

GREEN BONDS: MEASURING IMPACT

NAME

KfW

ORGANISATION TYPE

Development Bank

HEADQUARTERS

Germany

KfW is one of the leading promotional banks in the world – our business activities and social responsibility go hand in hand. Our financing activities support sustainable development in order to improve economic, environmental and social living conditions locally as well as on a global level. We also take on responsibility as an institutional investor, have signed the PRI in 2006 and implemented a sustainable investment approach. By issuing and investing in green bonds we aim to develop this new market segment in order to increase the capital market activities with regard to environmental and climate protection.

The PRI's Fixed Income Case Study series highlights examples of interesting and innovative approaches to responsible investment. Written by fixed income practitioners from around the world, the case studies cover topics such as integrating ESG, negative and positive screening, thematic investment and engagement.

Sharing these examples will enable investors to collectively build a concept of emerging good practice. The PRI aims to publish a set of these short pieces every quarter. If you would like to learn more or contribute your own case study please [contact us](#).

WHY GREEN BONDS?

Investing in green bonds allows fixed income investors to support efforts to mitigate climate change while maintaining returns. We have committed to support a transition to a low carbon economy by financing projects in the field of environmental and climate protection. We also see increasing investor awareness of more sustainable behaviour and are looking to meet increasing demand for sustainable investment products.

HOW DO KFW GREEN BONDS WORK?

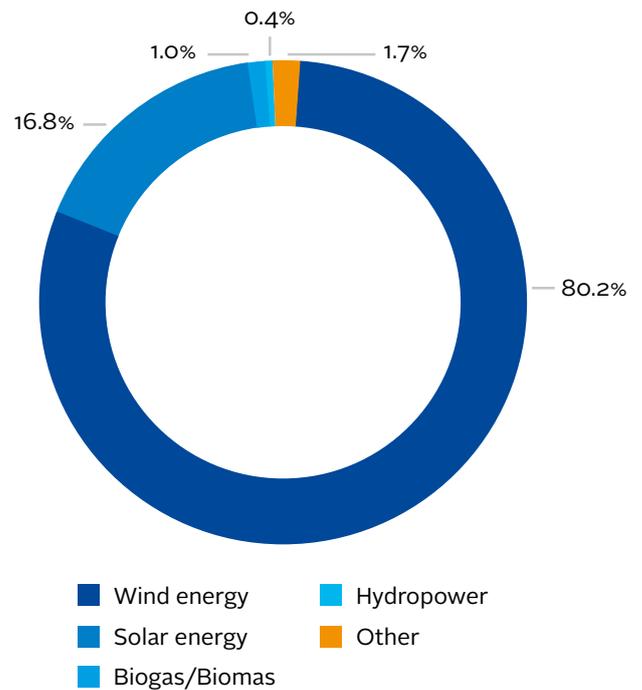
After funds from the sale of green bonds are received, an amount equal to the net proceeds is allocated to an internal account from which disbursements are made under our renewable energy programme. Requests for disbursements since the start of the calendar year are considered, and we expect the bond proceeds to be fully allocated by the end of each calendar year.

Our green bond proceeds are allocated to the following types of projects:

- New on-shore wind power plants and repowering existing plants (replacing old turbines with new ones)
- Photovoltaic equipment and projects combining electricity generation with energy storage and/or load management
- Biogas equipment
- Hydro-electric power stations
- Other, e.g. geothermal energy

(Source: KfW)

Requests for disbursements under the KfW loan program
Renewable Energies - Standard by usage 1.1 - 31.12.2014



HOW DO INVESTORS KNOW WHAT IS GREEN?

As well as our own research (we provide substantial information about our green bonds and the corresponding loan programme on [our website](#)), investors can rely on third-party analysis from the independent, not-for-profit, research institute CICERO ([Center for International Climate and Environmental Research – Oslo](#)). CICERO said that “the KfW Green Bond framework takes a focused approach to climate change by concentrating on renewable energy”, and that “robust procedures [...] avoid engagement in project finance of renewable energy that interfere with sustainability”. Their full evaluation is also available on [our website](#).

The final impact of an investment is a major concern for most green bond investors. Even before issuing green bonds, KfW and the German government intended to measure the impact of the promotional loan programme: the government’s long-term energy supply strategy includes at least 60% of energy consumption being covered by renewable energy by 2050 and KfW’s renewable energy programme is an important part of reaching the target.

Therefore, the impact of our renewable energy programme has been comprehensively evaluated and certified for years by the not-for-profit Centre for Solar Energy and Hydrogen Research ([ZSW](#)). Based on capacity data of renewable energy projects refinanced by KfW and performance data of reference units from ZSW, the amount of energy produced in each calendar year is calculated. This data will be mapped with the general energy production in Germany and the resulting greenhouse gas emissions (disclosed by the German Federal Environmental Agency) to calculate the amount of fossil fuel energy production substituted by renewables.

To review our activities in 2012, ZSW investigated the resulting reductions in emissions of greenhouse gases and air pollutants, external costs, fossil fuel consumption and associated fossil fuel imports, as well as the impact on employment. The study showed that 51% of the investments made in renewable energy plant construction in Germany in 2012 were supported by KfW programmes, representing an investment volume of €10.0 billion.

The use of proceeds from our green bonds will be regularly monitored, and reported on a quarterly basis. The reporting includes further details on the requests for disbursements under our loan programme for each quarter, reported both by usage and by region. A final impact report will be published once the impact of the renewable energy programme has been certified by ZSW for each year.

CASE STUDY: THE ENVIRONMENTAL IMPACT OF GREEN BONDS

We measure the environmental impact of disbursements of our green bonds per €1 million invested. For our current green bonds this is estimated at:

- Greenhouse gas emissions reduction of 800 tons per year
- Nine jobs for manufacturing and constructing the plants created or secured for one year
- €68,000 less energy imports or fossil fuels burned per year in Germany
- Therefore, for our €1.5 billion 2014-2019 green bond, we estimate the impact of its €1.49 billion net proceeds (now fully disbursed) to be:
- Prevention of approximately 1.2 million tons of GHG emissions per year
- Creation or retention of 13,000 jobs for one year
- Reduction in energy imports to Germany and/or costs associated with fossil fuels of €101 million per year

There are currently no standards on environmental impact reporting for green bonds, making it difficult for investors to determine which green bonds are likely to make the largest contribution towards carbon reduction. Our estimates are based on programme impacts 2007-2012 in Germany, as certified by ZSW and internal calculations.

Actual impact might be different, especially for projects outside of Germany. Once ZSW has completed its evaluation of our renewable energy program for 2014 we will separately announce the actual environmental and social impacts of our green bond issuances. The new report for 2013 and 2014 is scheduled to be published by the end of 2015.