

think • go climate conscious



ANNUAL REPORT 2013



Biomass plant, India: Delivery of crop residues from the surrounding countryside, farmers waiting for their payment

FINANCIAL REPORT 2013

Full transparency

Use of atmosfair donations and income for the year 2013

CLIMATE PROTECTION

Efficient wood-burning stoves

60,000 households save wood and money with efficient stoves

AIR TRAFFIC

A difficult trajectory for the climate

Airlines' CO₂ emissions are rising further

Fastidious standards for CO₂ offsetting

Approach



If I fly – I fly atmosfair.

Climate protection projects



CO₂ calculation



Organisation and finances



Standards

- Compensation is only the second-best option; direct CO₂ avoidance is more effective
- Climate protection is more important than maximising donations
- Essential component: raising awareness leads to direct CO₂ avoidance in the longer term

- Enduring CO₂ reduction
- Contribution to North-South technology transfer
- Direct help for the local population
- Contribution to local environmental protection

- Complete
- Scientifically based
- Documented
- Reviewed

- Non-profit
- Independent
- Efficient
- Transparent
- Responsible

atmosfair was founded in 2004 in a research project of the German Federal Ministry of the Environment. In this project, fastidious standards for voluntary CO₂ compensation were developed.



The atmosfair standards serve as a benchmark for the CO₂ offsetting market that has since come into being. atmosfair is the many time test winner of international comparative studies.

Implementation

- Cooperation with business travel specialists for travel optimisation, including videoconferencing
- No cooperation with partners that do not comply with atmosfair standards (e.g., in CO₂ calculation), even if atmosfair would have earned significant revenues
- No compensation of activities for which there are better and simpler solutions to avoid CO₂ (e.g., private car use or power consumption)
- Presentation of the actual climate burden (see CO₂ calculation), independent of industry

- All projects must fulfil two standards: CDM (UN) and the "Gold Standard" (environmental NGOs), up to 10% of the savings follow the Gold Standard Microscale
- Calculation and monitoring of the CO₂ reduction according to UN standards
- Qualified and UN-approved auditors (e.g., TÜV) who must accept the liability for errors
- Documentation of all auditing reports via the website of the UN Climate Change Secretariat
- No afforestation projects, only renewable energy and energy efficiency
- Implementation together with experienced partners in developing countries



- Inclusion of all climate impacts of air travel (e.g., contrails, ozone formation, etc.) in accordance with the latest findings of the scientific community (IPCC), resulting in a significantly higher climate impact than with CO₂ alone
- Own emissions calculator tested by the German Federal Environment Agency
- All data sources and methods documented on the atmosfair website



- Low administrative costs: over 90% of revenues from donations are invested in the climate protection projects in developing countries for planning, setup, and operation
- Donations are tax-deductible and monitored by the tax authorities
- Exacting legal form "non-profit company with limited liability" with liability and publication in the German Commercial Register
- Advisory Board composed of high-profile mentors and environmental experts from the Federal Ministry for the Environment, NGOs, and the scientific community, among others

atmosfair wind project in Nicaragua



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IMPRINT

Publisher: atmosfair gGmbH,
Dr. Dietrich Brockhagen

Editor: atmosfair: Robert Müller
Ahnen&Enkel: Marcus Franken, Kai Weller

Title: Biomass plant Tonk in India,
atmosfair gGmbH

Design: orthografie – Büro für Gestaltung,
Ortha Dittmann

Circulation: aprox. 500

Printing: Oktoberdruck AG



EMAS-certified,
100% recycled paper,
Blue Angel-certified

All images without a reference are from atmosfair gGmbH



Dr. Dietrich Brockhagen, Managing Director of atmosfair

Dear readers,

Largely unnoticed by the public, the International Civil Aviation Organization (ICAO) met in September 2013 in Montreal in order to decide about future measures of the over 190 member states on the issue of climate protection in air traffic. Little came out of this, as was to be feared by the standstill since the Kyoto Climate Conference of 1997, where the ICAO was appointed as the responsible regulatory authority. Nevertheless, 2020 is now the target date, after which the net air traffic CO₂ emissions worldwide should no longer increase, which, with the further expected growth, would result in emissions trading. This is admittedly less than what is required to reach the 2° climate goal, but at least it is a first step with substance after an almost two-decade standstill.

Whether the international climate diplomacy really will have a perceptible impact for the residents of Dar es Salaam in Tanzania or Yogyakarta in Indonesia? In 2013, atmosfair began to bring together climate protection and noticeable relief in daily life there. With your donations from CO₂ offsetting, we are financing projects there for waste separation, recycling, and composting that protect the climate and bring more cleanliness and hygiene into the city districts. Besides this, new permanent jobs are being created in the promoted local recycling centres, and for the local farmers, the compost from organic waste is a coveted fertiliser and soil conditioner – all about this on page 25.

In Germany, two out of three vacationers still purchase their trips in a travel agency and not on the internet – compared with other countries, that is a uniquely high value. The agencies can distinguish themselves in the process, also in the matter of environmental impact. For this reason, atmosfair began to develop training courses for travel agency employees together with the three large travel agency collaborations BEST-

RMG, AER, and Lufthansa CityCenter. The Federal Environment Agency (Umweltbundesamt, UBA) supported the project, and atmosfair introduced it at the ITB 2014. The online training courses and materials are now available to travel consultants for the sales counter. A quality seal for environmentally friendly travel was also created.

“In its Annual Report, atmosfair describes in detail what happens with the money it collects.” For this, Stiftung Warentest lavished great praise at the end of 2013. The consumer organisation tested 46 German environment and animal protection organisations for whether they work economically, transparently, and reliably. atmosfair was counted among the four test winners in the top group with six organisations. Thank you for the encouragement. With the Annual Report 2013, we would like to fulfil these requirements again.

Enjoy the journey of discovery through our projects!

Dr. Dietrich Brockhagen

Managing Director, atmosfair gGmbH



Stiftung Warentest, December 2013: atmosfair at the very top, see p. 42



Air traffic 2013

Climate protection must wait until 2020

After intense international resistance, the EU has once again tabled climate protection in aviation. However, the CO₂ emissions will not sink with better engines and lighter aircrafts alone.

Despite having previously announced that Europe would go it alone, the European Commissioner for Climate Action Connie Hedegaard retracted the inclusion of international flights in the European Emissions Trading and postponed it until 2016. With this, the EU is latching on to the timetable of the International Civil Aviation Organization (ICAO) and has gone from trendsetter to follower – the opponents such as the USA, China, and India were too big, and the European states were themselves too divided.

One hundred ninety-one states belong to the ICAO. The ICAO not only defines technical standards (for instance, for aircraft noise), but also has the task of reducing the CO₂ emissions of the industry according to the Kyoto Protocol. The ICAO only met in 2013. In 2016, however, the goal of stopping the further increase of CO₂ emissions in aviation as of 2020 should be decided in order to reduce these to half of the level of 2005 by 2050. Until 2016, the ICAO wants to work on possible measures. Only after this does it want to adopt a climate protection concept that will affect international aviation as a whole.

In Europe, the emissions trading continues to only apply for intra-European flights, and in accordance with the EU directive in effect, the airlines receive emissions rights in the amount 85 percent of their earlier emissions free of cost. Depending on whether an airline has suddenly shrunk or grown, that's already enough to cover their current emissions, or they have to buy CO₂ certificates later.

EU Emissions Trading System without power
In Europe, the price of the certificates is currently at the low level of 5 euros per tonne of CO₂ and thus offers practically no incentive for airlines to reduce their emissions. Experts expect that companies will only really develop an increased interest in reducing CO₂ emissions as of about 20 euros per tonne of

CO₂, whereas airlines only at considerably higher prices. The low prices are the result of generous certificate dispensations by the authorities in the past, but also of the financial crisis of 2009 as well as, paradoxically, the rapid expansion of renewable energies in Europe – an example of how different political instruments can interfere with each other. Reform attempts for emissions trading fell through during the course of 2013; an artificial shortage of certificates created by postponing them for later years (so-called backloading) also did not do anything.

Nevertheless, emissions trading is the only tool with which the states want to enforce climate protection in aviation. At the beginning of 2014, the EU Parliament considered the pro-

The ICAO has adjourned until 2016. Only in 2020 will a climate protection concept be decided for aviation.

posal to subject at least the part of the flight that goes over EU territory to emissions trading. With a flight, say, from South America to Rome, the CO₂ emissions should count from the moment that the aircraft enters the airspace over Spain and flies across the Mediterranean to Italy.

The thing about this proposal was that non-EU airlines would have had to give up CO₂ certificates for the first time, but then it was rejected both by the Council of the European Union and the EU Parliament. Thus, the existing unilateral regulation remains in effect.



Quelle: forbyll

Climate protection in a growth trap

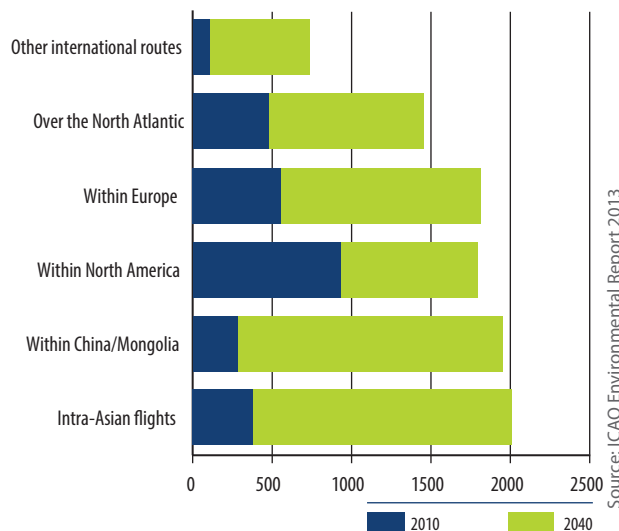
Because air traffic continues to grow rapidly, it will continue to have an ever larger impact on the environment. The ICAO expects that air traffic will more than double between 2010 and 2030. According to the ICAO, the annual passenger-kilometres will grow from 5 billion to 13 billion and reach almost 20 billion kilometres by 2040. This corresponds to an increase of almost 5 percent annually.

The number of passenger aircrafts will almost triple from 20,000 today to 57,000. Flights within Asia and domestic flights in China have the highest growth rates. However, the intra-American and intra-European flights will double. Freight traffic, which is growing at a similarly fast rate, is not included in these numbers.

The enormous expected growth rates also show that the emissions from air traffic cannot be addressed with better engines and lighter aircrafts alone. The annual improvement in kerosene consumption per passenger-kilometre aspired to is 2 percent. That does not even come to half of the increase, and until now it's unclear whether this goal will be achieved at all. So far, the gain in efficiency is only just under 1.5 percent per year.

True costs are urgently needed

The developments at the EU and international levels show that politics are unable to effectively enforce climate protection in aviation. For atmosfair, it is clear that the flight passengers who are the cause should pay for climate damage and CO₂ reduction costs and not the over 90 percent of the world population from the poor countries in the world. They do not fly anyway, but nonetheless must already suffer from diseases, the rising sea level, or crop failure due to climate change. It is therefore a necessary and overdue step to charge the flight passengers.



Development of the flight kilometres from 2010 to 2040 (without including freight) by region

Source: ICAO Environmental Report 2013

atmosfair implements this on a voluntary basis with the highest standards and thereby achieves additional benefits for the necessary global transformation of energy systems. Politics cannot replace this, but should set standards.

How atmosfair works

From your climate protection contribution to the project

Biogas plant in Kenya

In the business year 2013, atmosfair collected almost four million euros in climate protection contributions. With this, we are supporting climate protection projects in the whole world together with local partners.

Already today, the people in developing countries are the most affected by climate change, and it is often relatively inexpensive to save greenhouse gases. Our projects must always provide solutions for the urgent problems of local people. The fact that efficient wood-burning stoves, for example, use up to 80 percent less firewood, they save the forests and thereby greenhouse gases. However, their great popularity is due to the fact that they help households to save money that they previously needed to spend on firewood.

We attach great importance to the auditing of our projects in order to account for CO₂ savings exactly and reliably. atmosfair is the only organisation of its kind that basically certifies its projects twice: following the Clean Development Mechanism (CDM), the UN standard for climate protection projects, and following the Gold Standard, which particularly focuses on environmental and social criteria. At most 10 percent of CO₂ savings can be achieved following the Gold Standard Microscale, a simple and less expensive process especially designed for small projects.

Each time that atmosfair wishes to officially credit itself with CO₂ savings, an auditor examines the project in question – normally once per year and project. At the beginning of 2014, this was the case in Lesotho, among other places. Together with a UN-accredited TÜV auditor, a local expert, and the project partner Solar Lights, atmosfair employee Xaver Kitzinger and Allan Mubiru visited randomly selected users of the Save80 stoves. For Allan, atmosfair Country Manager in Rwanda, this was his first verification. He will use this experience again this year for a verification in Rwanda. ➤

ATMOSFAIR EMPLOYEE XAVER KITZINGER:



"Finding the households was once again a great challenge this time. It was helpful that we recorded the GPS coordinates of all the households to be visited for the

first time. An exact map with the locations of the stoves facilitated the route planning. This was important because the auditor was only on site for three days, and the households had to be visited in this time, in any weather. Questions such as 'do we need to cross a river' were just as important in the planning as 'are we visiting a farmer that is likely to be home at lunchtime or a nurse that can best be reached in the late afternoon?'

From this puzzle, a route was developed, but nevertheless we had to improvise a lot along the way. In the end, we succeeded in visiting a total of 74 pre-selected households, of which all but one were very satisfied with the stove. The auditor gave us the go-ahead. We will submit an application to certify almost 20,000 tonnes of CO₂ savings with the UN."

Typical progression of a CDM Gold Standard project

Your climate protection contributions are at the start of every atmosfair project. At the end is the corresponding amount of CO₂ emissions. In between, there is a rigorous certification process because we let our projects be strictly certified: following the UN standard Clean Development Mechanism (CDM) as well as the Gold Standard, which was developed by environmental NGOs. This graphic shows what that means concretely.

PHASE I: Planning (3 months)



- | | | | |
|---|--|--|--|
| 1 | | | atmosfair tests the project idea according to demanding criteria |
| 2 | | | atmosfair concludes a project agreement with the project partner |
| 3 | | | atmosfair produces a project plan (PDD) and consults with the local population as well as other parties concerned (stakeholder consultation) |

PHASE II: Approval (9 months)



- | | | | |
|----|--|--|--|
| 4 | | | The host country approves the project |
| 5 | | | The auditor tests the project plan and provides comments (validation) |
| 6 | | | atmosfair releases the agreed funds; the project partner begins to implement the project |
| 7 | | | atmosfair integrates the auditor's comments and those of the other parties concerned into the project plan |
| 8 | | | The auditor produces a validation report on the project |
| 9 | | | atmosfair submits an application for approval to the UN |
| 10 | | | The UN tests the application and approves the project (UN registration) |
| 11 | | | atmosfair submits an application for approval to the Gold Standard Foundation |
| 12 | | | The Gold Standard tests and approves the project (Gold Standard registration) |



PHASE III: Operation



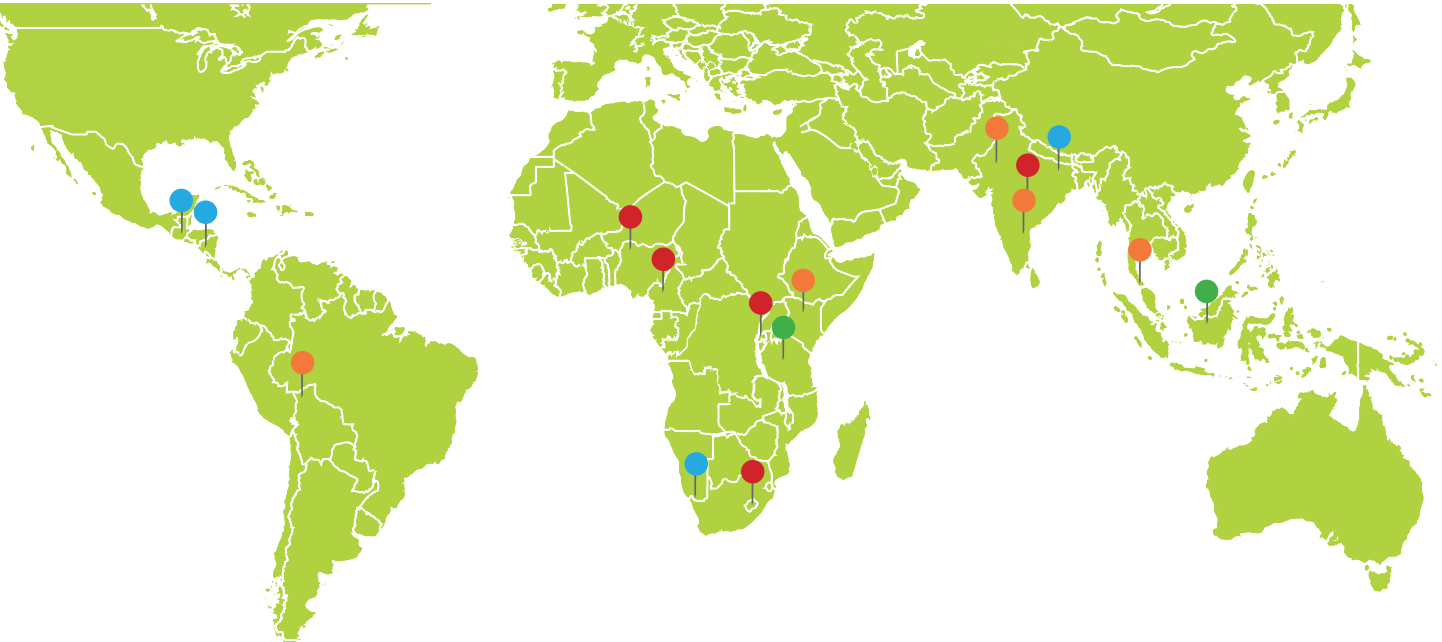
- | | | | |
|-----|--|--|---|
| 13 | | | The project partner fully implements the project together with atmosfair; atmosfair documents and monitors the emissions savings produced |
| ... | | | The auditor checks the actual emissions savings and produces a verification report on this (verification) |
| 24 | | | The UN checks this report and issues CO ₂ certificates to atmosfair |
| ... | | | atmosfair decommissions these CO ₂ certificates permanently with the German Emissions Trading Authority (DEHST) |



Work performed by atmosfair/project partner



Work performed by auditor



Projects at a glance

Our projects



Efficient stoves



atmosfair subsidises energy-efficient stoves in Africa and Asia. The small stoves are popular because people immediately realise that they require less firewood and save money as a result.



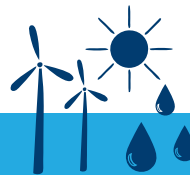
Biogas and biomass



atmosfair partners build small biogas systems that convert cow or pig manure into cooking gas and valuable fertiliser. Besides this, atmosfair supports the production of electricity from crop residue and composting organic waste.



Wind, water, sun



Wind, water, and sun are the pillars of renewable energy supply. atmosfair supports projects that not only help the environment, but also help the local economy.



Environmental education



Climate protection begins in our own backyard. For this reason, atmosfair supports educational project at German schools as an investment in the future. atmosfair does not credit itself with the CO₂ savings.

Obligations fulfilled

Since 2005, atmosfair operates and finances climate protection projects worldwide with voluntary climate protection contributions. First, we conclude a grant agreement with the project operator. In this, how much CO₂ the project should save each year and how it will be supported by atmosfair is laid out in contractually binding form. From the time that the

donation is made to the actual CO₂ savings, up to two years can pass. This is time that we need for the project planning and development. Approved UN assessors confirm the CO₂ savings accounted for. To this day, atmosfair has always fulfilled its obligations and produced the agreed-upon CO₂ savings for all donations received.

Climate gas reduction, achieved or contractually bound^{1,2}

1.0=1,000 tonnes of CO₂

| Efficient stoves | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | Total until 2015 | Planned for 2016-2020 ⁴ |
|---|------|------|------|------|------|------|------|------|------|------|------------------|------------------------------------|
| Nigeria: Efficient wood-burning stoves | | | | 0,4 | 4,7 | 9,3 | 15,8 | 29,7 | 47,2 | 59,4 | 166,5 | 337,2 |
| India: Efficient wood-burning stoves | | | | | | | 0,3 | 3,4 | 17,8 | 20,7 | 42,2 | 100,0 |
| Cameroon: Efficient wood-burning stoves | | | | | | | 3,2 | 9,3 | 11,4 | 17,9 | 41,8 | 33,7 |
| Lesotho: Efficient wood-burning stoves | | | | | | | 0,7 | 5,9 | 6,6 | 6,0 | 19,3 | 23,0 |
| Rwanda: Efficient wood-burning stoves | | | | | | | 0,4 | 1,0 | 22,2 | 78,8 | 102,5 | 377,6 |

| Biogas and biomass | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | Total until 2015 | Planned for 2016-2020 ⁴ |
|--|------|------|------|------|------|------|------|------|------|------|------------------|------------------------------------|
| India: electricity production from crop residues | | | 11,4 | 43,9 | 28,2 | 54,9 | 55,7 | 59,7 | 38,6 | 28,4 | 320,6 | |
| India: biogas systems for households | | 5,0 | 12,0 | 11,4 | 10,5 | 10,0 | 9,2 | 6,2 | | | 64,4 | |
| Kenya: biogas systems for dairy farmers | | | | | | | | 1,1 | 2,6 | 5,4 | 9,2 | 49,2 |
| Thailand: biogas from sewage | | | | | 5,5 | 8,2 | 17,7 | 18,6 | | | 50,0 | |
| Bolivia: electricity from Brazil nut shells | | | | | | | | | | 2,4 | 2,4 | 7,2 |

| Wind, water, sun | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | Total until 2015 | Planned for 2016-2020 ⁴ |
|----------------------------------|------|------|------|------|------|------|------|------|------|------|------------------|------------------------------------|
| Honduras: small hydropower plant | 6,0 | 12,7 | 20,7 | 9,7 | 34,4 | 31,7 | 23,2 | 31,7 | 31,9 | 31,7 | 233,6 | 36,8 |
| Nicaragua: wind power | | | | 63,4 | 56,9 | 20,0 | 20,0 | | | | 160,3 | |

Environmental education

atmosfair does not credit itself with the CO₂ savings

| Total | 6,0 | 17,7 | 44,1 | 128,7 | 140,2 | 134,0 | 146,1 | 166,7 | 178,3 | 250,8 | 1.212,7 | 2.177,4 |
|--|-----|------|------|-------|-------|-------|-------|-------|-------|---------|---------|---------|
| Reductions pledged in climate protection contributions received ³ | 0 | 9,5 | 9,5 | 63,5 | 88,6 | 92,2 | 93,6 | 82,6 | 92,0 | 96,8 | | |
| Reductions pledged in climate protection projects on behalf of customers | | | | 3,5 | 15,0 | 63,8 | 40,3 | 66,4 | 41,8 | 0,0 | | |
| Accumulated climate gas reduction pledges | 0,0 | 9,5 | 19,0 | 86,0 | 189,6 | 345,6 | 479,5 | 628,5 | 762,3 | 859,2 | | |
| Accumulated climate gas reductions achieved or contractually bound | 6,0 | 23,7 | 67,9 | 196,6 | 336,8 | 470,8 | 616,9 | 783,6 | 962,0 | 1.212,7 | | |

Pledges met

(Comparison between reductions and reduction pledges, accumulated)



¹In the table, the allocations of climate gas reductions from monitoring periods across multiple years were standardised to calendar years. Through this, there are deviations for individual years in comparison to previous annual reports.

²The actual climate gas reductions can only be ascertained after the projects are externally audited. Two to three years can elapse between the reduction and the audit. The data on achieved reductions can therefore change in comparison with the previous annual reports, even for years that have already passed.

³Up to two years can elapse between the receipt of a donation and its use in a climate project. For this reason, the revenues from the reporting year 2013 are displayed here as reduction pledges to be rendered for the year 2015.

⁴The planning is taking place due to the projected revenues in the future and will be adjusted up or down accordingly each year.

Efficient stoves

Forests

and wallets spared

In 2013, the number of stoves subsidised by atmosfair increased again – from 40,000 to 60,000. The stoves are so well received because people in Africa and Asia immediately realise how much less wood they need – and that the kitchen is less smoky. The economical stoves contribute towards reaching many of the UN Millennium Development Goals: not only do they help to fight poverty, but they also reduce child mortality because they reduce the number of respiratory disorders. For this reason, they make up a steadily growing pillar at atmosfair for support programmes with a focus on Africa and India.

The shiny stove stand in the corner of a hut, which is not a proper house, but which is still much better than a tent. The roof is made of fixed panels. Only the walls are made of white tarpaulins with the blue signature of the UN Refugee Agency “UNHCR.” This thin cover protects the refugees from rain, wind, and curious onlookers.

By now 74,000 Congolese have sought refuge in Rwanda from the civil war in their home country. According to the UNHCR, this number could rise to 91,000 in 2014 because tens of thousands continue to flee from the Democratic Republic of the Congo. The UN has built five large refugee camps in Rwanda.

Above the wood-burning oven, neatly bundled wood hangs under the ceiling. The United Nations distribute a strictly limited amount because Rwanda is poor in natural resources and logging has destroyed the forests in many areas.

“The stove helped me very much; before, I didn’t have enough wood to cook,” said Renatha Muhongayire, a woman in a broad, white-green dress. The new stoves use heat from the fire far better than a traditional hearth with a pot on three stones: they have a mostly closed combustion chamber with a small opening to put more wood on the fire. The pot closes exactly in line with the stove so that the heat is transferred optimally. Compared with a traditional three-stone hearth, the stove saves 80 percent of the wood required, and with this costs, work, and not least CO₂ emissions.

This is why it’s called the “Save80.” The UN

A user with a Save80 stove in Lesotho
The pot closes exactly in line with the stove so that the heat is transferred optimally.

agency has already distributed 4,000 free models of the stove to refugees that were developed especially for refugee camps. The goal is to provide every refugee family with a Save80.

In the refugee camps, beans and corn often go into the pot. This food must soften for a long time in the water. Here, a further innovation is used: after boiling the food on the efficient stove for a short time, Renatha places the hot pot into the so-called wonderbox. It retains the heat in the pot for hours so that the food cooks without using any additional wood.

atmosfair supports the UNHCR in the delivery, demonstration, assembly, and distribution of the stoves. Beyond this, atmosfair is building a monitoring system in order to test whether and how the stoves are being used. A UN-accredited assessor checks the annual CO₂ savings, on whose basis atmosfair will provide further means for new stoves for refugees or for the communities surrounding the refugee camp. The Save80 is not only valued in the refugee camps: together with the organisations Safer Rwanda and Rwanda Women Network, atmosfair is meanwhile distributing the stoves throughout all of Rwanda.

Particular benefits from replacing charcoal

While people in the refugee camp cook with wood, the households in the rest of the country often use charcoal. This fuel comes from local charcoal makers that need an average of nine tonnes of wood to produce one tonne of charcoal. Christine Muhongerwa, the leader of "Safer Rwanda," explains that a sack of charcoal costs around 7,000 Rwandan francs in Rwanda, a good 7 euros. Each family needs two to three sacks per month for their traditional stoves. "With the Save80, families change from charcoal to wood and only need a sack worth 2,000 Rwandan francs per month," said Muhongerwa. This saves the extremely wasteful process of making coal. "With this, the total wood usage including charcoal production sinks by over 90 percent," said Muhongerwa.

The local media also like this: in Rwanda's daily newspaper New Times, a woman described how the Save80 benefited her. "Before, I spent 28,000 Rwandan francs per month on charcoal; now, I'm down to 8,000 francs for wood," said Jacqueline Uwamariya, who is "obviously happy" with the kitchen appliance. In Rwanda, the stoves subsidised by atmosfair together with the wonderbox cost 17,000 Rwandan francs (see box). In the next three years, "Safer Rwanda" and the Rwanda Women Network want to sell at least 15,000 of this combination. Solaröfen funktionieren nicht

Solar stoves do not work
atmosfair has had good experiences with different models of efficient stoves in several countries

HOW MUCH DO ATMOSFAIR STOVES COST?

atmosfair subsidises the stoves for households in the project countries and supports the local partners at the same time. The model is similar everywhere with slight variations depending on the project country, partner, and stove model.

Example of Rwanda, partners Safer Rwanda and Rwanda Women Network:

| | |
|--|-------------|
| Price from the manufacturer (for the stove and wonderbox in Germany): | 35.00 euros |
| Transport and customs: | 9.50 euros |
| Purchase of suitable local pots: | 8.00 euros |
| Real costs in Rwanda: | 52.50 euros |
| Sales price in Rwanda: | 18.00 euros |

The local partners receive the stoves from atmosfair free of charge. All things considered, atmosfair thus subsidises every stove by 52.50 euros. The local partners keep the end price paid by the consumer of 18.00 euros, and with this cover their costs for local distribution and for necessary investments.

over many years (see the tables "Overview" and "Technology"). Solar stoves are not an alternative to the wood-burning models. It may be theoretically possible to cook without wood altogether, but in practice we have seen that households in developing countries mainly cook in the evenings. The change in cooking habits would be too large to achieve a satisfactory utilisation rate.

In Nigeria, atmosfair partners have already sold a total of 25,000 wood-burning stoves as well as 10,000 in the Kingdom of Lesotho. The CO₂ reductions from the atmosfair stove program in Nigeria were the first to be certified by the UN for such a program in Africa. With this, atmosfair has performed pioneering work. atmosfair is also active in Cameroon. 6,000



Save80 in use in Rwanda

stoves have been sold there so far. The demand for the stoves is so great that atmosfair is pushing forward with expanding the climate project following the programmatic CDM.

Producing charcoal while cooking

In the Indian Ganges delta on the border to Bangladesh, a so-called "wood gasifier stove" is being used that can be used for cooking and producing charcoal at the same time (combustion in the absence of oxygen, pyrolysis). The project partner buys the charcoal from the stove users and passes them on to restaurants and other users. The stove users receive a good income, and further CO₂ is saved in the restaurants.

atmosfair partner Eric Reynolds together with his local environmental group Inyenyeri would also like to introduce the wood gasifier technology in Rwanda. Inyenyeri produces wood pellets from sustainably grown biomass and provides its customers with the efficient Philips stove free of charge. Then, Inyenyeri earns money through the sale of the pellets.

In total, atmosfair has already supplied over 60,000 households worldwide with stoves like the Save80 from flight-offsetting climate protection contributions. These stoves protect the climate, save wood and money, and also significantly improve the air quality in closed rooms. In 2013, exactly 19,768 households were overjoyed to receive efficient stoves. ➤

Internet:

Partner organisations in Rwanda – wood-burning stoves:

www.saferrwanda.org

www.rwandawomennetwork.org/Holzvergaser

www.inyenyeri.org

EFFICIENT STOVES AND THE MILLENNIUM DEVELOPMENT GOALS

Under the umbrella of the UN, all countries in the world have agreed upon eight Millennium Development Goals. Efficient stoves can make a considerable contribution to realising five of the eight goals:

1. Eradicate extreme poverty and hunger

Expenditures for firewood sink from up to 30 percent of household income to under 10 percent

2. Achieve universal primary education

More time is available for attending school due to less time required to gather wood

3. Promote gender equality and empower women

Women save time for cooking and gathering wood and have more time available for education

4. Reduce child mortality

Better health of children through less smoke formation

5. Improve maternal health

6. Combat HIV/AIDS, malaria, and other diseases

7. Ensure environmental sustainability

Conservation of forests

8. Global partnership development



Indian stove users with two weeks' charcoal production.



Assembly of the Save80 stoves in Rwanda.



Interview

“They hope to return home”

Observers at a stove demonstration in a Rwandan refugee camp

Allan Mubiru is organising the distribution of efficient wood-burning stoves in Rwanda. The country manager for atmosfair speaks about the refugees' situation and the benefits that the stoves provide.

➤ Allan, how is the refugees' situation in Rwanda? Many people continue to come into the country who want to escape the conflicts between the rebels and the government troops in the Democratic Republic of the Congo.

➤ In Rwanda there are now five large refugee camps. Where are the stoves from atmosfair used? In the southern camps near Kigeme, Mugombwa, and Kiziba. The camps in the north will follow.

➤ Stoves such as the Save80 are new for people; they must adjust and learn how to handle it. How are the stoves accepted? The monthly internal surveys show that the stoves are used daily, and all of the users say that they can cook faster with the stoves than with traditional fires, that they create less smoke, and that especially the wonderbox is very useful and popular. The stoves' advantages are very obvious to the new users.

➤ From where does the wood come into the camps? There are two sources: the UN Refugee Agency distributes monthly rations to the families, and then the refugees collect wood outside of the camp or buy in the neighboring villages.

➤ How does such a stove change the people's situation? The stoves save twice the time. The families spend less time searching for wood and cooking food. This time can then be used for other family matters. The stoves also alleviate the refugees' conflicts with the neighboring villages about the scarce wood resources.

➤ Who benefits the most from the stoves? Predominantly the women because collecting wood and cooking are their tasks. The stoves create less soot, so babies also benefit. Since the women carry them on their backs when they cook, they spend less time in now less smoky kitchen air.

➤ How is the reduction of the CO₂ emissions measured? We compare the amount of wood that is used with the new stoves with the wood use of traditional stoves. The CO₂ avoidance results from the saved wood.

➤ What are the next steps for Rwanda? We want to provide far more households with the Save80. When we have successfully finished the first verification, we can accelerate the expansion.

➤ When will the refugees leave the camp? They hope to return home. However, they must stay in the camps until the conflicts in the Republic of the Congo cease – and that could be years.

Internet:

UNHCR on the situation in Rwanda:
www.unhcr.org/pages/49e45c576.html

ALLAN MUBIRU – ATMOSFAIR RWANDA COUNTRY-MANAGER



Allan Mubiru is the country manager for atmosfair in Rwanda. Allan comes from Uganda and was an employee at atmosfair in Berlin for over a year with support from the Alexander von Humboldt Foundation as a climate protection fellow. He is an expert in the financing of climate protection projects, and already as a climate protection fellow, he already examined the question of how microcredit and project financing can be combined through carbon certificates.

Economical stoves in seven countries

Efficient stoves save up to 80 percent of wood and CO₂ with it. Deforestation and soil erosion in the surrounding areas is avoided and less smoke is created by cooking. In this way, households save money on firewood, and the local atmosphere partners create jobs.

| Where | Rwanda | Nigeria | Lesotho | Cameroon |
|----------------------|---|--|---|--|
| |  |  |  |  |
| What | Save 80 stoves, wood gasification stoves with pellets, Philips wood gasification stoves | Save80 and Envirofit stoves | Save80 stoves | Envirofit stoves, Save80 planned |
| Number | 15,000 stoves within 3 years | 25,000 sold in total | 10,000 sold in total | 6,000 sold in total |
| Progress 2013 | Expansion phase has begun; collaboration with UNHCR | Further expansion; stoves also help households in crisis zones | CO ₂ savings successfully verified; expansion in collaboration with DHL | Besides the inexpensive Envirofit stoves, atmosfair is now also planning the introduction of Save80 stoves |
| Status | Program in operation | Program in operation; successfully verified | Program in operation; successfully verified | Program in operation; successfully verified |
| Partners | Safer Rwanda, Rwanda Women Network, UNHCR | DARE, BIA | Solar Lights | Pro Climate International |

Madhya Pradesh

Indian Sundarbans



Simple stove and local double burner

Servals wood gasification stove

800 sold

4,000 already sold

New stove model developed (double burner) replaces the previous local stoves

Stove users produce 70 tonnes of charcoal every month

Project in operation

Project in operation

Parikrama Energy Services

Servals Automation and Sapient



Stove user in Nigeria

The atmosfair quartet:

By now, atmosfair is also a specialist for efficient stove technologies. In our project countries, different models are used, depending on local needs, that we are always continuing to optimise together

Save80 models

In the Save80, the pot is left directly on the stove. This increases the efficiency tremendously. Because the pot must fit exactly, atmosfair provides it together with the stove.

1. SAVE80 A-MODEL (1)



| | |
|---------------------|-------------|
| Firewood savings: | 80% |
| Durability: | 10-15 years |
| Countries: | Nigeria |
| Price for the user: | 75 euros |
| No. of stoves sold: | ~2,000 |

Special feature:

The first Save80 stove ever, for 8 liter pots. Developed in 2005 in Germany by a former solar stove manufacturer.

2. SAVE80 A-MODEL



| | |
|---------------------|------------------|
| Firewood savings: | 80% |
| Durability: | 10-20 years |
| Countries: | Nigeria, Lesotho |
| Price for the user: | 75 euros |
| No. of stoves sold: | ~23,800 |

Special feature:

Taller than the first A-Model; allows cooking while sitting on a chair or while standing.

3. SAVE80 B-MODEL



| | |
|---------------------|-------------|
| Firewood savings: | 80% |
| Durability: | 10-20 years |
| Countries: | Rwanda |
| Price for the user: | 34 euros |
| No. of stoves sold: | ~1,000 |

Special feature:

Just as tall as the later A-Model. With small side wings, upon which one can lay firewood. The openings for piling on more firewood were enlarged.

4. SAVE80 C-MODEL



| | |
|---------------------|-----------------|
| Firewood savings: | 80% |
| Durability: | 10-20 years |
| Countries: | Rwanda, Nigeria |
| Price for the user: | 17-30 euros |
| No. of stoves sold: | ~12,900 |

Special feature:

With an 8-liter pot, but shorter than the previous models, but for this, also considerably less expensive. Also used in refugee camps in Rwanda in collaboration with the UNHCR.

5. SAVE80 C-MODEL 4L




| | |
|---------------------|----------------|
| Firewood savings: | 80% |
| Durability: | 10-20 years |
| Countries: | testing phase |
| Price for the user: | N/A |
| No. of stoves sold: | in development |

Special feature:

Still in the testing phase. The 4-litre model has great potential because the price is relatively low for a Save80. It's also suitable for local pots and smaller families.

6. SAVE80 C-MODEL 2L



| | |
|---------------------|----------------|
| Firewood savings: | 80% |
| Durability: | 10-20 years |
| Countries: | testing phase |
| Price for the user: | ~8-12 euros |
| No. of stoves sold: | in development |

Special feature:

Still in the testing phase. A very inexpensive stove for small families and singles. Besides the Save80 2-litre pot, local pots are also usable.


hot stoves

with the manufacturers. Among other things, high efficiency in the conversion from wood to thermal energy for cooking is important.

Other stove models

Customary local pots of different sizes can be used on these stoves. The efficiency and therefore also the firewood and CO₂ savings are usually somewhat lower than with the Save80.

7. ENVIROFIT G330




| | |
|---------------------|-------------------|
| Firewood savings: | 60% |
| Durability: | 2-5 years |
| Countries: | Nigeria, Cameroon |
| Price for the user: | 16 euros |
| No. of stoves sold: | ~9,000 |

Special feature:

Less expensive, easy-to-use stove that is delivered without a pot. The households can use their own pots of almost any size to cook.

8. PHILIPPS HD 4012



| | |
|---------------------|---------|
| Firewood savings: | 70% |
| Durability: | 5 years |
| Countries: | Rwanda |
| Price for the user: | 0 euros |
| No. of stoves sold: | ~500 |

Special feature:

Burns wood gas that is created through the pyrolysis of biomass pellets, for example. In exchange for guaranteed purchase of pellets, delivered for free by our partner.

9. SERVALS TLUD



| | |
|---------------------|----------|
| Firewood savings: | 70% |
| Durability: | 7 years |
| Countries: | India |
| Price for the user: | 25 euros |
| No of stoves sold: | ~5,000 |

Special feature:

This wood gas stove produces high-quality charcoal during cooking, which can replace conventional charcoal for additional CO₂ savings.

10. DOUBLEBURNER



| | |
|---------------------|----------|
| Firewood savings: | 60% |
| Durability: | 3 years |
| Countries: | India |
| Price for the user: | 10 euros |
| No. of stoves sold: | ~50 |

Special feature:

Newly developed especially for India. Built-in instantaneous water heaters for colder mountainous regions in order to cook and heat water at the same time.

11. MIRT STOVE



| | |
|---------------------|----------------|
| Firewood savings: | 60% |
| Durability: | 5-7 years |
| Project countries: | Ethiopia |
| Price for the user: | 0-3 euros |
| No. of stoves sold: | in development |

Special feature:

Special, locally produced stove for preparing injera flatbread, a staple food in Ethiopia. Disseminated by atmosfair partner World Food Programme.

12. WONDERBOX



| | |
|---------------------|---------------------------------|
| Firewood savings: | variable |
| Durability: | 10-12 years |
| Countries: | Nigeria, Rwanda, Lesotho, India |
| Price for the user: | 10-12 euros |
| No. of stoves sold: | ~55,000 |

Special feature:

The wonderbox cooks dishes like rice and beans to completion after boiling them for a short time. This saves time and once again a lot of firewood. Unusually durable.



The Solano family in front of their biogas plant.

Small biogas systems

Biogas in the backyard

Small biogas systems are a funding priority for atmosfair. Since 2013, atmosfair has also supported a project in the Philippines: the units replace wood as a fuel for cooking using biogas and produce valuable fertiliser. In this way, they not only reduce CO₂ emissions, but also deliver free clean energy day and night.

In November 2013, Typhoon Yolanda raged across the Philippines. It completely destroyed Rolly and Jillien Solano's family's house, a simple wooden hut. The storm only left five sky-blue rain barrels surviving halfway intact: the household's own biogas system. With the manure from six pigs that they kept in the backyard, the Solanos produce their own biogas for cooking.

The Solanos together with two other families were the first for whom FOOD FROM THIN AIR (FFTA) built such a system. This climate protection organisation places its focus on fighting poverty in the Philippines and among other things, started the Philippine Backyard Piggeries Biogas Programme. "Most families in the Philippines keep a few pigs in the backyard," explains Maria Banico, co-founder of FFTA. She follows the project's development onsite and stays in close contact with the households. Without the biogas systems and the connected gas stoves, the animals' manure often goes unused and is disposed in the countryside while at the same time women need a lot of firewood to cook on their traditional stoves. This wood mostly comes from the mangrove forests that are ever disappearing: 70% percent of the forests were destroyed over the last decades. At the same time, these forests along the coasts are an important barrier for cities and villages of the Philippine islands. Intact mangrove forests could have mitigated Yolanda's impact.

The small biogas systems (see box) solve several problems all at once: the families save money, no harmful smoke is produced when cooking with biogas, and valuable fertiliser is produced from the pig manure. Five months after the typhoon, the project is now being resumed in close consultation with ongoing aid operations in the region. In this way, the Red Cross and the Philippine government is supporting families like Rolly and Jillien's so that they can raise pigs again. To start with, in a pilot phase, FFTA would like to build 50 biogas systems that should be standing by the end of 2014. atmosfair is helping with the organisation of the project and is financing each biogas system in the full amount of the costs at 150 euros.

When FFTA submitted the grant application to atmosfair in 2013, an important decision criterion for the project was that it not only reduces CO₂ emissions, but also helps the local population. "We prefer to work with household-related projects," explains Katrin Wolf, project leader at atmosfair. "Even when these are often more difficult to evaluate than individual large projects. Experience shows that the support comes across as more dependable to the people." If the pilot phase is successfully completed, a further 1,000 systems will be built first. In total, there could be up to 100,000 in the end. However, until the first CO₂ reductions can be tested a good two years will pass because the expense of an inspection by the UN is only worthwhile after 500 to 600 systems.

However, experience with comparable projects shows that this investment is worth it. atmosfair has supported a project with small biogas systems in Bagepalli in the South Indian state Karnataka already since 2006.

These systems are a bit costlier than the models in the Philippines:



Typhoon Yolanda: a trail of destruction

SMALL BIOGAS SYSTEMS

Biogas allows households that use them to take a development leap forward: directly from wood fires to a gas stove. The gas is available day and night, and the energy source is completely renewable and can be developed decentrally. Already in the 1960s, the Indian NGO Action for Food Production (AFPRO) built small biogas systems in rural regions. At that time, their main purpose was to produce good fertiliser because the people were starving.

In biogas systems, biomass ferments under anaerobic conditions. This produces methane and nutrient-rich fermentation residues. Systems, such as the one that AFPRO built in India and Kenya, are built from cement and bricks into the earth. They work reliably and their opening is big enough to be maintained simply in the event of damage. After a period of several years, a TÜV examination in India showed that only 5 percent of the systems were damaged. A biogas system with a gas volume of 3 cubic metres provides a family of 9 to 15 people with gas for cooking. A system of this size requires the manure of at least three cows.

Biogas systems like the ones that atmosfair is currently building in the Philippines are more simply built and cheaper: in general, they consist of five rain barrels that are connected with a pipe and gas mains. An advantage of this is that these systems can be enlarged or downsized as desired according to the number of pigs and the amount of biogas needed. Among other things, the durability and maintenance-intensiveness of these systems will be tested in the pilot phase of this project, among other things.



Building a biogas system in Kenya

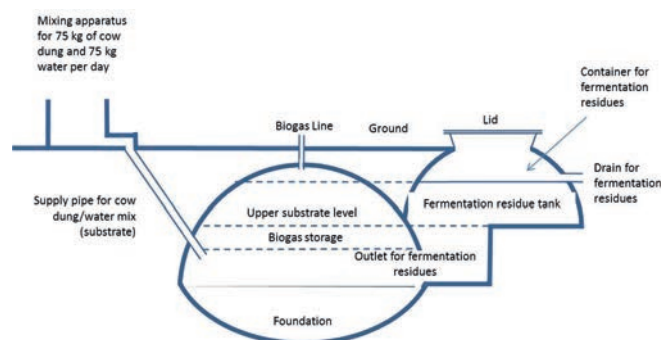


Diagram of a biogas system like the one atmosfair supports in Kenya and India

the spherical tanks for the biomaterial are built underground and out of stone. Over a project duration of seven years, the two project partners Women for Sustainable Development and Agricultural Development and Training Society (ADATS) have built a total of 5,500 biogas systems that save over 20,000 tonnes of CO₂ annually. The small farmers have accepted the technology because firewood is scarce in the region and difficult to obtain. The fertiliser from the biogas systems noticeably increases the crop yield. Families that have two to three cows can run the system with the animals' manure.

Following the Indian model, atmosfair together with the partners Sustainable Energy Strategies (SES) and Action for Food Production (AFPRO) also started a project in Kenya in 2012 with small biogas systems. Conveyed by atmosfair, specialised personnel from the Indian NGO AFPRO traveled to the African country in order to train the local masons in the construction of the biogas systems. In 2013, 152 systems were built; meanwhile,

there are 325. A single biogas system saves 4 tonnes of firewood per year. This is an important factor in a country in which the proportion of forest land has shrunk from 17 to just 1 percent since 1990. A family pays around 950 euros for a biogas system. atmosfair supports each system with 100 euros; the same amount came on top of that as a grant from the Bonner Verein Green Electricity Label. The support from Germany made the collaboration with a microfinance lender possible so that the farmers can pay off the costs in small instalments and under favourable conditions. After just six months, a biogas system can pay for itself for the farmers through saving wood, and henceforth they will cook on a gas stove. ➤

Übersicht kleine Biogasanlagen

| Name | Philippine Backyard Piggeries Biogas Programme | Nairobi River Basin Biogas Project | Bagepalli Coolie Sangha Project |
|-------------------------|---|---|---|
| Where | The Philippines | Kenya | India |
| What | Pilot project: 50 small biogas systems | 358 small biogas systems | 5,500 small biogas systems |
| Progress 2013 | Building of further biogas systems. Project start delayed by Typhoon Yolanda | Construction of 152 new systems | The project development has been completed, systems in operation |
| Status | Implementation of the pilot project | Phase III: project in operation | Phase III: project in operation |
| CO ₂ savings | In development | 15,000 tonnes per year | 20,000 tonnes per year |
| Local environment | Protection of mangrove forests | Protection of regional forests | Protection of regional forests |
| Further benefits | Fewer costs for wood for the families, no harmful smoke produced by cooking; production of fertiliser; local jobs from building the systems | | |
| Project partners | FOOD FROM THIN AIR | Sustainable Energy Strategies (SES); Action for Food Production (AFPRO) | Women for Sustainable Development; Agricultural Development and Training (ADATS); VELCAN Energy |



Interview

“The need is greater than ever before”

Maria Banico, Project Leader Philippines

Maria Banico is the co-founder of FFTA, the project partner of atmosfair in the Philippines. She is regularly onsite and visits the families.

➤ Maria, in November 2013, Typhoon Yolanda raged in the Philippines. What is the current situation?

It is very different in the individual regions. In Panay where we work, 80 percent of the houses are either completely destroyed or severely damaged. 75 percent of the meat that was produced there came from the small pigpens in backyards that have now been lost for the most part. The prices for food-stuffs have risen steeply.

➤ How are the three families for whom you have already built a biogas system?

The houses were completely ruined and the area was flooded. Luckily they are all well, and nobody was injured. Jillan and Rolly were evacuated together with their six children. Meanwhile, they can return; their house was rebuilt.

➤ Is it even possible to rebuild new biogas systems in the current situation?

Yes, and the need is greater than ever before because the typhoon damaged the mangrove forests, and there is even less firewood.

➤ Has the typhoon created problems for the project?

We hope that the UN will be flexible in the project approval because the starting position has now changed somewhat. On the other hand, the typhoon could even have a positive effect. Maybe financial resources will be freed in order to make sustainable pig farming possible for many families. That's because the families need at least six pigs in order for the pig breeding to sustain itself and endure.

➤ What are your next steps?

We have now already picked out 6,000 households with which we can work. We also work together with national and international organisations that are active in the typhoon region and offer them the opportunity to supply biogas systems for households with six pigs.

Internet:

FOOD FROM THIN AIR:

www.foodfromthinair.com

Small biogas systems in India:

www.atmosfair.de/web/10184/148

Small biogas systems in Kenya: www.atmosfair.de/web/10184/149



India: power generation from biomass power plant

Small farmers sell crop residues

Delivery of crop residues to the power plant

Dust swirls up from the dry street. The farmers bring their crop residues with tractors to the biomass power plant in Tonk. What they previously burned in the fields as waste, they can now sell. The state of Rajasthan is one of the poorer regions of India. Due to the dryness, only a few plants grow here. One particularly sees mustard growing in the fields. What the farmers take in is just enough to survive on. In 2007, the Indian energy company Kalpataru Power Transmission Limited (KPTL) built the biomass power plant that produces electricity from dried plant stems and the hulls of mustard seeds. More than 5,000 small farmers from a 50-kilometre radius deliver to the plant. Anyone who does not have a farm in the immediate vicinity of the plant can deliver the crop residues at collection points. Every day, the 8-megawatt power plant burns 250 tonnes of biomass and with this produces enough electricity for 40,000 households.

In 2013, auditors from TÜV Süd came to the conclusion that 40,000 tonnes of CO₂ savings can be attributed to the ecological power plant. However, not only the environment benefits. Anand Chopra, manager at KPTL, is proud of the technology transfer in the rural region. Quite a number of jobs were created from this: many of the sales and technical employees

come from the region. Workers are also needed in logistics because the biomass must be picked up for the collection points and stored for the time after the harvest. By selling their crop residues, the farmers can increase their income by about 40 percent. At a converted annual salary of 1,200 euros, that is 480 euros. Meanwhile, a real market has emerged for a former waste product: brickworks are also competing for the fuel and are thus pushing up the prices. In order to survive economically, the biomass power plant in Tonk relies on the additional income from atmosfair: in total, atmosfair has already transferred over one million euros to the biomass power plant. The money not only benefits the climate, but also the local farmers. For this reason, atmosfair has supported an additional KPTL project since 2013: In the region of Ganganagar, the Indian company operates a biomass power plant that is also recognised as a Gold Standard CDM project. In Bolivia, atmosfair supports a further biomass power plant.

Internet:
www.atmosfair.de/en/web/10184/146

Overview of biomass plants

| | | |
|-------------------------|---|--|
| Where | India, Tonk and Ganganagar | Bolivia, Amazon region |
| What | Burning of crop residues from the mustard harvest to produce electricity | Burning of Brazil nut shells to produce electricity; plant is built, but no approval yet |
| CO ₂ savings | 75,000 tonnes annually (40,000 tonnes in Tonk + 35,000 tonnes in Ganganagar) | 4,000 tonnes annually |
| Technology | Biomass plant | Wood gasification technology |
| Local environment | Replacement of fossil fuels; not poisonous gases as with a coal power plant | Transport of over 1 million litres of diesel over 500 km of jungle roads avoided |
| Further benefits | Additional income for small farmers through the sale of biomass; jobs in the region; strengthening of the regional infrastructure | Lower costs for local energy supply |
| Project partners | KPTL, Indian energy company | Tahuamanu S.A. (Bolivian Brazil nut exporter); |



Indonesia: 15 decentralised biowaste centres approved

Composting in the neighbourhood

Using compost in Indonesia

“Reduce. Reuse. Recycle,” it says on the poster behind the man-sized compost pile, on which one can still recognise green leaves and the remains of tropical fruits. The recycling centre “Rumah Kompos Vipamas 2” is located at the southwestern edge of Jakarta, the capital of Indonesia. Neighbourhood committees collect waste from the households here and bring it to the small, self-managed recycling centre. In a simple hall that’s open on the sides the employees sort the waste. Reusable materials are resold and contribute to the financing of the recycling centre. The organic portion is composted in the hall and used later as fertiliser.

Djodi Setyowibowo works at the small composting plant. In his small handwriting he has summarised what the recycling centre provides the neighbourhood from his perspective: more knowledge and responsibility surrounding the waste that in Jakarta otherwise mostly lands in unsecured landfills. There, it not only ferments and stinks, but also produces methane, a greenhouse gas that has 25 times the climate impact that carbon dioxide does. “At first, the people in neighbourhood did not see it as their business,” wrote Djodi Setyowibowo. Waste recycling? Not our problem! “But after the information campaign, they understood,” he believes. The separate collection of

biowaste means a big improvement for the local environment. Not only in Indonesia: in Tanzania, the mayors of Dar es Salaam and Hamburg signed a joint letter of intent to build a composting centre. Now there is a schedule to build the centre there. atmosfair will support the implementation from its experiences from Indonesia.

Rumah Kompos is one of 15 composting centres that atmosfair partner BORDA, the Bremen Overseas Research and Development Association, has built. Originally, the centres were intended to be certified within the framework of the UN’s Clean Development Mechanism (CDM). Certification is a prerequisite for atmosfair to be able to support the project financially. However, for this comparatively small project, the CDM procedure has turned out to be too complicated and expensive. For this reason, atmosfair began to have the project examined under the Gold Standard Microscale – a streamlined approval procedure for projects that save less than 10,000 tonnes of CO₂ per year. The project was approved on April 16th, 2014, and after successful validation, atmosfair will be able to credit itself with the savings as emissions reductions from June 2013 onward. In the next step, the experience will be evaluated, and the project will be expanded. After introducing the waste collection, waste

sorting could take place in the households so that the products in the recycling centre could be reused better. This waste separation is in its early stages in Indonesia.

Overview of composting centres

| | |
|-------------------------|--|
| Name | KIPRAH (Kita-Pro-Sampah or “We for waste”) |
| Where | Indonesia |
| What | Composting of biowaste within garbage at 15 recycling centres currently. The centres lie in the commuter belt of the cities of Jakarta, Yogyakarta, and Surabaya. Altogether, around 5,000 households benefit from the waste collection and recycling. |
| CO ₂ savings | 200 tonnes of CO ₂ -equivalent per recycling centre per year |
| Technology | Composting of organic household waste |
| Local environment | Methane avoidance through composting; reduction of waste; fewer waste fires in the streets |
| Further benefits | Job creation; reduced health risks; strengthening of communal infrastructure |
| Project partners | BORDA Indonesien und weitere lokale Partner |



Georgia: Locally produced solar collectors

Hot water for rural families

Training for solar technicians

In Georgia, people living in the country spend up to one fourth of their income on firewood, which is still the most important source of energy there. The abundant sunshine there has hardly been used so far. Instead, firewood is felled from the forests. This takes a lot of time for women, who are the ones who must invest it in their households. The open hearth is also unhealthy because the families breathe in fine dust and soot in their houses.

So why not heat the water with the sun's warmth? Until now, the solar collectors in Georgia have been expensive and imported. In recent years, atmosfair partner Women in Europe for a Common Future (WECF) together with The Greens Movement from Georgia and other organisations have developed a solar collector made from local components. Craftsmen learn how to build and maintain solar collectors. Afterwards, they can offer systems they built themselves in their villages and take on the installation and maintenance. atmosfair will contribute around 15 percent of the cost of a collector proportionally to the proven CO₂ savings and will help the partner in monitoring and quality control.

Each individual solar collector saves firewood and with this, around one tonne of CO₂ per year. As of 2014, further craftsmen will be trained. From 2015 until 2022, the project will be made known throughout all rural areas. Then, a few hundred or several thousand solar collectors will be added.

ector of two square metres, they can heat water to 60 degrees. The reservoir can hold 130 litres and is thus big enough to supply a family of six with hot water. When the sun doesn't shine, the tank keeps the water warm for up to three days. In the pilot phase of the project, the solar collectors were continually developed further until 60 new solar technicians were trained in 2013. Furthermore, 120 solar collectors were built. Together with atmosfair, the organisations on site prepared the certification following the Gold Standard.

Internet:
<https://www.atmosfair.de/en/web/10184/226>

The solar hot water heaters cost around 280 euros. With a coll-

Overview of solar thermal energy projects

| | |
|-------------------------|--|
| Name | "Building local capacity for domestic solar heating for rural and remote areas" |
| Where | Georgia |
| What | Training of local craftsmen in building the thermal solar collectors in all rural areas of Georgia. The craftsmen can then produce and sell these so-called collectors themselves. |
| CO ₂ savings | 2,000 tonnes per year from saving firewood |
| Technology | Solar collector for hot water |
| Local environment | Forest protection by saving firewood; better indoor air quality |
| Further benefits | Reduced logging; better air in the households; less work time for heating water; creation of jobs and local know-how |
| Project partners | Women in Europe for a Common Future (WECF) and the company Solar Partner Süd GmbH; locally The Greens Movement of Georgia and local partners |



Nicaragua: Wind farm replaces oil

Pioneering project with good winds

Amayo Wind Farm

129 kilometres south of the capital city Managua, 19 rotors in Nicaragua's first wind farm are turning. The big 2.1-megawatt turbines from the Indian manufacturer Suzlon are feeding their electricity into the electricity grid that is otherwise three-fourths dominated by oil and diesel power plants. Without subsidies from the Clean Development Mechanism (CDM), the wind farm would not have been able to be built with a state-supported electricity price of about 8.7 U.S. cents per kilowatt-hour.

In the meantime since 2008, the Amayo Wind Farm with its installed capacity of 39.9 megawatts is one of the first wind farms at all in the region connected to the electricity grid. It produces six percent of the electricity in the whole country and with this, provides a calculated 230,000 people with electricity. Besides expenditures for the import of 275,000 barrels of oil annually, it primarily saves 120,000 tonnes of CO₂ that would otherwise be emitted by the operation of oil and diesel power plants.

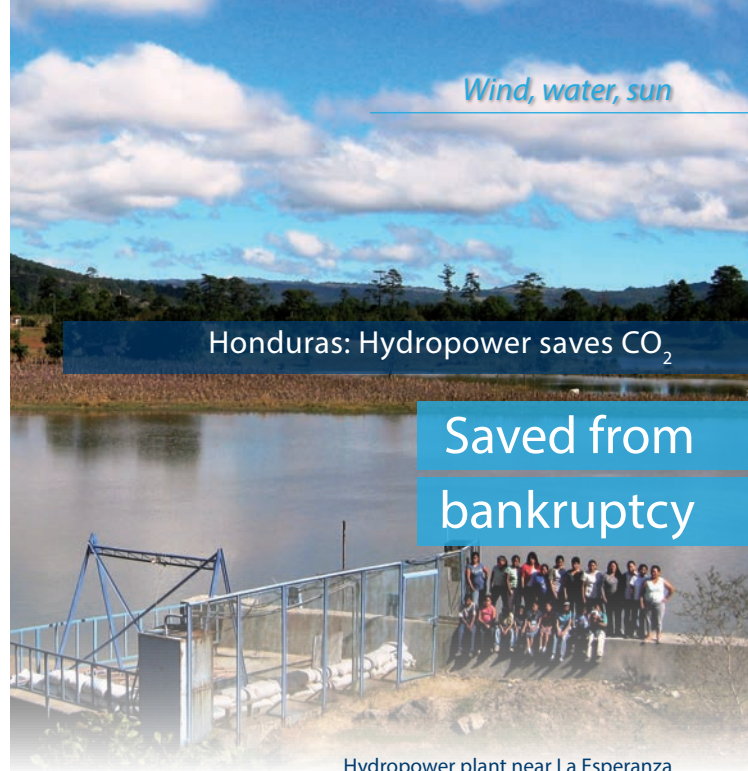
Internet:

On Markit: <http://bit.ly/1peUnsP>

In the CDM database: <http://bit.ly/1r5xk4W>

Overview of wind projects

| | |
|-------------------------|--|
| Name | Amayo Wind Power Project |
| Where | Nicaragua |
| What | Wind farm with 19 turbine generators, each with 2.1 megawatts capacity |
| CO ₂ savings | 120,000 tonnes per year |
| Technology | Wind energy turbines |
| Local environment | No effects, the turbines are located in fields |
| Further benefits | Reduced use of electricity from oil or diesel power plants; reduced expenditures for oil imports; jobs on-site; serves as a model for further wind farms |
| Project partner | Consortio Eólico Amayo S.A. |



Honduras: Hydropower saves CO₂

Saved from bankruptcy

Hydropower plant near La Esperanza

Since 2005, the hydropower plant near La Esperanza in Honduras has reliably delivered green electricity. However, in the financial crisis of 2009, the banks suddenly demanded higher interest payments as of 2009 from the operator Consorcio de Inversiones S.A. (CISA) that the small company could not shoulder.

atmosfair stepped in unbureaucratically with advance payments for future CO₂ reductions. In the meantime, the company is economically sound again and achieved all of the CO₂ reductions compensated by atmosfair in advance. Due to the high drop, the 14.6 megawatt power plant only requires a small reservoir and thus hardly has an impact on the environment. At the same time, CISA has provided electricity for four surrounding villages and created over 100 jobs. There is a close collaboration with surrounding villages surrounding the hydropower plant. This includes, among others, environmental education with schools and kindergartens, reforestation of the watershed area as well as the protection of the mountain rainforests and bird populations

Overview of hydropower projects

| | |
|-------------------------|---|
| Name | Hydropower plant La Esperanza |
| Where | Honduras |
| What | Hydropower plant with 14.6-megawatt capacity |
| CO ₂ savings | 30,000 tonnes per year |
| Technology | Hydroelectric power plant |
| Local environment | Low impact thanks to the high drop and thus relatively limited need for water |
| Further benefits | Jobs and electrification of surrounding villages |
| Project partner | Consortio de Inversiones S.A. (CISA) |

Environmental education

Climate education at schools

Energy detectives on the go



Project 50/50 at the Jenny Marx Grundschule in Salzwedel.

Climate protection begins in your own backyard: through the avoidance of CO₂ emissions. That's why atmosfair supports educational projects at German schools. With fifty/fifty, children already learn the correct way to deal with electricity and heating. The school competition Energy-saving Champion is oriented towards secondary schools and awards prizes to unusual climate projects.

fifty/fifty is coordinated by the Independent Institute for Environmental Issues (UfU); a total of 3,500 schools throughout Germany participated in the initiative. At the beginning, the school and education authorities conclude a contract: if the school saves energy, they receive 50 percent of the savings paid out. Together with an energy consultant, the students and teachers then develop energy-saving measures. At the Jenny-Marx Grundschule in Salzwedel, all light switches have

building during recess. With these simple means, the primary school saved 435 euros in electricity costs and 2,061 euros in heating costs in 2013 – that's 1,248.16 euros for the school according to the fifty/fifty formula.

The competition Energy-saving Champion is a joint campaign of Klima sucht Schutz and the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB). Since 2009, atmosfair has mentored a participating school every year; in 2013, atmosfair provided support for the Otto-Hahn-Gymnasium from Gifhorn. The schools' Environment and Solar PLC has operated its own photovoltaic system since 1995.

With the revenues from the electricity production, the students and teachers support solar projects in developing countries. For the competition, the school planned something special: the secondary school wanted to build a solar-powered well for their partner school in Tanzania. They won over the jurors with their project, and the school was named the state winner from Lower Saxony on May 31st, 2013. With the prize money and the additional support from atmosfair in the amount of 3,000 euros, the well in Lukumbo and a further hand pump have now become a reality.

"We are convinced that climate protection in classrooms puts young minds on the right track early and is also fun," project manager Maren Kügler stated in explanation of atmosfair's involvement. atmosfair does not credit itself with any emissions savings from educational projects in Germany: they are relatively small and are not formally able to be accounted for in the EU CO₂ register due to double counting. The long-term effect is much more substantial – heightened climate consciousness.

Internet (in German):

fifty/fifty Initiative: www.fifty-fifty.eu

School competition: www.energiesparmeister.de



The energy-saving champions from the Otto-Hahn-Gymnasium at the awards ceremony in Berlin

been labelled, light bulbs have been replaced with LED lights, and radiators are better regulated.

Anyone who is in the school during recess can encounter an energy detective. These detectives check whether electrical appliances are completely turned off or are in standby mode, the classrooms are properly ventilated, and no light is on unnecessarily. In order to perform their responsibilities, they are given a detective badge. This allows them to stay in the school

Lisa Martinek has been involved with atmosfair since 2009. She studied acting in Hamburg and received the German Film Prize for her role as the bicycle courier Lena in the film Härtest. Since then, she has acted in more than two dozen television and film productions. In autumn 2014 she can be seen in the ZDF two-part film Die Abrechnung.



Interview

“Pointing fingers doesn’t do anything”

The actress Lisa Martinek speaks about her engagement for atmosfair, her weekly shopping with her cargo bicycle and children, holiday in the Dominican Republic, and the difference between superstars like Matt Damon and German actors – and why one should call Till Schweiger.

➤ Mrs. Martinek, you are involved with the foundation AtemWeg and atmosfair. Why these organisations? atmosfair and the foundation complement each other perfectly. Pulmonary diseases are caused by bad air and are currently the second-leading cause of death worldwide according to the World Health Organization. atmosfair promotes efficient and clean wood-burning stoves in developing countries. One mustn't forget that their value goes far beyond climate protection. The foundation AtemWeg supports the development of therapies for pulmonary diseases. Prevention and treatment – that fits perfectly together!

➤ How do you find time for this?
I take the time, insofar as it remains apart from my career and family.

➤ How do you want to reach people?
When I get involved as an actress, then more people take a closer look. For me, it's not about pointing fingers. I want to raise consciousness for the environment and the impact of flying.

➤ Many people see themselves as forced to fly, especially in their jobs.
Perhaps. Life is getting ever faster, everyone is supposed to work ever more quickly, living in one city and working in another. But who really wants that for himself or herself per-

sonally? There are also moments for me when events are scheduled in such a way that I have to fly. Then there is at least the possibility to offset with atmosfair. I try anyway to avoid hectic flights; it's not fun.

➤ You live in Berlin and Munich. How do you travel back and forth?
So far we have travelled consistently with the train. It's normal for our children to sit in a train for five hours now and then.

➤ When you were a child, did you fly with your parents on holiday?
Just once. Back then, flying was simply too expensive. I'm not strictly against flying, but one should do it with awareness. In the meantime, the question in planning a holiday is often not "Where do I want to go?" anymore, but rather "Where does the cheapest flight go?" Suddenly, people don't ask themselves if they really want to take a holiday in the Dominican Republic.

➤ For young people, low-cost airlines are now commonplace. Do you think that you can convey a certain restraint to your children with regard to flying?
Since we ourselves do not fly a lot, we certainly have the ability to set a good example. We don't like low-cost airlines and package tours. Of course, many children and youth grow up with low-cost airlines just like Instagram and WhatsApp. But I'm not so pessimistic about this: young people are not dumb, and there are many among them that are fighting for more awareness.

➤ Flying, better air – what else is important to you in the area of ecology?
 At the front of my bicycle there is a large box. I can set my children in there and also do the weekly shopping. We really only take our car, which I definitely don't want to do without, for bulky purchases, excursions, and on holiday. We set this example for our children. We use glass bottles, don't let the water run unnecessarily, and turn out the light. I want to create awareness in my children for what waste is.

➤ The film industry is not exactly an ecological stronghold.
 On the set, there is a mountain of waste every evening – it's quite distressing. But meanwhile there are initiatives against this. For example, everyone receives a cup with his or her name on it in order to avoid the plethora of plastic cups.

➤ Do you try to influence your colleagues?
 I don't think that people want to be instructed in a heavy-handed way. I'm the same way: when it's too concentrated, I'm annoyed. I put a wall up and don't listen any more at all.

➤ Do people in the film business try to reduce flying?
 In film, it's mainly the actors, cameraman, and director who fly. The rest of the teams from make-up to the technical department are mostly employed onsite. In order to save costs. The actors also take the train on a route like Hamburg-Berlin or Frankfurt-Cologne and not a car because it is cheaper and faster. However, it's possible that an actor has to appear in a city in the evening and then as to be somewhere else on the set the next day. It's not possible without flying. That is, unless there is a car with a driver in front of the theatre that can drive one through the night. But that's hardly better for the climate.

➤ Are there pioneers in film companies that offset their flights?
 Not that I know of. Free will is surely a good thing, but I think it would be more important for a climate fee to be charged automatically with each flight. A flat surcharge depending on the flight route – I think that would be sensible.

➤ Politics must get involved.
 Free will alone will not lead to achieving the goal. Basically, kerosene must become considerably more expensive, and petrol for cars as well. At the same time, we should support trains so strongly that they only cost very little. Sure, that's a dream and there's still a long way toward this. However, if trains were much cheaper, then everyone would ride them! Each step in this direction is worth a try. However, the lobby against this is very strong.

➤ In the USA, Arnold Schwarzenegger, Matt Damon, and Harrison Ford filmed a series about the impact of climate change in *Years of Living Dangerously*. You, Daniel Brühl, and Hannes Jänicke are involved in Germany. Why doesn't that receive more attention?
 In the USA, people go the movies to see Matt Damon. For him and the other superstars, the people will also watch an environmental documentary. When a few stars together with a strong producer get together in the USA, they can make a very successful and influential film very quickly. That's not true with us. We don't have stars like that.

➤ Till Schweiger is a successful producer and actor... True. One would have to just ask him straight out.

THE ATMOSFAIR EVENT CALCULATOR



Event organisers and companies that decide on offsetting receive a certificate from atmosfair for the offset CO₂ emissions. The atmosfair CO₂ event calculator queries the most important factors online, e.g., how many people will participate in the event, how long is the event, and how will the participants travel there? The calculator takes the energy data from the event location into account in detail or uses average values if these are not known. Event organisers can integrate the calculator directly into their website.

In general, 70 percent of the event emissions are due to the participants' travel to and from the venue; overnight stays contribute an additional 15 percent, and catering, electricity, and heating share the rest among them (see graphic). For example, an event with 80 participants in Frankfurt (all travel within Germany by train and spend one night in a hotel) thus produces 4,800 kilograms of CO₂.

Steigenberger backs green meetings

Quelle: steigenberger

Fairs, annual meetings, conferences, and rock concerts – events bring people together, but they also contribute to climate change. CO₂ emissions are created through travel to the venue, catering, and the energy supply for the event location. atmosfair offers event organisers and companies the chance to offset the carbon footprint of their events.

Together with the Verband Deutsches Reisemanagement e.V. (VDR), atmosfair has developed a comprehensive methodology for calculating event-related emissions. "The topic of sustainability is ever more important for event organisers," explains Linda Kannenberg of atmosfair. This assessment is also supported in the Meeting & Event Barometer 2013: nearly 40 percent of the event providers asked in the survey reported that the importance of green meetings is increasing. However, until now, the offsetting of CO₂ emissions with event organisers remains an absolute exception to the rule. "The event organisers and venues rightly set other priorities," continues Kannenberg. "Especially when it comes to older buildings and obsolete working practices, the location must first be rethought. Here, energy-efficient measures in particular must be established, offering mainly vegetarian catering with organic products or using green electricity." As the atmosfair credo goes: first avoid CO₂ emissions, then offset.

The newly opened Steigenberger Hotel Am Kanzleramt in Berlin now does both: the building was constructed following the most modern energy standards. During events, CO₂ emissions are avoided as much as possible – and the non-avoidable ones are offset. The contribution to climate protection is part of the hotel chain's ecological orientation: since 2010, Steigenberger Hotels are being certified little by little under the environmental management system ISO 14001. If one books a lunch with an event, one receives organic and fair-trade products, mainly from regional sources. Conference notepads are made from recycled paper. And now CO₂ offsetting is being added as a flagship project. "Our environmental management is a unique selling point, and certainly many customers book with us for exactly this reason," explains Torsten Schulze, both General Manager of the hotel and CRO officer for Steigenberger as a whole. This will allow the federal ministries in the area to pay more attention to the environmental impact; the same goes for associations and the pharmaceutical industry. "With

comparable projects, we have had the experience that our customers do not expect additional charges for our engagement," Schulze qualifies. For this reason, Steigenberger offers the offsetting without any additional charge; the costs are covered through additional revenues.

The events' CO₂ offsetting at the Hotel Am Kanzleramt will serve as a model. The other hotels in the chain would like to follow in their footsteps. "We are performing pioneering work because naturally climate protection is dear to our hearts. At the same time, a trend of customers demanding special environmental performance can be observed," Schulze is convinced.

Internet:

The atmosfair event calculator:

<https://www.atmosfair.de/en/kompensieren/event>

To Steigenberger's Green Meetings:

<http://en.steigenberger.com/Berlin/Steigenberger-Hotel-Am-Kanzleramt/Green-Meetings>

TORSTEN SCHULZE, GENERAL MANAGER AT STEIGENBERGER



Torsten Schulze is the General Manager at the Steigenberger Hotel Am Kanzleramt and Area General Manager for the Berlin region. In addition, he is the CRO officer of the company. He chose atmosfair as a partner because he did not want to be suspected of green washing. "atmosfair Managing Director Dietrich Brockhagen and his employees came by bike to our meeting. That impressed me," the hotelier adds to the record. "atmosfair has high certification standards and also pays attention to the social aspects in all of their projects. For me, this is an essential part of corporate responsibility."



Tour operators for climate protection

100 percent climate protection included

viventura is a specialist for trips to South America

If a flight cannot be avoided, offsetting the CO₂ emissions is an alternative. Ever more tour operators are offering this service to their customers. The association forum anders reisen e.V. would like to increase the offsetting rate further.

Anyone who wants to offset the CO₂ emissions from their holiday flight can enter the travel route on atmosfair's website and transfer the calculated amount. Meanwhile, quite a few tour operators ask their customers directly at the time of booking whether an offsetting amount should be transferred for the flight. For this, the only thing needed is to make the appropriate checkmark during the booking process. Fourteen tour operators from the association forum anders reisen e.V. (FAR) are going a step further. Since the beginning of 2014, they offer trips for which the costs for CO₂ offsetting are included directly. With Seabreeze Travel, for instance, one can watch whales and dolphins in the Azores. Not only is the CO₂ offsetting included in the price of travel, but also the excursions on land. AcceptReisen offers a 15-day tour through Tanzania, but holidaymakers can only take the flight on the African continent when CO₂ offsetting is included. videntura already pushed ahead in 2013: for all flights that the customers booked in October, the specialist in South America assumed the offsetting costs.

„We are proud that so many of our members are taking this step and that we are taking the lead with this as an association,” says Johannes Reißland, Managing Director of forum anders reisen. The offsetting is not a free pass for flying. For this reason, the members of FAR only offer trips by flight that fulfill certain criteria: for distances under about 800 kilometres, FAR

travellers will only fly in justified exceptional cases. If the trip does not last longer than a week, they are not permitted to fly over 3,800 kilometres.

Only at the end of 2014 will it be possible to evaluate how well the additional charge is received by the customers. However, Reißland is confident: “I hope that the customer recognises the added value of climate protection and accepts the offer.” The opinions of flight passengers give a reason for this hope: in a representative survey of Consumer Associations in 2010, 46 percent reported that they could imagine making a donation for the climate.

OFFSETTING AIR TRAVEL

When atmosfair was founded in 2005, the declared objective was to inform flight passengers about the climate impact of air travel and to offer CO₂ emissions offsetting as a sensible course of action. Today, around 60 percent of the donation revenues come from individual flight passengers. Approximately 85 percent of these people make their donation on atmosfair's website; 15 percent of the contributions are conveyed through tour operators and travel agencies. However, in total, not more than 1 percent of Germans offset their flights.

Benno Schmidt is the Marketing Manager for the German-speaking region at viventura and has also been responsible for CSR there for just under a year. viventura is a specialist for travel to South America and offers classic discovery tours as well as special holidays. The tour operator is a member of forum anders reisen e.V. and feels committed to sustainable and responsible tourism.



Interview

"That's a conflict"

➤ Mr. Schmidt, you offer trips exclusively to South America. Are your customers especially sensitive towards sustainability issues?

I think that people primarily book with us as a specialist for South America. Of course, our efforts towards more sustainability within tourism also play an important role in the booking decision of some customers, but generally it's a more subordinate topic.

➤ In 2013 you assumed the full costs of the atmosfair contribution for CO₂ offsetting for all flights that were booked in the month of October. Thus, your customers actually flew for the same price with their climate impact offset. What motivated you to make this offer?

Sustainability was and is a central theme at viventura from beginning to end. With all of our trips, we meticulously ensure that the local populations are involved in the value chain and that they benefit from our trips. Likewise, we examine the ecological standards of our partners in South America. On the other hand, we fly our customers clear across the Atlantic and with this produce large amounts of CO₂ emissions. That's a conflict.

➤ And? How did the customers accept the offer?

We suspected that we would have to invest a bit financially for this experience – in the end, our margins are calculated to be very narrow so that we can pass on the most attractive prices possible to our customers. We expected that we would be able to sell perhaps 20 to 30 percent more trips through the offer than we did in the comparison month the previous year. But in the end it was 67 percent more! This was a wonderful result of course. However, it's difficult to say what this surplus could be ascribed to. In all, 2013 was a good year; we also already had growth of 30% in September. Naturally, we also heavily advertised this special offer: we sent off press releases, placed ads, and advertised the offer in our newsletter, on the homepage, and in all social media channels.

➤ In 2014, you are once again offering a number of trips for which the costs of CO₂ offsetting are directly included... We are offering about 50 selected trips this year, both with and without CO₂ offsetting. The customer will pay the same for each. Whether the climate protection contribution is included or not will only differ at the date of departure. With this, we want to test how the customers react to such an "additional feature" that is free of charge. The current offer affects about 10 percent of our trips. The goal is to increase this percentage little by little. However, this must also be economically feasible. Without additional bookings coming from this, we cannot bear the additional costs that result from these offsetting payments.

➤ Do you already have an initial evaluation of your booking numbers?

Since the offer has only been available for three months, we cannot detect any trend yet.

➤ What do you think: will CO₂ offsetting become more important for the travel industry?

I think that there is fundamentally a lot of potential in the topic. However, too little is done for this because politics and business are not under any obligations. Many of our customers don't even know about the option of CO₂ offsetting, and if they do, then it quickly takes on the flavour of selling indulgences.

➤ How do you see viventura's climate balance in five years?

In the long-term we have the goal to be 100 percent sustainable, with bus rides and all the trappings. We are pursuing this in earnest.

Internet (in German):

www.viventura.de/blog/klimafreundlich-reisen

www.viventura.de/blog/nachhaltig-reisen



Interview

“We don’t actually do anything special”

Bruno Guttenberg offers trips to Iceland

Island Erlebnisreisen offers individual and group trips to Iceland and Greenland. Each year, over 70 percent of Bruno Guttenberg’s customers decide to make a contribution to climate protection – an extremely high number. We decided to ask him about this.

➤ Mr. Guttenberg, for years, around 70 percent of your customers have offset their flights. How have you achieved that?
 We don’t actually do anything special. About five years ago, we firmly integrated the atmosfair donation in our booking system. We put together individualised travel plans for our customers; anyone who does not wish to make the contribution must actively exclude it, most often in a personal conversation. Before this, we only recommended the climate protection contribution to our customers. At the beginning it was a bit time-consuming to set it up. Since then, it has not cost us any effort anymore, and year after year, ever fewer customers say “no.” For this reason, I already have the feeling that awareness of the problem is increasing. Last year, a whole student group made the contribution, even though they had very little money.

➤ Do you have an explanation for why climate protection is so important for your customers in particular?
 Certainly many of our customers are close to nature and don’t want to experience nature at its cost. In addition, one can experience climate change concretely in Iceland and Greenland. For the last few years, Greenlanders cannot go with their sled dogs onto the sea on the seal hunt because the ice is too thin. In southern Iceland, the puffins can no longer find enough food for their young because mackerels have spread through the north due to the rising ocean temperatures and eat the sand eels there – the preferred food for puffins to raise their young.

➤ Why is CO₂ offsetting an important topic for you as a tour operator?
 Above all, it’s an important topic for me as a person. I have a child

that makes me wish for a future worth living in.

➤ What was the deciding factor for offering CO₂ offsetting to your customers?
 A decisive experience for me was the UN Climate Report from the year 2006. There for the first time, the impact of air traffic on the world climate was displayed clearly; even BILD reported on it. This plunged me into a crisis: for the trips that we offer, one must fly. After all, we didn’t want to offer Friesland Adventure Tours. Then the question arose of what we could do. atmosfair’s approach convinced us.

Internet (in German):
www.islanderlebnis.de

ATMOSFAIR AWARD FOR TOUR OPERATORS



Since 2010, atmosfair has honoured tour operators that are especially engaged in climate protection with the atmosfair Award. In 2013, the first prize went to a newcomer: Geographische Reisegesellschaft (GeoRG) took place in the competition for the first time and set a new record straight away with an offsetting rate of 87 percent of flights. However, last year’s winner Island Erlebnisreisen was also able to increase the proportion of offset flights by 4 percentage points to 76 percent and thus secured the silver medal. Also new in the running was Aksyt Ammat, a member of forum anders reisen like GeoRG. Fifty-five percent of the Finnish tour operator’s customers are aware of their travel’s climate impact and made a voluntary offsetting contribution; this was worth the bronze medal.

Business travel in climate check

atmosfair helps companies to evaluate their own emissions with the help of reliable figures and to compare them with those of other companies. Companies benefit from exclusive access to detailed benchmarking data.

By now, no one can imagine the business world without the topic of climate protection. For this reason, ever more companies publish environmental figures alongside their financial figures, such as their entire CO₂ emissions. Some have done this for years voluntarily, others are being forced to do so by law.

The directive adopted by the EU Parliament in April 2014 on the disclosure of non-financial information for companies marks the latest step in this development. Often it is limited to the publication of figures. The logical next step, a reduction in CO₂ emissions, is not following systematically. A common reason for this is that the classification of the CO₂ figures in comparison with those of other companies is missing. This is especially true for the area of business travel. In the past, atmosfair often received the feedback that companies could not evaluate the calculated emissions figures. The question of whether one is already CO₂-efficient or which are the biggest contributors to CO₂ is very difficult to answer because comparable numbers hardly exist. On this point, atmosfair is starting a new initiative.

With the Airline Index, atmosfair ensured that flight passengers can compare the climate efficiency of airlines. With a climate efficiency check, atmosfair is bringing out a CO₂ benchmarking that allows companies to better judge their own travel activity and its effects on the climate. Participation is voluntary, the data remain anonymous and can only be made available to other participating companies with consent.

atmosfair is pursuing two goals with the CO₂ benchmarking:

- Companies should be able to compare the climate efficiency of their business trips with those of other companies. Because the structure of company activities and thus the associated business travel is very different, industry-specific indicators must be generated.
- Companies should be able to evaluate the emissions in relation to the economic strength of the company. From a CO₂ budget approach and economic data, atmosfair concludes whether the company's business travel is economically sustainable and climate-compatible.
- atmosfair has developed indicators that set the CO₂ emissions from business trips in relation to company key figures such as number of employees, revenues, value added, and travel costs. These indicators allow a comparison among companies. In addition, the identified CO₂ emissions allow for a comparison with an annual CO₂ budget that is available for business trips. Thus, companies can immediately see if they are on a climate-compatible path.

Companies that would like to be part of the CO₂ benchmarking for business travel can contact atmosfair (see info box). The advantages: for the first time, a company's own emissions can be evaluated using real comparison numbers. With this benchmarking, the biggest areas for CO₂ improvement can be easily identified and potential for CO₂ avoidance and CO₂ reductions can be deduced. If a company already operates CO₂-efficiently, it can communicate this success both internally and externally. In this way, the benchmarking creates competition towards more climate protection, from which the company profits the most in the medium term.

BETTER EVALUATION OF CO₂ EMISSIONS!

Are you in search of an exchange with companies that are likewise interested in climate protection measures? Would you like to know how CO₂-efficient other companies in the industry are? Become a part of CO₂ Benchmarking for Business Travel and benefit from exclusive access to the detailed benchmarking data!

Contact: Jan-Moritz Jericke,
+49 (0)30 6273550-18,
jericke@atmosfair.de



The choice of means of transportation has a significant impact on CO₂ emissions, costs, and labour productivity

The next holiday is sure to come

Collaboration with large travel agency associations



EAround two-thirds of all holidays in Germany are booked through a travel agency; this is the case in hardly any other country. However, in competition with growing

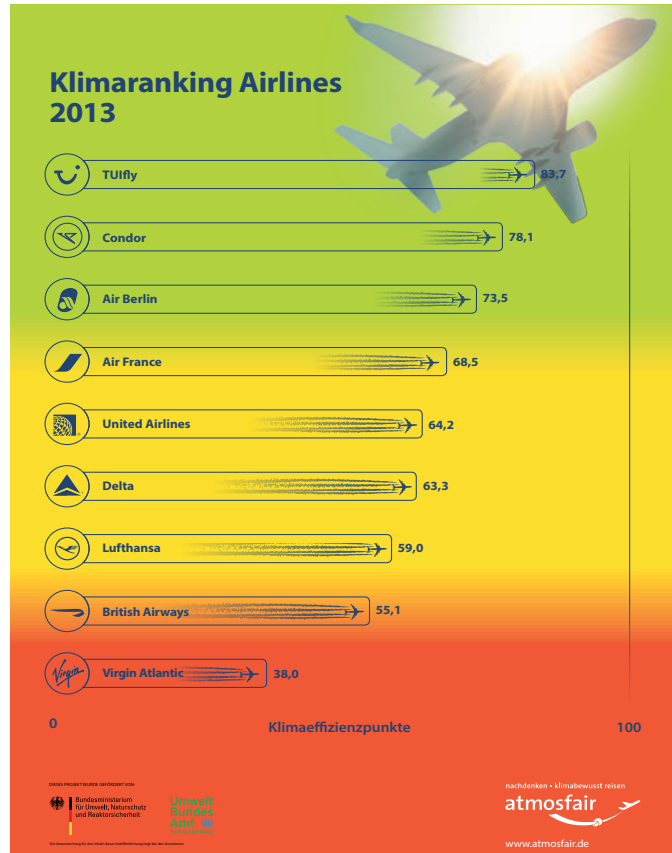
sales through internet portals, travel agencies must offer added value through their advising. The topic of sustainability is especially well suited for this because in this area, not only are facts and numbers important, but also the connections between travel and the environment as well as personal experiences.

For this reason, atmosfair together with the three large independent travel agency collaborations BEST-RMG, AER, and Lufthansa City Center began to develop trainings for travel agency employees.



The Federal Environment Agency (UBA) supported the project in developing online trainings, materials for the sales desk as well as a quality seal.

atmosfair presented the project to the specialist public as part of a podium discussion at the ITB 2014. In addition, the UBA support was used to develop the VDR business travel reporting into an industry standard.



The atmosfair Airline Climate Ranking as a poster for travel agencies
Left column: standee for climate protection for customers and travel agency employees and the logo of the Federal Environment Agency

atmosfair Airline Index 2013

The CO₂ emissions continue to increase

The presentation of the atmosfair Airline Index 2013 was met with a wide response in the German and international media, particularly on the title pages of newspapers, but also on television and on the radio. The news: the big airlines of the world may have reduced their CO₂ emissions per passenger and kilometre by around 1 percent compared with last year, but at the same time, the CO₂ emissions of the entire aviation industry grew about 5 percent due to increased passenger traffic. With this, the aviation industry was over the worldwide CO₂ growth rate of 3 percent annually and also did not switch to a path that is compatible with the 2° climate goal. Many newspapers were mainly interested in how their national airlines placed, others asked the aviation associations or the national airlines directly and gathered statements on the sobering results.

For the first time, the Airline Index 2013 also compared the airlines in group assessments of the different continents. Asia, Europe, and South America are equally ahead and are followed closely by airlines from the Middle East and North America. Only the airlines from Africa and above all from the Least Developed Countries fell way behind. In this, the differences from airline to airline within a continent far exceeded those among the continents, such as the examples of Tunisair (Tunisia, 56th place) and Virgin Atlantic (England, 116th place) show. Spiegel Online summarises that the index shows that for climate-friendly flying, it is irrelevant whether the airlines come from industrialised or developing countries.

Nonetheless, only at the beginning of October did the developing countries push through wide-reaching exceptions to

future ICAO climate guidelines for airlines from these countries with reference to differences in development at the decisive climate proceedings within the International Civil Aviation Organization (ICAO) in Montreal (see page 6).

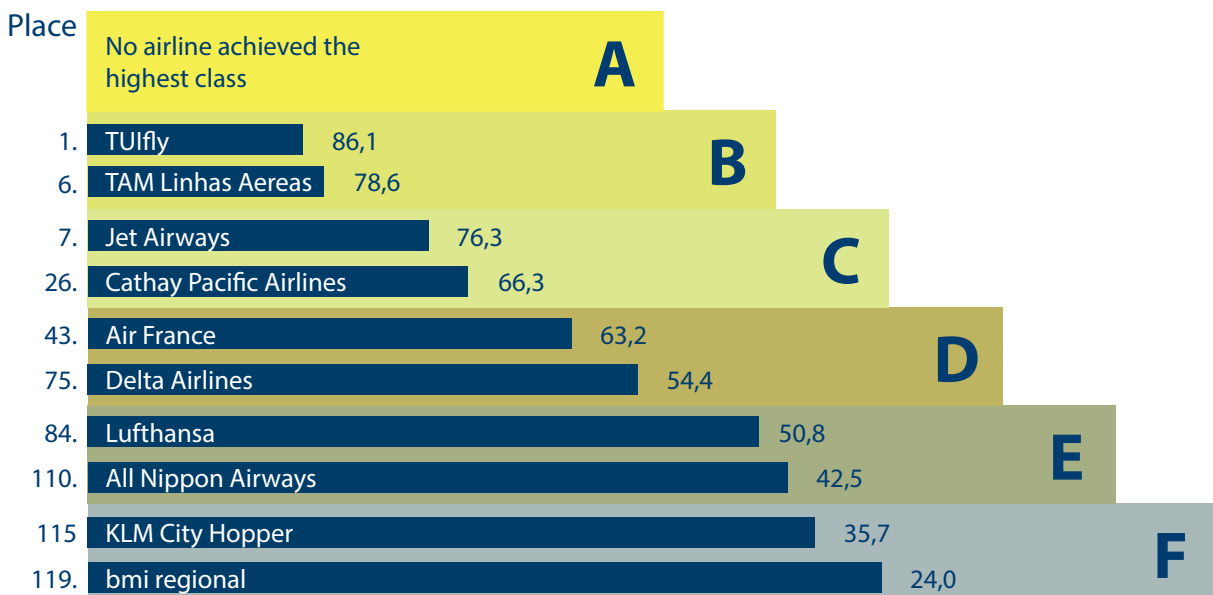
This appears questionable with the exception of a few African and Least Developed Countries in light of the results from the

Airline Index.

The airlines' sinking of CO₂ emissions per kilometre is largely the result of replacing older aircraft models like the Boeing 747 with the Boeing 777 or with the Airbus 330. The retrofitting of aerodynamic winglets and the overall better aircraft utilisation rate also increased the efficiency.

atmosfair Airline Index 2013

Short-distance: in each class, two airlines are listed as examples, which make up the rows.



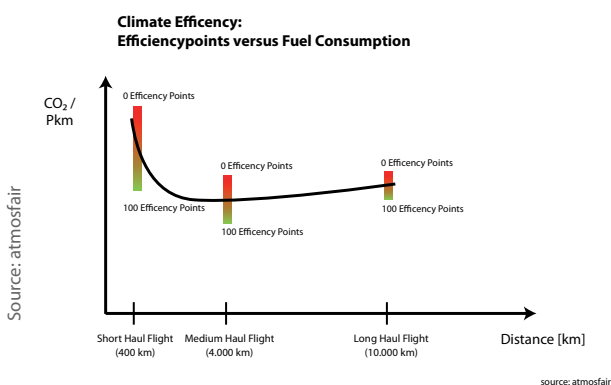
How do airlines win?

1st place: TUI fly (Class B)

In the assessment of "short-distance," TUI fly reached 86.1 of 100 possible points because the airline uses the efficient aircraft type B737-800. These have almost the maximum seating capacity, and in addition, the flights have a high utilisation rate.

Kerosene use on short-, mid-, and long-distance flights

Calculation methodology



Short-distance flights create significantly more CO₂ per kilometre flown than medium-distance flights. This is due to the fact that starting up an aircraft and the ascent into higher altitudes especially uses a lot of kerosene. With long-distance flights, the CO₂ value increases again: the aircrafts are heavier because they have to carry more kerosene in their tanks. The atmosfair Airline Index gives 100 points on each route for optimal efficiency and thus makes all of the airlines comparable.



Financial Report

At just under 4 million euros, atmosfair's revenues in 2013 rose significantly compared with the previous year. atmosfair did not receive any public subsidies. The exception was support from the Federal Environment Agency (UBA) for a climate protection collaboration with travel agencies that began in 2011. With just one investor, who contributed over 10% of profits (DHL), the non-profit limited liability company remained financially independent.

Since 2007, revenues from economic business operations have been added on top of the contributions. The profits generated pay for part of the costs of the non-profit part of atmosfair. In this way, the administrative component of the donation revenues could be kept at 10% of costs.

Out of 100 euros of donation revenues, 90 euros went to the purchase of technologies as well as to the planners and operators of the climate protection projects in the developing countries; atmosfair used just 10 euros for its own personnel for customer support as well as for other costs such as IT, bookkeeping, public relations work, rent, and credit card fees.

Organisation

Stiftung Zukunftsfähigkeit based in Bonn continues to be the sole partner of the atmosfair gGmbH. The four-person advisory board, consisting of two representatives of the German Federal Ministry for the Environment and two representatives from environmental organisations, approved the climate protection projects contracted in 2013. None of the persons in these bodies received compensation or reimbursement for this.

The fiscal authority certified the non-profit limited liability company's tax exemption for 2013. For the climate protection contributions received in 2013, the non-profit GmbH issued the donation certificates in due form.

Financially independent

atmosfair financed itself in 2013 solely through donations and revenues from economic business operations. The latter is allowed to a limited extent within a non-profit organisation. Besides support for the UBA project, atmosfair did not receive any public subsidies and is thus financially independent. The sole partner Stiftung Zukunftsfähigkeit did not pay any money

to atmosfair in 2013, and neither did atmosfair pay any money to the foundation.

Profits and expenses

In 2013, atmosfair achieved a total of nearly 4 million euros in revenues. The largest expenses were the payments to climate protection projects. These included costs for the purchase of technologies (e.g., stoves), project set-up and operation, including the TÜV audit and other UN-approved auditors as well as the personnel abroad for the projects.

In total, atmosfair spent around 3.5 million euros and for this, liquidated provisions from previous years. With this, the expenditures for the offsetting projects in 2013 were so high that atmosfair could create new reserves for future climate protection projects in the amount of nearly 250,000 euros. On top of the expenditures for CO₂ offsetting projects came the costs for personnel in the atmosfair office in Berlin for project planning and supervision in the amount of nearly 150,000 euros.

In total, atmosfair has contractually promised project operators a good 9 million euros in subsidies until 2020. With this, atmosfair has more contractual obligations than reserves. At the end of 2013, these amounted to a good 5 million euros for the climate

projection projects. This approach is necessary for climate protection projects that have a duration of 10 years or more. Thus, donations in the coming years will be used to fulfill the existing contracts. Within the provisions, atmosfair reserves a portion for initiating pilot projects.

Salaries in line with the TVL rate

Besides the climate protection projects, personnel expenses were the second largest cost factor. atmosfair employees earn salaries in line with the public service sector rate of the states (TVL), whereby project managers are currently paid at level 11 and team leaders at level 13. The total general administrative costs for telephone, postage, insurance, and office supplies amounted to about 40,000 euros. 33,000 euros went to the rent.

Furthermore atmosfair must pay the costs for credit card fees and payment services. These are necessary in order to account for the incoming online payments and transfer them to the atmosfair account.

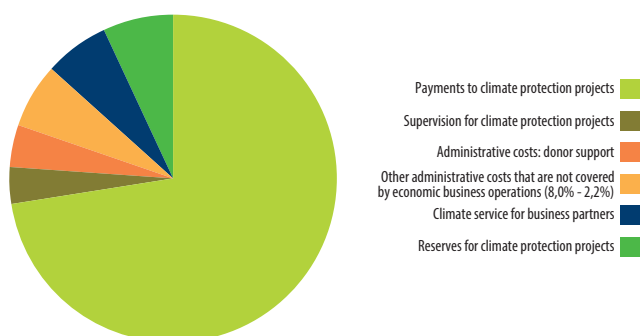
Balance sheet of atmosfair gGmbH

| Assets | Euros | Liabilities | Euro |
|--|---------------------|---|---------------------|
| A. Fixed assets | 7.666,00 | A. Owner's equity | 5.089.486,06 |
| I. Intangible assets | 885,00 | I. Subscribed capital | 25.000,00 |
| II. Tangible assets | 6.781,00 | II. Reserves for statutory purposes | 3.362.029,32 |
| | | Short-term reserves for climate protection projects | |
| | | Free reserves (may also be used for climate projects) | 1.702.456,74 |
| B. Current assets | 6.394.095,61 | B. Provisions | 1.218.712,04 |
| I. Inventory | 0,00 | Taxes payable | 88.120,00 |
| II. Accounts receivable and other assets | | Provisions for climate protection projects | 1.120.867,28 |
| Trade accounts receivable | 243.955,78 | Other provisions | 9.724,76 |
| Other accounts receivable | 129.596,03 | | |
| III. Kassenbestand, Guthaben etc. | 6.020.543,80 | | |
| III. Cash and cash equivalents | 2.742,29 | C. Accounts payable | 96.305,80 |
| | | Trade accounts payable | 82.958,06 |
| | | - Other accounts payable | 13.347,74 |
| Total | 6.404.503,90 | Total | 6.404.503,90 |

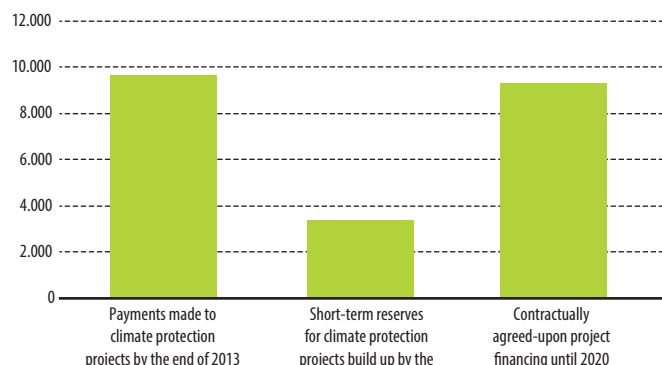
Income Statement 2013

| | 2013 | 2013 | 2012 |
|---|-------------------|---------------|-------------------|
| | € | % | € |
| Revenues | | | |
| Voluntary climate protection contributions for climate protection projects | 2.297.204 | 58,3 | 1.962.374 |
| Climate protection projects on behalf of customers and funds towards the purchase of technologies, before taxes | 1.412.529 | 35,9 | 1.026.495 |
| Subtotal for climate protection projects | 3.709.734 | 94,2 | 2.988.869 |
| Support from Federal Environment Agency, Project Climate Protection in Travel Agencies | 29.750 | 0,8 | 18.000 |
| CO ₂ reporting software, climate service for companies, before taxes | 173.449 | 4,4 | 211.945 |
| Other revenues (interest, etc.) | 25.398 | 0,6 | 41.843 |
| Total | 3.938.331 | 100,0 | 3.260.657 |
| Expenses | | | |
| a) Climate protection projects for CO ₂ offsetting, private and corporate customers | | | |
| - Direct expenses (planning, setup, operation, technology purchase, audit, and personnel in developing countries) | -3.502.035 | -88,9 | -2.521.117 |
| - Liquidation of earlier provisions for climate protection projects, intangible arena | 762.000 | 19,3 | 0 |
| Balance for climate protection projects CO ₂ offsetting with the use of earlier provisions | -2.740.035 | -69,6 | -2.637.643 |
| - Personnel: project planning and support from atmosfair in Germany | -143.754 | -3,7 | -116.526 |
| b) Supervision of contributors and partners | | | |
| - Personnel costs | -125.785 | -3,2 | -101.960 |
| - Public relations work | -22.904 | -0,6 | -23.500 |
| Total supervision of contributors and partners, public relations work | -148.689 | -3,8 | -125.460 |
| c) Other administrative costs | | | |
| Administration (telecommunications, postage, office supplies, insurance, membership fees, depreciation) | -39.088 | -1,0 | -29.841 |
| Rent, maintenance, etc. | -32.983 | -0,8 | -25.770 |
| Credit card fees, payment services, account fees, exchange rate differences | -11.113 | -0,3 | -12.961 |
| IT (fees, maintenance costs, server costs) | -83.681 | -2,1 | -103.397 |
| Bookkeeping, tax advisory services, and financial statements | -30.843 | -0,8 | -30.250 |
| Printing costs for publications | -6.308 | -0,2 | -2.687 |
| Work contracts | -121.915 | -3,1 | -71.474 |
| Business trips | -5.835 | -0,1 | -13.730 |
| Advertisements (ads, commercials, promotion teams) | 0 | 0,0 | 0 |
| Total of other administrative costs | -331.765 | -8,4 | -290.110 |
| d) Climate service for companies | | | |
| - CO ₂ accounting software | -44.598 | -1,1 | -62.683 |
| - Personnel: climate service for companies | -89.846 | -2,3 | -72.829 |
| - Taxes on revenues from climate service and climate protection projects for corporate customers | -107.418 | -2,7 | -63.040 |
| Total climate service for companies | -241.862 | -6,1 | -198.552 |
| e) Use of surpluses | | | |
| For information only: Sum of all surpluses, of which 267,250 EUR are from business operations, after taxes | 340.225 | 8,6 | 229.035 |
| Use of surpluses: contribution margin from business operation profits used to lower administrative costs | -85.000,0 | -2,2 | -98.902,0 |
| Use of surpluses: climate protection projects | -255.225 | -6,3 | -139.025 |
| Total | -3.938.331 | -100,0 | -3.260.657 |
| Result after accumulation of reserves for climate protection projects/use of surpluses | 0 | | 0 |

atmosfair gGmbH expenses 2013



Project financing as of the end of 2013



Cost reduction through atmosfair's own profits

In 2013, atmosfair earned surpluses in commercial revenues in the amount of 270,000 euros after taxes; these were earned through the operation of climate protection projects on customers' behalf, the sale of the CO₂ accounting software, and consulting services (climate service for companies). From this, 90,000 euros were used as cross-subsidies in order to keep atmosfair's own costs down to 10 percent (see the table on page 40, Expenses under e). With this cross-subsidisation, the costs for rent, administration, and bookkeeping were completely covered (see the table on page 40, Expenses under d)).

Own total costs just 10% of contributions

One of the atmosfair standards requires the efficient use of contributions, and thus only a small percentage of contributions are used for atmosfair's own costs. What is meant here is that those funds that are not used for climate protection projects, but rather by atmosfair for its own background work. In 2013, just 10% of donation funds were spent for this purpose and were used for personnel costs for the management of contributions, partners as well as for public relations work and travel costs.

The low costs are also made possible by using atmosfair's own software that makes it possible to manage the majority of the contributions effortlessly. For this, the IT costs in 2013 could be reduced from over 100,000 to 80,000 euros.

What is more, atmosfair continued to forgo all forms of paid advertisement such as ads, commercials, or promotion teams in 2013. Partners financed the advertising campaign at airports, and the participating celebrities made their contribution free of charge. In other words, of 100 euros in contributions, 90 euros went to the planners, technology providers as well as to the project operators in the developing countries; atmosfair used just around 10 euros for the remaining personnel and administrative costs.

Achievement of objectives

With the climate protection projects that have thus far been signed off the reduction obligations already received can be covered (see Overview on page 11). Within the two-year period that may elapse between the receipt of the contribution and its use in a climate protection project, atmosfair has thus far always reduced more greenhouse gases than were required by the contributions.

Managing director's review and discharge

The managing director of the gGmbH drew up the financial statements on December 31st, 2013. The partner's meeting determined the proper completion of the annual report on April 18th, 2014 and discharged the managing director. ➤

Press review

Stiddeutsche Zeitung "Coming together for the climate"

"Offsetting is always just the second-best way; the best way is to avoid CO₂," says Brockhagen. In leasing a car, one has alternatives, for instance, the train or bus. This would actually avoid CO₂. "When flying, one sometimes doesn't have an alternative; this is why it makes sense to offset." 07.03.2013

stern "These logos guarantee sustainable travel"

atmosfair offers (...) an emissions calculator with which every passenger can determine the greenhouse gas emissions of travel flights and offset them with payments into an environmental fund. "By now, 40 organisers have integrated this service in their booking engines," says Dietrich Brockhagen, Managing Director of atmosfair. 22.07.2013

SPIEGEL ONLINE "TUfly has the best CO₂ balance of charter airlines"

atmosfair explained that on average, all airlines reduced their CO₂ emissions per passenger and kilometre by one percent. However, since passenger air traffic increased by six percent at the same time, the emissions increased by five percent – more strongly than in nearly every other industry. 28.10.2013



Is it all in vain?

"Just 6 of 46 organisations work economically, are transparent, and well organized: atmosfair. ..." "The six donor organisations in the top group not only work economically, but also are open about their revenues and expenditures, report on their projects' impact, and are organised in a way that hinders corruption and avoids waste." 01.12.2013



"With good conscience – atmosfair offsets carbon dioxide from flights"

By its own account, the company attaches great importance to the quality of the supported projects. All are "Gold Standard Clean Development Mechanism projects." 04.07.2013

taz. die tageszeitung "TunisAir flies climate-friendlier"

"The differences among airlines can be considerable," says atmosfair Managing Director Dietrich Brockhagen. "The fuel consumption per passenger and kilometre with one airline can be more than double that of another on the same route." 28.10.2013

STUTTGARTER ZEITUNG "Aviation pollutes the climate ever more intensely"

"Not a single airline achieved the highest efficiency class A. At least 14 companies have now placed in class B; that is more than last year." 28.10.2013

References (selection)

Companies



NGOs, political organisations, and associations



Climate-friendly events



Partners (selection)

Business travel



Tourism



Venues



Climate protection projects



The team

Patrons



Prof. Dr. Klaus Töpfer
Former executive director of the United Nations Environment Programme (UNEP)



Prof. Dr. Mojib Latif
Professor at the Leibniz Institute of Marine Sciences at the University of Kiel



Prof. Dr. Hartmut Graßl
Former director of the Max Planck Institute for Meteorology in Hamburg

Managing Directors



Dr. Dietrich Brockhagen
Physicist and economist
Former positions at the German Aerospace Centre, the European Commission and the German Federal Ministry for the Environment



Steffen Pohlmann
Financial accountant
Accounting and controlling

Employees in CDM project development



Xaver Kitzinger
Economic geographer
Team leader, supervision of CDM projects (PoA)



Dr. Robert Müller
Biologist
Development and supervision of climate protection projects



Bhai Raja Maharjan
Geographer
Development and supervision of climate protection projects, focus on biomass



Allan Mubiru
Economist
Rwanda Country Manager



Maren Kügler
Mechanical engineer
Project implementation and controlling



Katrin Wolf
Geographer
Monitoring of wood-burning stove projects



Sven Bratschke
M.A. Global Change Management
CDM project management



Toyin Oshaniwa
E. Environment and Sustainability Management
Nigeria Country Manager

Employees in account management and product development



Jakob Völker
Physicist and economist
Team leader, organisation and business development



Jan- Moritz Jericke
M.A. International Affairs, Environment, and Sustainable Development
Business customers, business development



Petra Kirberger
Freelance worker in PR/ support of collaborations and companies



Linda Kannenberg
M.Sc. Sustainability Management
Events and account management



Lina Tabea Maguhn
B.A. Business Economics/ Environment Management
Social Media and account management



Bernd Becker
Graduate in business administration
CO₂ reporting and consulting for business trips

Additional employees



Maik Höhne
Industrial engineer
CO₂ accounting for cruises and air travel



Jutta Hofmann
M.A. candidate in Sustainable Tourism Management
Work-study student, account management and product development



Daniel Burgenmeister
B.Sc. candidate in Economics
Work-study student, sales assistant



Olaf Schreiber
IT coordination and project management

Scientific advisory board for atmosfair standards



Christoph Bals
Executive Director for Policy of the organisation Germanwatch, has followed Germany's climate policy with a critical eye for over 15 years



Norbert Gorißen
Leader of the department KI II 7 at the German Federal Ministry for the Environment: financing of international climate protection, the International Climate Initiative



Franz Josef Schafhausen
Leader of the subdivision KI I at the German Federal Ministry for the Environment: climate protection, environment, and energy



Klaus Milke
CEO of Stiftung Zukunftsfähigkeit and Germanwatch, brings experience and business contacts to climate protection

I fly atmosfair!

LISA MARTINEK

Lisa Martinek has been involved with atmosfair since 2009. The actress received the German Film Prize and has acted in more than two dozen television and film productions. In autumn 2014 she can be seen in the ZDF two-part film "Die Abrechnung".

"atmosfair practices climate protection in such a way that I know exactly what is happening with the money. Additionally, the efficient wood-burning stoves especially protect women from respiratory diseases."

think • go climate conscious

atmosfair

