ISS-oekom

Second Party Opinion

# Verification of the Sustainability Quality of the 1st Green Bond by EnBW

10 October 2018

## Aim and Scope of this Second Party Opinion

Energie Baden-Württemberg AG (EnBW), commissioned ISS-oekom to assist with the issuance of its inaugural Green Bond by assessing the sustainable added value of its assets. The assessment of the assets was conducted using the criteria and indicators of the Green Bond KPIs developed by ISS-oekom.

ISS-oekom's mandate included the following services:

- Definition of Green Bond KPIs ("ISS-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 against ICMA's Green Bond Principles.
- Evaluation of compliance of the Green Bond with the ISS-oekom Green Bond KPIs.
- Review and classification of EnBW's sustainability performance on the basis of the ISS-oekom Corporate Rating

## Overall Evaluation of the Green Bond Portfolio

ISS-oekom's overall evaluation of the Green Bond by EnBW is positive:

- EnBW 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 in terms of sustainability benefits and risk avoidance and minimisation is good. (Part II of this Second Party Opinion).
- The issuer itself shows a good sustainability performance (Part III of this Second Party Opinion).

Certain minor aspects could still add to the overall quality of the asset pool: more specific selection or performance criteria would be recommended for the solar power assets and the charging stations. This particularly concerns the solar module manufacturers and the carrying out of life cycle assessments in charging stations.

## 1) Use of Proceeds

The proceeds of this Green Bond will be used exclusively to finance or refinance Green Eligible Projects falling in the renewable energy and clean transportation categories.

Here are described the allocation percentages for the issuance:

| Asset Category | Share of Portfolio |
|---|---|
| **1. Renewable energy** | **98%** |
| 1.1 Wind Power | **93%** |
| 1.2 Solar Power | **5%** |
| **2. Clean Transportation** | **2%** |
| 2.1 Charging stations | **2%** |
| **Total** | **100%** |

## 2) Process for Project Evaluation and Selection

In order to ensure a diligent project evaluation and selection process, EnBW has set up a two-step approach:

- By nature of the group strategy, capex intensive growth projects of EnBW are green. They are aligned with EnBW's sustainability approach (as outlined in EnBW's Green Financing Framework) as well as national and international environmental and social standards.
- To ensure eligibility for green financing, EnBW has set up a Green Financing Committee with representatives from the corporate finance department, the corporate sustainability department, and on a case by case basis, with representatives from business units. Projects to be allocated with proceeds from Green Financing can be submitted by the business units or be chosen by the Green Financing Committee directly. The final decision on the selection of eligible Green Assets can only be taken unanimously.

The committee is responsible for verifying compliance of all projects with the eligibility criteria (as per EnBW's Green Financing Framework). Typical exclusion filters include but are not limited to material controversies, major concerns about impact on environment.

In addition, selection criteria have been defined for prioritising projects. It will be examined whether the projects contribute to non-financial key performance indicators and targets, relevant Sustainable Development Goals (SDGs), and relevant GRI-topics and disclosures.

The Green Financing Committee will document the project assessment process.

In order to guarantee only the issuer's share of a project is financed, the maximum green financing proceeds to be allocated to a single eligible project are calculated as follows:

- (Total asset capex[1] – external debt associated with the project) x percentage of EnBW Group's ownership

### 3) Management of Proceeds

EnBW has set up a register and has put internal systems in place to track the outstanding proceeds of Green Financing instruments internally. This allows for comprehensive monitoring of allocated and to be allocated amounts.

Prior to issuance of each bond, EnBW will disclose which projects are to be refinanced, and to what extent proceeds are to finance future investments.

EnBW intends to fully allocate the proceeds within 24 months after the issuance date of each Green Financing instrument.

Until full allocation, the Green Financing Committee will approve at least semi-annually the amount of net proceeds that has been allocated to Eligible Green Projects.

Net proceeds of Green Financing instruments will be allocated in different ways:

a) Refinancing of operational projects that qualify as Eligible Green Projects
b) Investments into projects under development that qualify as Eligible Green Projects.
c) Investments in any form of cash, bank deposit or other form of available current financial assets. Until full allocation, the Green Financing Committee will approve at least semi-annually the amount of net proceeds that has been allocated to Eligible Green Projects.

To ensure the maximum transparency and prevent double-counting, the following describes general guidelines on how allocation of funds is to be done:

- The proceeds of each of the Green Financing instruments can be allocated to one or several eligible green assets or projects within the EnBW Group. EnBW will ensure, through the implementation of a control system, that all proceeds and flows are tracked thoroughly inside EnBW to ensure transparency.
- In case the above stated prerequisite is not fulfilled due to changed conditions, such as changes in ownership or capital structure EnBW is obliged to reallocate the resulting excess proceeds to other eligible assets or projects. These changes would be tracked and included in reporting.
- In case a project or asset where proceeds of green financing have been allocated no longer meets the eligible criteria, EnBW is committed to re-allocate proceeds into alternative eligible projects or assets.

[1] In case of eligible projects owned by subsidiaries having their own external debt, a pro-rata calculation will be conducted to get estimates of external debt associated to that project.

- In case an asset with proceeds from green financing has reached the end of its lifetime and has been fully decommissioned proceeds will be re-allocated to other eligible projects or assets. These changes would be tracked and included in reporting.
- In case a project with allocated proceeds has been stopped or abandoned, EnBW is committed to re-allocate the funds to other eligible projects or assets. These changes would be tracked and included in reporting.

To facilitate the tracking process and to increase transparency and investor comfort, EnBW can select investments fully or largely disbursed when selecting Eligible Green Projects.

## 4) Reporting

Green Finance standards encourage reporting on both the use of Green Financing proceeds and the expected environmental impacts at least on an annual basis with the first reporting published within a year after the launch of the Green Financing instrument.

EnBW seeks to provide data on each Green Financing project on an individual basis but might also choose to aggregate certain classes of projects. EnBW is committed to report annually, and until the maturity date on:

- **Use of the Green Financing proceeds**

  i. List of projects with some individual information.
  ii. Total funds allocation (with breakdown per type of project and breakdown of the allocation of proceeds between new financing and refinancing).
  iii. The amount of unallocated proceeds

- **Benefits in terms of sustainability**

  The company will publish annually a set of reporting indicators to describe the achieved benefits in terms of sustainability. The type of indicators will depend on the type of asset or activity financed by green instrument.

  The reporting will be publicly disclosed on EnBW's website. The company intends to include the reporting within its Annual Integrated Report.

  Furthermore, EnBW will report regarding to qualitative impacts. For example:

  i. mitigation of negative impact (e.g. biodiversity, noise level)
  ii. management of social aspects of projects (e.g. human rights impacts/ working and living conditions)

- **Assurance of compliance of selected projects with the Framework for Green Financing**

  EnBW will annually assess the compliance with this Framework, including a description of material exceptions, controversies, and mitigating action

## 1) ISS-oekom Green Bond KPIs

The ISS-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 EnBW's Green Bond. 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 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 and which can also be used for reporting. Details on the individual criteria and indicators for the categories can be found in Annex 1 "ISS-oekom Green Bond KPIs".

## 2) Evaluation of the Assets Financed by the Green Bond

### Method

ISS-oekom has evaluated whether the assets included in the Green Bond match the categories and criteria listed in the ISS-oekom Green Bond KPIs. The evaluation was carried out using information and documents provided to ISS-oekom on a confidential basis by EnBW (e.g. information on credit guidelines). Due to the size of the asset pool, ISS-oekom proceeded with sampling per project category, given the homogeneity in location of the projects. National legislation and standards were drawn on to complement the information provided by EnBW.

## Findings

### A. Renewable energy

### A.1. Wind Power

**Sustainability Risks and Benefits of the Project Category**

The environmental benefits of wind power generation projects comprise the contribution to climate protection and to the transition towards a low-carbon economy. Further benefits are less environmental degradation and pollution (e.g. through resource extraction, releases of waste streams to water or soil) in comparison to fossil fuel or nuclear power plants. From a social perspective, the transition from fossil fuels to wind power lowers negative human rights impacts of oil, gas and coal production (e.g. land-use conflicts, resettlement). In addition – different from fossil fuels combustion - wind power does not negatively impact air quality.

However, the construction and operation of wind power plants can result in negative environmental impacts (e.g. noise and other negative impacts on biodiversity) and impacts on local communities. Further risks include potentially poor working conditions during construction and maintenance of power plants (especially with respect to worker safety) as well as in the production processes of wind power equipment. As the construction of these plants requires large amounts of raw materials and equipment, life cycle aspects are an important factor when assessing the overall environmental footprint of related projects.
All the wind power projects selected for the Green Bond are located in Germany, a highly regulated and developed country.

- 1. Site selection
  - ✓ All the projects are not located in key biodiversity areas (Ramsar sites, IUCN protected areas I-IV).
  - ✓ 7 projects out of 19, accounting for 58% of the asset pool, underwent a full Environmental Impact Assessment. The remaining 12 projects, accounting for 42% of the asset pool, received an environmental screening according to legislation.
- 2. Community dialogue
  - ✓ 17 onshore wind parks have measures to ensure community dialogue (e.g. community advisory panels and dialogue platforms).
  - For 2 offshore wind parks, community dialogue is not applicable.
- 3. Environmental aspects of construction and operation
  - ✓ 7 projects out of 19, accounting for 58% of the asset pool, have measures in place that ensure high environmental standards during the construction phase (e.g. noise mitigation, minimisation of environmental impact during construction work). No specific information is available for the remaining projects.
  - ✓ 7 projects out of 19, accounting for 58% of the asset pool, have measures to protect habitat and wildlife during operation of the power plant (e.g avifauna monitoring). No specific information is available for the remaining projects.
- 4. Working conditions during construction and maintenance work

- ✓ All the projects provide for high labour and health and safety standards for construction and maintenance work (e.g. ILO core conventions).

**Controversy Assessment**

A controversy assessment on the assets did not reveal any controversies that can be attributed to EnBW.

## A.2. Solar Power (PV)

**Sustainability risks and benefits of the project category**

The environmental benefits of solar power comprise climate protection and the transition towards a low carbon economy. Further benefits are less environmental intervention (e.g. resource extraction, releases of waste streams to water or soil) and less need for cooling water in comparison to fossil fuel or nuclear power plants. From a social perspective, the transition from fossil fuels to solar power lowers negative human rights impacts of oil, gas and coal production (e.g. land-use conflicts, resettlement). In addition – different from fossil fuels combustion – solar power does not impact air quality.

With respect to potential risks, the manufacturing of solar panels in developing countries such as China can have negative social and environmental impacts. As the production of solar panels requires scarce raw materials and as the panels contain hazardous substances, aspects such as recyclability, management of hazardous substances and conversion efficiency are relevant to evaluate the overall environmental performance of related projects. However, in comparison with other renewable energy sources, social and environmental risks related to solar power are deemed to be low.

All solar projects selected for the Green Bond are located in Germany, a highly regulated and developed country.

- 1. Site selection (not applicable for PV roof systems):
  - ✓ All the projects in the asset pool, are not located in key biodiversity areas (Ramsar sites, IUCN protected areas I-IV).
- 2. Supply chain standards
  - O Over 50% of solar modules in the asset pool are manufactured by companies that do not provide for high labour and health and safety standards (e.g. ILO core conventions).
- 3. Environmental aspects of PV plants
  - ✓ More than 50% of projects in the asset pool have solar modules with conversion efficiencies over 15%.
  - ✓ More than 50% of projects in the asset pool have solar module manufacturers that provide for high environmental standards regarding take back & recycling.
  - O No information is available on high standards regarding the reduction or elimination of toxic substances in solar modules (e.g. in line with RoHS requirements or other relevant standards).
- 4. Working conditions during construction and maintenance work
  - ✓ All projects provide for high labour and health and safety standards for construction and maintenance work (e.g. ILO core conventions).

**Controversy Assessment**

A controversy assessment on the assets did not reveal any controversial activities that can be attributed to EnBW.

## B. Clean transportation

### B.1. Charging Station

**Sustainability Risks and Benefits of the Asset Category**

The production of charging stations for electric cars is positive from an environmental point of view as they provide the underlying infrastructure that helps fostering climate protection through lower carbon emissions.

At the same time, when evaluating the production of charging stations, certain risks have to be taken into account. Major risks from an environmental point of view stem from the negligence of environmental impacts throughout the whole life-cycle (i.e. all impacts from cradle to grave). Social risks mainly concern the health and safety of workers at construction sites.

- 1. Environmental aspects of charging stations
  - O No information is available on comprehensive life-cycle-assessments having been carried out.
- 2. Working conditions during construction and maintenance work
  - ✓ The projects provide for high labour and health and safety standards for construction and maintenance work (e.g. ILO core conventions).

**Controversy Assessment**

Due to the nature of the project, no controversy assessment was conducted.

## Part III – Assessment of EnBW's Sustainability Performance

In the ISS-oekom Corporate Rating with a rating scale from A+ (excellent) to D- (poor), EnBW was awarded a score of B- and classified as "Prime". This means that the company performed well in terms of sustainability, both compared against others in the industry and in terms of the industry-specific requirements defined by ISS-oekom. In ISS-oekom's view, the securities issued by the company thus all meet the basic requirements for sustainable investments.

As of 08.10.2018, this rating puts EnBW in place 3 out of 39 companies rated by ISS-oekom in the Utilities/Multi Utilities sector.

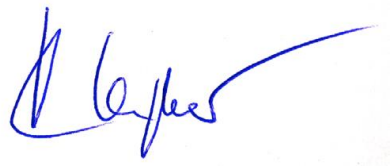
In this sector, ISS-oekom has identified the following issues as the key challenges facing companies in term of sustainability management:

- Facilitation of the energy transition and resource efficiency
- Environmentally safe operation of plants and infrastructure
- Accessibility and reliability of energy and water supply
- Business ethics and government relations
- Worker safety and accident prevention

In all five of these key issues, EnBW achieved a rating that was above the average for the sector. A significant outperformance was achieved in "Accessibility and reliability of energy and water supply"

The company has a significant controversy level, which is in line with the industry.

Details on EnBW's rating can be found in Annex 2 "EnBW rating results".



ISS-oekom

Munich, 08 October 2018

Disclaimer

1. ISS-oekom 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.

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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.

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About ISS-oekom

ISS-oekom 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. ISS-oekom 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. ISS-oekom'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.

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## Annexes

- Annex 1: ISS-oekom Green Bond KPIs
- Annex 2: ISS-oekom Corporate Rating  of EnBW

# Annex 1: ISS-oekom Green Bond KPIs

## ISS-oekom Green Bond KPIs

The ISS-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 EnBW's Green Bond. 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 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 and which can be used for comprehensive reporting.

## Use of Proceeds

A. Wind Power
B. Solar Power (PV)
C. Charging stations

## Sustainability Criteria and Quantitative Indicators for Use of Proceeds

### A. Wind power

1. Site selection

- Percentage of assets that are not located in key biodiversity areas (Ramsar sites, IUCN protected areas I-IV).
- Percentage of assets that underwent environmental impact assessments at the planning stage.

2. Community dialogue

- Percentage of assets that feature community dialogue as an integral part of the planning process (e.g. sound information of communities, community advisory panels and committees, surveys and dialogue platforms, grievance mechanisms and compensation schemes).

3. Environmental aspects of construction and operation

- Percentage of assets that meet high environmental standards during the construction phase (e.g. noise mitigation, minimisation of environmental impact during construction work).
- Percentage of assets that provide for measures to protect habitat and wildlife during operation of the power plant (e.g. measures to protect birds and bats).

4. Working conditions during construction and maintenance work

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

**Controversy Assessment**

Assessment of controversial assets (e.g. due to labour rights violations, adverse biodiversity impacts).

**B. Solar Power (PV)**

1. Site Selection (not applicable for PV roof systems):

- Percentage of assets that are not located in key biodiversity areas (Ramsar sites, IUCN protected areas I-IV).

2. Supply chain standards

- Percentageof assets that provide for high labour and health and safety standards in the supply chain of solar modules (e.g. ILO core conventions).

3. Environmental aspects of solar power plants

- Percentage of assets that feature a conversion efficiency of at least 15%.
- Percentage of assets that provide for high environmental standards regarding take-back and recycling of solar modules at end-of-life stage (e.g. in line with WEEE requirements).
- Percentage of assets that provide for high standards regarding the reduction or elimination of toxic substances within solar panels (e.g. in line with RoHS requirements or other relevant standards).

4. Working conditions during construction and maintenance work

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

**Controversy Assessment**

Assessment of controversial assets (e.g. due to labour rights violations, adverse biodiversity impacts).

**C. Charging stations**

1. Environmental aspects of charging stations

- Percentage of assets for which comprehensive life-cycle-assessments have been conducted.

2. Working conditions during construction and maintenance work

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

**Controversy Assessment**

Assessment of controversial assets (e.g. due to labour rights violations, fatalities etc.)

ISS-oekom

# ISS-oekom Corporate Rating

# EnBW Energie Baden-Württemberg AG

| | | | |
|---|---|---|---|
| **Industry** | **Utilities/Multi Utilities** | **Status** | **Prime** |
| **Country** | **Germany** | **Rating** | **B-** |
| **ISIN** | **DE0005220008** | **Prime Threshold** | **B-** |

Corporate Responsibility Prime
rated by ISS-oekom

| D- | D | D+ | C- | C | C+ | B- | B | B+ | A- | A | A+ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **poor** | | | **medium** | | | **good** | | | **excellent** | |

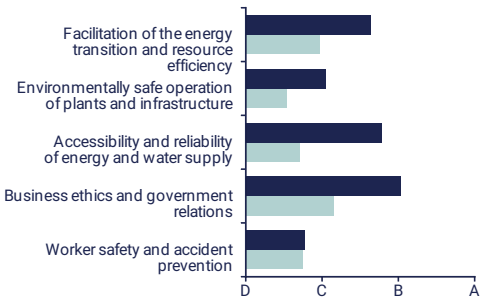
The assessment of a company's sustainability performance is based on approximately 100 criteria, selected specifically for each industry. A company's failure to disclose, or lack of transparency, regarding these matters will impact a company's rating negatively.

## Industry Leaders

| **Company name** (in alphabetical order) | **Country** | **Grade** |
|---|---|---|
| EnBW Energie Baden-Württemberg AG | DE | B- |
| MVV Energie AG | DE | B- |
| Veolia Environnement S.A. | FR | B |

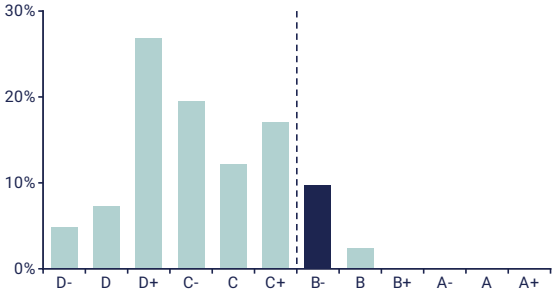
Legend: Industry Company --- Prime

## Key Issue Performance

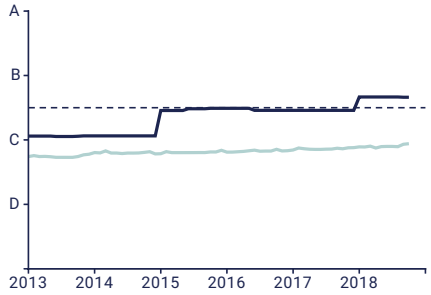



## Distribution of Ratings

41 companies in the industry




## Rating History




## Controversy Monitor

| **Company** | |
|---|---|
| Controversy Score | -12 |
| Controversy Level | Significant |

| Minor | Moderate | Significant | Severe |
|---|---|---|---|

| **Industry** | |
|---|---|
| Maximum Controversy Score | -16 |
| Controversy Risk | Severe |

| Minor | Moderate | Significant | Severe |
|---|---|---|---|

# EnBW Energie Baden-Württemberg AG

## Methodology - Overview

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

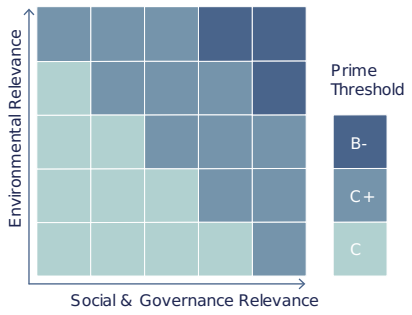
The controversy score is a unit of measurement for the number and severity of a company's current controversies. All controversial business areas and business practices receive a negative score, which can vary depending on the significance, number and severity of the controversies. Both the company's 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 ISS-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 ISS-oekom Corporate Rating, the Social Rating and the Environmental Rating, are weighted and the sector-specific minimum requirements for the ISS-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 ISS-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 ISS-oekom for a specific industry (absolute best-in-class approach) in the ISS-oekom Corporate Rating. Prime companies rank among the sustainability leaders in that industry.