Leading WWF Climate Savers companies incorporated in the carbon impact assessment

Alpro
Arjowiggins Graphic
Catalyst
The Coca-Cola Company
Collins Companies
Elopak
Eneco
Johnson & Johnson
Fairmont
HP
IBM
Diversey
KPN
Lafarge
Polaroid*
National Geographic
Natura
Nike
Nokia*
Nokia Siemens Networks
Novo Nordisk
Resolute Forest Products
Sofidel
Sprint
Tetra Pak
Volvo
Sagawa
Sony
Spitsbergen*
Supervalu
Xanterra

*Former member of WWF Climate Savers

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The carbon impact of WWF's Climate Savers Programme

WWF International has commissioned Ecofys to analyse the impact of WWF's Climate Savers Programme. The results are presented below:

The carbon impact of WWF's Climate Savers Programme

> WWF Climate Savers companies could save 350 Mtonne CO_2-eq. including 69 Mtonne CO_2-eq. within scope 3* in the period 1999-2020.

> WWF Climate Savers companies have saved 100 Mtonne CO_2-eq. including 27 Mtonne CO_2-eq. within scope 3* in the period 1999-2011.

> WWF Climate Savers companies have saved 27 Mtonne CO_2-eq. including 8 Mtonne CO_2-eq. within scope 3* in 2011.

> If all industry peers** in the same business sectors followed the leadership of WWF Climate Savers companies, 500 – 1000 Mtonne CO_2-eq. could be saved in the year 2020. This is comparable to 4 – 9% of the total 2020 'emission gap' as presented in the recent UNEP report 'Bridging the Emissions Gap'.

* Scope 3 emissions category "Use of sold products" of 5 WWF Climate Savers companies have been included
** In the world's top 2000 largest companies based on turnover (source: Ecofys large emitters database)

Ecofys and WWF Climate Savers

Ecofys has been associated with the WWF Climate Savers Programme for several years. Ecofys was involved in developing the Climate Savers target-setting methodology and the manual used by third-party experts to monitor and verify compliance with Climate Savers agreements. Ecofys has provided support to more than 10 companies which have joined the programme. Additionally, Ecofys has verified the reporting of greenhouse gas reductions for several of Climate Savers companies. The work of Ecofys helps maintain transparency and ensure a high level of accountability, which are the cornerstones of the programme.

CLIMATE SAVERS
碳减排先锋
DEFENSORES DO CLIMA
クライメート・セイバーズ
A WWF GLOBAL INITIATIVE WITH BUSINESS

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Ecofys – Experts in Energy

Established in 1984 with the vision of achieving "sustainable energy for everyone", Ecofys has become the leading expert in renewable energy, energy & carbon efficiency, energy systems & markets as well as energy & climate policies. The unique synergy between those areas of expertise is the key to its success. Ecofys creates smart, effective, practical and sustainable solutions for and with public and corporate clients all over the world. With offices in the Netherlands, Germany, the United Kingdom, China and the US, Ecofys employs over 250 experts dedicated to solving energy and climate challenges.

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THE CARBON IMPACT OF WWF'S CLIMATE SAVERS PROGRAMME

Presented are the results of a review by Ecofys of the carbon impact of WWF's Climate Savers Programme, commissioned by WWF International. WWF Climate Savers is a global programme that positions companies as leaders of the low-carbon economy.
Since its launch in 1999 over 30 companies have committed themselves to become the best in class in reducing greenhouse gas emissions. From the beginning of the programme up till 2011, their efforts have resulted in cumulative emissions savings of over 100 Mtonne CO_2-eq. Were all industry peers in the same business sectors to follow the leadership of Climate Savers, emissions amounting to 500 – 1000 Mtonne CO_2-eq could be reduced in the year 2020. This represents 4 – 9% of the total 2020 'emission gap' described in the UNEP report 'Bridging the Emissions Gap[1]', published in 2011.

WWF's Climate Savers Programme

WWF Climate Savers[2] is a global leadership platform which positions corporations at the forefront of the low-carbon economy. Since the programme's launch in 1999, over 30 leading companies have entered into Climate Savers agreements with WWF.

Member companies commit to becoming best in class in reducing greenhouse gas emissions. Reduction targets are established for scope 1, 2 and 3 emissions in line with the Greenhouse Gas Protocol. At the launch of WWF Climate Savers the original focus was on scope 1 and 2 emissions but as the programme has evolved, scope 3 target setting and reporting has become more central to the programme's commitments.

1. http://www.unep.org/pdf/UNEP_bridging_gap.pdf
2. www.panda.org/climatesavers

WWF's Climate Savers Programme

WWF's Climate Savers Programme is robust and challenging as member companies commit to sector-leading targets for greenhouse gas emission reduction. These targets cover their own emissions and those of other companies, suppliers and partners. The focus of the programme is to implement solutions for a clean, low-carbon economy. Climate Savers companies recognise that cutting carbon emissions and spurring economic growth can go hand in hand – their daily experience proves it as they achieve emissions reductions in practical and profitable ways.

The programme provides valuable guidance to companies seeking to substantially reduce their carbon footprints while growing their business and enhancing their brand equity. Member companies are better able to embed carbon-related risk and opportunity into their long-term business strategies and are successfully transforming themselves into low-carbon pioneers who are changing the business models in their sectors.

Method to calculate the carbon impact

To determine the carbon impact of WWF's Climate Savers Programme Ecofys developed a methodology to calculate the annual emission reductions by WWF Climate Savers companies. For all companies the two parameters below are used, the difference between the two determines the emissions savings achieved:

1. Actual emissions over the Climate Savers commitment period
2. Business As Usual (BAU) emissions over the Climate Savers commitment period

The annual actual emissions data for the companies is extracted from the following sources:

1. Carbon Disclosure Project (CDP) reporting of WWF Climate Savers companies
2. Annual corporate reports of WWF Climate Savers companies
3. Prior Climate Savers third party (verification) work of WWF Climate Savers companies
4. Data from WWF Climate Savers companies

If for certain years Ecofys was unable to collect the actual emissions data interpolation was used. For companies whose Climate Savers commitments run beyond 2011 the emissions for the post-2011 years were calculated using linear extrapolation towards their targets. All companies are assumed to hit their targets at the end of the commitment period.

The BAU scenario for each company was constructed using one of the following four methods. The methods are ranked in order of robustness (method one is preferred over method two etc.); depending on data availability one of the methods was selected:

1. BAU scenario from the original Climate Savers agreement

In the preparation of a Climate Savers agreement a study is executed to determine the potential for emission reduction for a specific company. If this study is available, the BAU scenario is constructed based on the scenario that was developed under the original Climate Savers agreement.

2. BAU scenario based on specific emissions

Some companies report annual specific emissions (g CO_2 /kg product) of their products. By assuming that the energy efficiency of a company will improve annually, a BAU emissions scenario is set up using the following method:

$BE_x = (1-E)^y * (AE_x / SE_x) * SE_0$

BE_x = BAU emissions in year X
E = Autonomous annual energy efficiency improvement
Y = Number of years since start of commitment period
AE_x = Actual emissions in year X
SE_x = Specific emissions in year X
SE_0 = Specific emission in start year commitment period

For energy intensive sector companies an autonomous energy efficiency increase per annum of 0.5% has been used (due to the thermodynamic minimum to produce products) and for non energy-intensive sector companies an energy efficiency increase per annum of 1%[3] has been used.

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Definitions and abbreviations:

Emission savings: reduction of emitted carbon dioxide equivalent
BAU: a scenario used for projections of future emissions assuming no action, or no new action, is taken to mitigate emissions. BAU scenarios include autonomous improvement of energy efficiency.
MTonne: Mega tonne (10^6 tonne)
GTonne: Giga tonne (10^9 tonne)
GHG: Greenhouse Gas

CO_2-eq.: carbon dioxide equivalent, a simple way to place emissions of various climate change agents on a common footing to account for their effect on climate. It describes, for a given mixture and amount of greenhouse gas, the amount of carbon dioxide that would have the same global warming ability, when measured over a specified timescale. For the purpose of this report, greenhouse gas emissions (unless otherwise specified) are the sum of the basket of greenhouse gases listed in Annex A of the Kyoto Protocol, expressed as carbon dioxide equivalent.
Scope 1: All direct GHG emissions.
Scope 2: Indirect GHG emissions from consumption of purchased electricity, heat or steam.
Scope 3: Other indirect emissions, in this impact assessment mainly use-phase emissions from sold products.

3. BAU scenario based on turnover increase

Companies report their turnover result in their annual reports. By assuming that an increase in turnover leads to an increase in emissions, a BAU emissions scenario is set up using the following method:

$BE_x = (1-E)^y * (1 / I)^y * (AE_0 / T_0) * T_x$

BE_x = BAU emissions in year X
E = Autonomous annual energy efficiency improvement
Y = Number of years since start of commitment period
I = Inflation rate
AE_0 = Actual emissions in start year commitment period
T_0 = Turnover in start year commitment period
T_x = Turnover in year X

For energy-intensive sector companies an autonomous energy efficiency increase per annum of 0.5% has been used (due to the thermodynamic minimum to produce products) and for non energy-intensive sector companies an energy efficiency increase per annum of 1%[3] has been used. Ecofys used an inflation rate of 2% for 1999-2020. This is an expert judgement of Ecofys.

4. BAU scenario based on baseline emission

If insufficient data is available to use the methods described above, the emissions from the start year/reference year of the agreement with WWF are used. In these BAU scenarios, emissions are assumed to stay the same for all subsequent years over the commitment period.

To calculate the carbon impact if all industry peers in the same business sector follow the leadership of the WWF Climate Savers companies, Ecofys used the following methodology:

Step 1: Companies in sectors

All WWF Climate Savers companies are clustered in industrial sectors (NACE classification). 16 sectors have been identified in which WWF Climate Savers companies are active. Only "manufacturing" subsectors have been considered, we did not extrapolate the Climate Savers commitments to the entire manufacturing sector. This is in line with the principle of careful estimations.

Step 2: Sector emission determination

The carbon emissions per business sector are determined using the emissions data of the world's top 2000 largest companies on turnover (source: Ecofys large emitters database). The emissions of approximately 850 companies in the 16 identified sectors were incorporated.

Step 3: Sector BAU scenario

The UNEP "Bridging the Emission Gap" BAU scenario uses 1.72% annual emissions growth. This percentage is used to create the BAU scenario for all Climate Savers sectors up to 2020.

Step 4: Average annual emission reduction for all Climate Savers sectors

The average annual emission reduction for the Climate Savers companies per sector is calculated.
An emissions savings scenario for all Climate Savers sectors based on average annual emission reduction is set up.

Step 5: Calculate emissions savings

The potential of Climate Savers as the difference of the BAU scenario and the emissions savings scenario per sector is calculated.
The final result is calculated as the sum of the potentials that Climate Savers can have in all Climate Savers sectors. Ecofys has worked with a bandwidth result because the utilities sector actions result in a lower emission factor for electricity and green energy production. This can lead to double counting. The lower end of the bandwidth entirely excludes the utilities sector.

Step 6: Relate emissions savings to UNEP's emissions gap

The result of step 5 is calculated as a percentage of the UNEP emissions gap from Bridging the Emission GAP: the GAP is defined as the difference between Unconditional pledges, lenient rules and Median estimate of level consistent with 2°C level (p. 12 UNEP Bridging the Emissions GAP). According to this definition the emissions gap amounts to 11 GTonnes.

General notes on the method

If within WWF Climate Savers agreements carbon offsets and/or green electricity certificates have been included, Ecofys has included these reductions within the results.
Ecofys has worked following the principle of careful estimations and has used lower estimations when choices were necessary.

3. Kornelis Blok (2005), "Improving Energy Efficiency by Five Percent and More per Year?", Journal of Industrial Ecology