE "excellent" certificate or better certification.

Controversy Assessment

Assessment of controversial projects (e.g. labour rights violations, accidents, insufficient community dialogue).

Impact indicators: Energy consumption and avoidance of CO₂ emissions

- Average energy consumption (in kWh/m²) / reduction of energy consumption after upgrade.
- Annual CO₂ emissions (in kg/m²) compared to the local average / reduction of CO₂ emissions after upgrade.

⁴ With effect from 1 July 2015, DGNB updated its certification scheme, now ranging from "Bronze" to "Platinum": The "Bronze" certificate will be replaced by "Silver", "Silver" by "Gold" and "Gold" by "Platinum" for new certifications with immediate effect. "Bronze" will only be used for existing buildings in the future. The evaluation system and the assessment methodology remain unchanged.

C. Housing cooperatives

Prerequisite for social housing and housing cooperatives: All projects are non-profit-oriented housing organisations.

1. Standards for social housing and housing cooperatives

- Percentage of assets assigned to cooperatives which are democratically organized.
- Percentage of assets for which rents are lower than the local average rent level.
- Percentage of assets for which tenant rights include lifelong right of residence.

2. Site selection

- Percentage of assets for which a policy on responsible site selection is in place (e.g. brownfield development, exclusion of protected areas and sites of high environmental value).
- Percentage of assets located within a maximum of 1 km from one or more modalities of public transport.

3. Construction standards

- Percentage of assets that provide for high labour and health and safety standards (e.g. ILO core conventions)
- Percentage of assets that provide for sustainable procurement regarding building materials (e.g. recycled materials, third-party certification of wood based materials).

4. Water use minimisation in buildings

- Percentage of assets that provide for measures to reduce water consumption (e.g. water metering, high-efficiency fixtures and fittings, rainwater harvesting).

5. Safety of building users

- Percentage of assets that ensure operational safety (e.g. emergency exits, fire sprinklers, fire alarm systems).

6. Energy efficiency

- Percentage of assets for which good energy efficiency standards are in place (e.g. heating energy demand below 50 kWh/m²a).

Controversy Assessment

- Assessment of controversial projects (e.g. labour rights violations, accidents, insufficient community dialogue).

Impact indicators: Energy consumption and avoidance of CO₂ emissions

- Average energy consumption (in kWh/m²) / reduction of energy consumption after upgrade.
- Annual CO₂ emissions (in kg/m²) compared to the local average / reduction of CO₂ emissions after upgrade.

oekom Corporate Rating

Zürcher Kantonalbank

Industry: Financials/Public & Regional Banks

Status: **Prime**

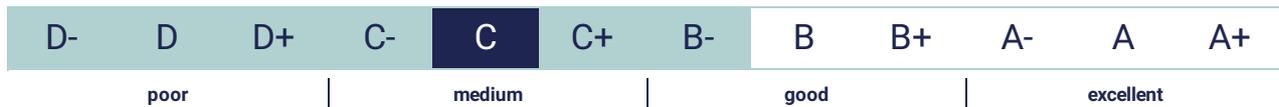
Country: Switzerland

Rating: **C**

ISIN: CH0126183075

Prime Threshold: **C**

Corporate Responsibility **Prime**
 rated by oekom research



Industry Leaders

Company name (in alphabetical order)	Country	Grade
Deutsche Kreditbank AG	DE	B-
La Banque Postale S.A.	FR	C+
Norddeutsche Landesbank Girozentrale	DE	C+

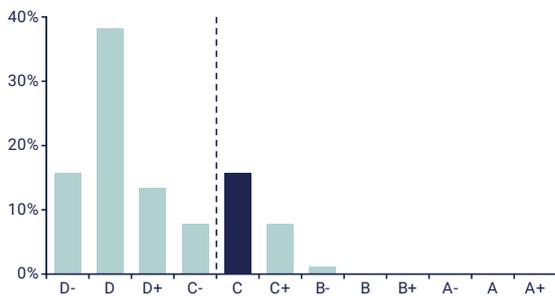
Legend: ■ Industry ■ Company --- Prime

Key Issue Performance



Distribution of Ratings

89 companies in the industry



Rating History



Controversy Monitor

Company		Industry	
Controversy Score	-1	Maximum Controversy Score	-16
Controversy Level	Minor	Controversy Risk	Minor



Zürcher Kantonalbank

Methodology - Overview

Controversy Monitor - The oekom Controversy Monitor is a tool for assessing and managing reputational and financial risks associated with companies' negative environmental and social impacts.

The controversy score is a unit of measurement for the number and severity of a company's current controversies. All controversial business areas and business practices receive a negative score, which can vary depending on the significance, number and severity of the controversies. Both the company's score and the maximum score obtained in the industry are displayed.

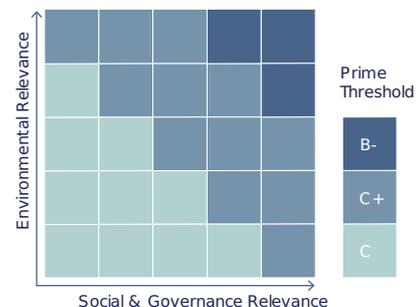
For better classification, the scores are assigned different levels: minor, moderate, significant and severe. The industry level relates to the average controversy score.

Only controversies for which reliable information from trustworthy sources is available are recorded. In addition to proven misconduct and activities of companies, alleged misconduct and activities are also assessed when the facts and circumstantial evidence provided by those sources, taking into account the experience of specialised analysts for each topic, is estimated to be sufficiently reliable. It should be noted that large international companies are more often the focus of public and media attention. Thus, the information available on those companies is often more comprehensive than for less prominent companies.

Distribution of Ratings - Overview of the distribution of the ratings of all companies from the respective industry that are included in the oekom Universe (company portrayed in this report: dark blue).

Industry Classification - The social and environmental impacts of industries differ. Therefore, based on its relevance, each industry analysed is classified in a Sustainability Matrix.

Depending on this classification, the two dimensions of the oekom Corporate Rating, the Social Rating and the Environmental Rating, are weighted and the sector-specific minimum requirements for the oekom Prime Status (Prime threshold) are defined (absolute best-in-class approach).



Industry Leaders - List (in alphabetical order) of the top three companies in an industry from the oekom Universe at the time of generation of this report.

Key Issue Performance - Overview of the company's performance with regard to the key social and environmental issues in the industry, compared to the industry average.

Major Shareholders & Ownership Summary - Overview of the company's major shareholders at the time of generation of this report. All data as well as the categorisation system for the investor types is based on information from S&P Capital IQ.

Rating History - Development of the company's rating over time and comparison to the average rating in the industry.

Rating Scale - Companies are rated on a twelve-point scale from A+ to D-:

A+: the company shows excellent performance.

D-: the company shows poor performance (or fails to demonstrate any commitment to appropriately address the topic).

Overview of the range of scores achieved in the industry (light blue) and indication of the grade of the company evaluated in this report (dark blue).

Sources of Information - A selection of sources used for this report is illustrated in the annex.

Status & Prime Threshold - Companies are categorised as Prime if they achieve/exceed the minimum sustainability performance requirements (Prime threshold) defined by oekom for a specific industry (absolute best-in-class approach) in the oekom Corporate Rating. Prime companies rank among the sustainability leaders in that industry.