

go climate conscious



ANNUAL REPORT



2016

PARTNERSHIPS

Clean water for Egypt

New "Sun Meets Water" technology

AIR TRAVEL

Climate policy in international air travel

Was 2016 a turning point?

RESEARCH

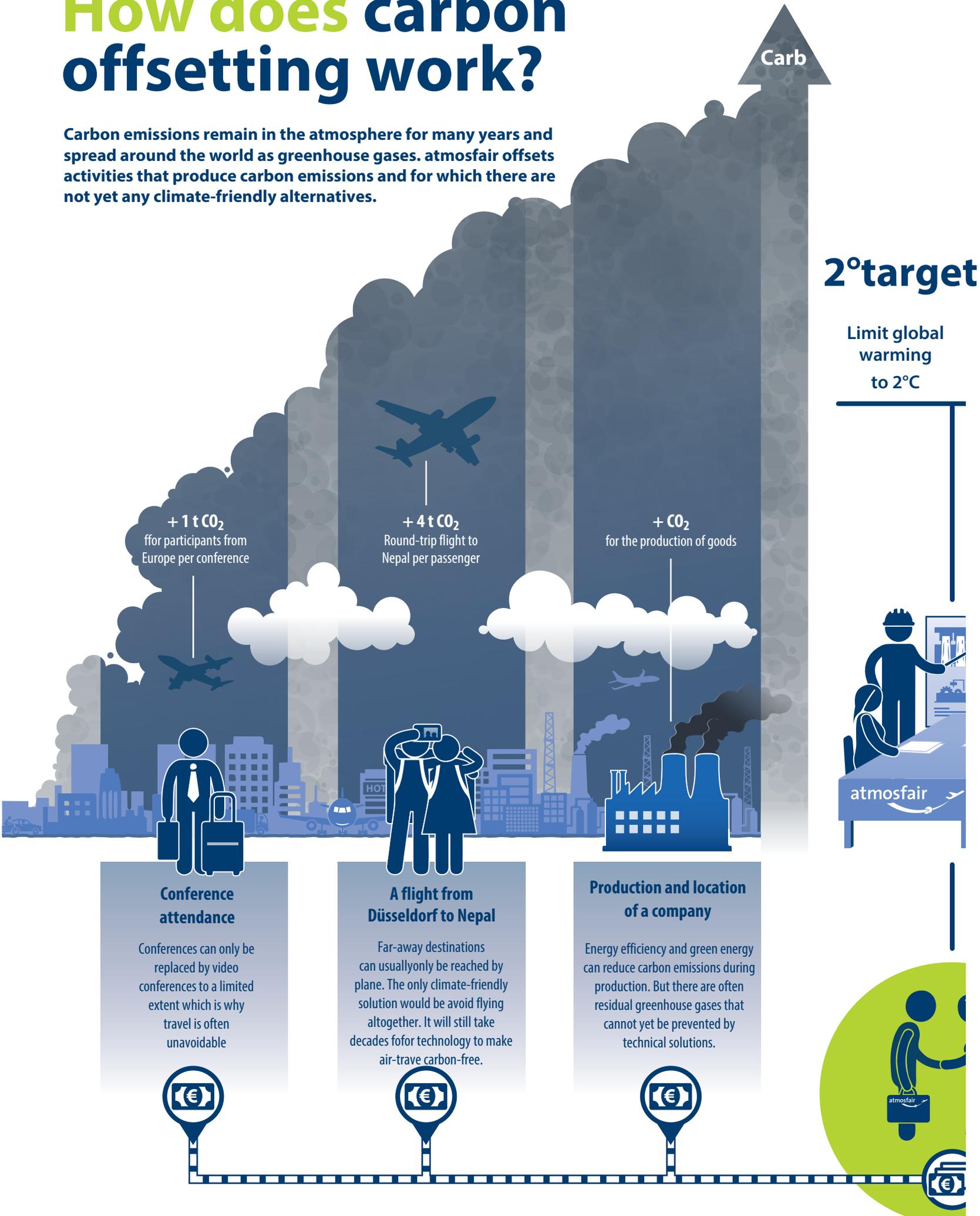
Breathing deeply in the UN

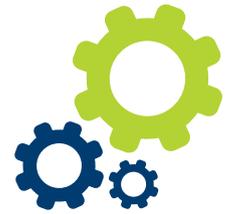
Neue Ergebnisse der Gesundheitsstudie zu Save80-Öfen

The solar drinking water purification system for the town of El Kefah in Egypt went into operation in 2016

How does carbon offsetting work?

Carbon emissions remain in the atmosphere for many years and spread around the world as greenhouse gases. atmosfair offsets activities that produce carbon emissions and for which there are not yet any climate-friendly alternatives.





atmosfair's projects reduce carbon emissions in developing countries and lay the groundwork for establishing renewable energy sources. Carbon emissions are reduced by the same amount in a different location. It doesn't matter where savings of carbon emissions occur, the climate always benefits.



- 68 t CO₂
Savings per Day

- 3 t CO₂
Savings per
stove and year

- 4 t CO₂
Savings
per system and year

- 300 kg CO₂
Einsparung pro Solar Home System
pro Jahr

CO₂

Small hydro power plant in Honduras

The small hydro power plant financed by atmosfair works using a natural incline and supplies electricity to a remote region that had suffered from frequent power outages.

Efficient cookstoves instead of fireplaces

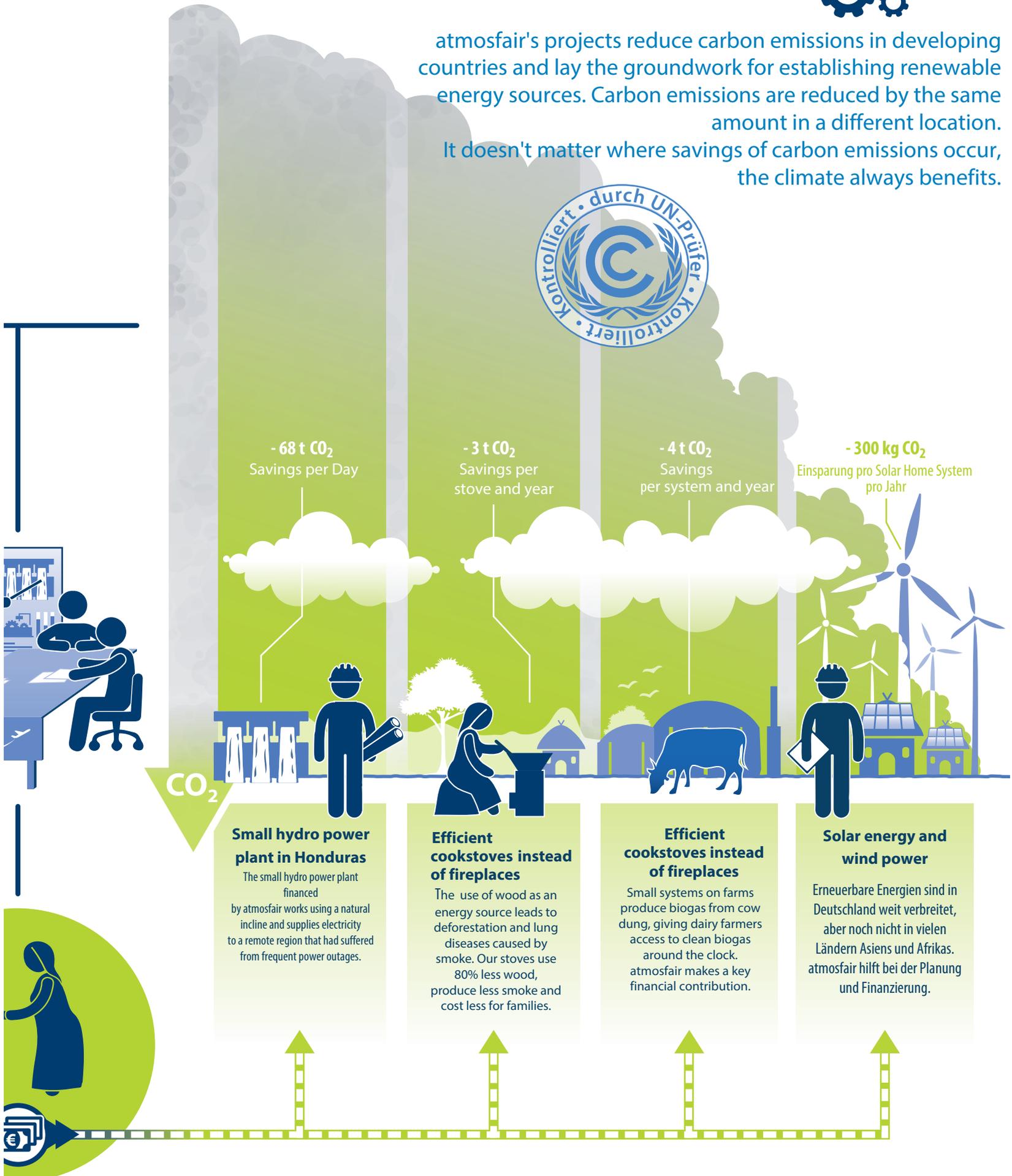
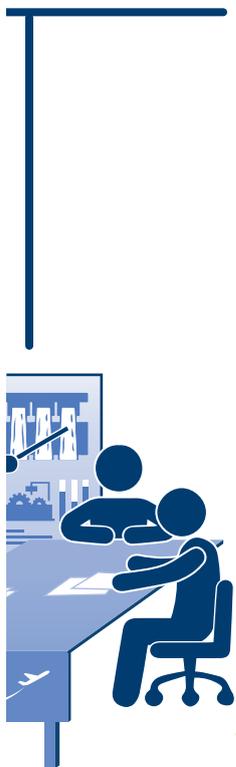
The use of wood as an energy source leads to deforestation and lung diseases caused by smoke. Our stoves use 80% less wood, produce less smoke and cost less for families.

Efficient cookstoves instead of fireplaces

Small systems on farms produce biogas from cow dung, giving dairy farmers access to clean biogas around the clock. atmosfair makes a key financial contribution.

Solar energy and wind power

Erneuerbare Energien sind in Deutschland weit verbreitet, aber noch nicht in vielen Ländern Asiens und Afrikas. atmosfair hilft bei der Planung und Finanzierung.



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atmosfair at "Woche der Umwelt" (Environment Week) in Bellevue Palace in June 2016 (from right to left: Julia Hoffmann (Manager CDM projects), Joachim Gauck (President of the Federal Republic of Germany at the time) and his partner Daniela Schadt (journalist), Dr. Dietrich Brockhagen (CEO of atmosfair))

Dear Readers,

The scientific journal Nature recently published an article entitled "Three years to safeguard our climate". It is based on the simple computation that the world's atmosphere only has a remaining carbon credit of 600 gigatons before global warming reaches the dangerous level of 2°C. But around 40 gigatons of carbon is currently released every year around the world. In other words, if we continue to do "business as usual", our climate budget will be used up in 15 years! If we want a real chance at a climate-friendly future, we have to produce less and less carbon emissions rather than more and more no later than 2020.

3 more years. The situation is not made any easier by the fact that Donald Trump wants to pull the USA out of the Paris Agreement. But even with Trump, things are not as bad as they seem. Also under the Trump administration, one coal-fired power station is closing after another - due to competition. Even though Trump has been bragging about the grand re-opening of a coal mine in Jennerstone, according to Germanwatch's research, however, the company has said that only 70-100 jobs will be created.

Activity in air travel

2020: the aviation industry will also usher in a new era this year with the first phase of CORSIA, the climate change mitigation scheme of the International Civil Aviation Organization (ICAO). When this phase begins, airlines around the world will offset any annual increase in total carbon emissions. Success after 20 years of stagnation in the industry? As is so often the case, the glass is either half full or half empty - we analyze this (page 24/25)

- and show the benefits of carbon offsetting.

We never thought that a Chinese airline would be awarded the status of most efficient airline so quickly in the atmosfair Airline Index (page 29). But it is consistent with the big picture, and Trump is wrong: in the Rose Garden of the White House, he claimed that the USA could increase its emissions for another 13 years under the Paris Agreement and do whatever it wanted during this

time. He fails to mention that China committed to lowering carbon emissions per unit of GDP by 60% by 2030.

Solar drinking water

In collaboration with German Hospitality, formerly Steigenberger Hotels, atmosfair has made the use of a new kind of renewable energy a reality. The small town of El Kefah in Egypt now has a drinking water purification system financed by the hotel group. It supplies the residents with clean drinking water produced with solar and purification technology from Germany (page 22).

Transparency when travelling

Incidentally, atmosfair had published a climate budget as early as 2010 that allows each person on Earth to emit an average of 2.3 tons of carbon per year over the next few decades - for all activities combined. With the new figures from Nature, this annual budget decreases to just under 2 tons. A single medium-haul flight or driving every day can quickly exhaust this budget.

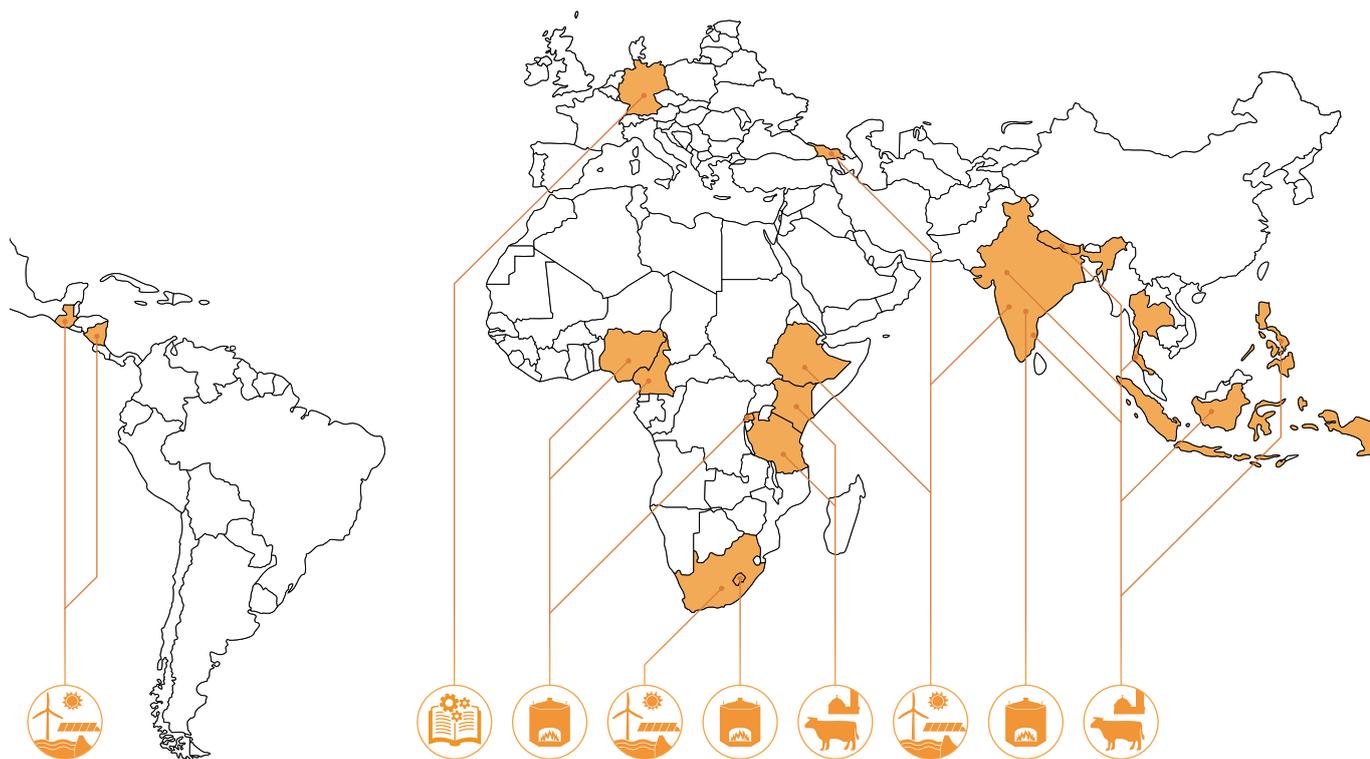
It is remarkable that one of the founding partners of atmosfair, forum anders reisen, the association for sustainable tourism, regularly measures how much carbon is released per passenger and how much is offset. More and more operators offset the carbon out of their own pockets. Petra Thomas, Managing Director of the forum, gave us an interview, expressing everything from disillusionment to enthusiasm (page 28).

Thank you very much for your support, we will continue to use your donations to drive the global energy transition and help people specifically in the global south gain access to clean energy. Time is running out!

Dr. Dietrich Brockhagen, CEO atmosfair gGmbH

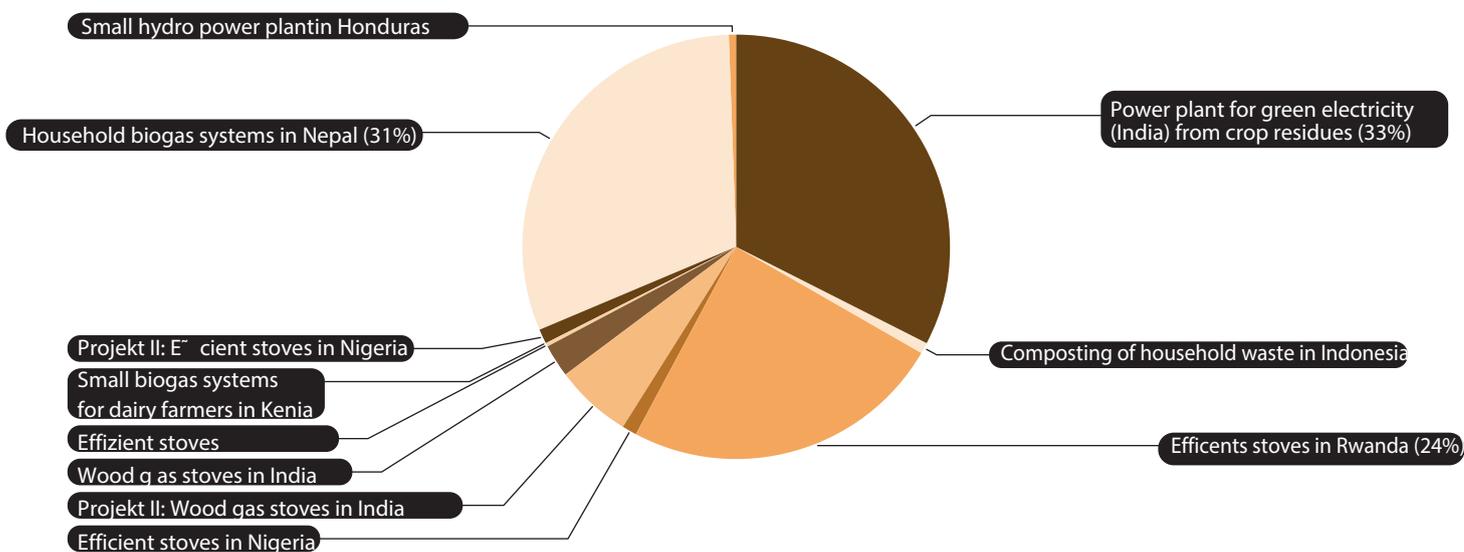
Fullfilling our commitments

Since 2005, atmosfair has been operating and financing climate change mitigation projects around the world with voluntary climate change mitigation contributions. The first step is for us to sign a support agreement with the project operator which stipulates binding targets for how much carbon the project will save each year and how it will be supported by atmosfair. Up to two years can elapse between the donation and the actual carbon savings. This is time that we need for project planning and setup. Approved UN auditors verify the carbon savings outlined here. To this day, atmosfair has always fulfilled its commitments and met the agreed carbon savings targets for all donations.



Expenditures for climate change mitigation projects in 2016

In 2016, approximately EUR 2.3 million was channeled to atmosfair's climate change mitigation projects. The diagram below shows the distribution to the individual projects.





Efficient stoves

atmosfair subsidizes energy-efficient stoves in Africa and Asia. The small stoves are popular because it is immediately obvious to users that they need less wood for cooking and thus save money.



Wind, water and sun

Wind, water and sun are the mainstays of a regenerative energy supply. atmosfair supports partners and technologies that not only benefit the environment, but are also good for the local economy.



Biogas & biomass

atmosfair partners build small biogas systems that convert cow or pig manure into cooking gas and valuable fertilizer. atmosfair also supports electricity production from crop residues and composting of organic waste.



Environmental education

Climate change mitigation begins in your own backyard. Which is why atmosfair supports educational projects at German schools as an investment in the future. atmosfair does not credit the carbon savings to its own budget.

Reductions in greenhouse gases, actual or stipulated in ^{1,2}

1,0 = 1.000 tons of

| Efficient stoves | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | Total until 2018 | Planning 2019-2025 |
|------------------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|------------------|--------------------|
| Nigeria | | | | 0.4 | 4.7 | 9.3 | 15.8 | 22.8 | 29.1 | 30.1 | 27.7 | 24.4 | 21.0 | 185.2 | 56.7 |
| India | | | | | | | 0.3 | 3.4 | 17.7 | 19.1 | 29.8 | 94.7 | 176.8 | 341.8 | 975.8 |
| Cameroon | | | | | | | 3.2 | 9.3 | 9.9 | 9.1 | 0.0 | 0.0 | 0.0 | 31.5 | 0.0 |
| Lesotho | | | | | | | 3.1 | 18.8 | 22.0 | 25.0 | 27.3 | 23.9 | 23.8 | 143.8 | 70.9 |
| Rwanda | | | | | | | 0.4 | 3.8 | 18.0 | 44.3 | 77.0 | 100.5 | 151.0 | 395.0 | 712.5 |

| Biogas and biomass | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | Total until 2017 | Planning 2018-2025 |
|--|------|------|------|------|------|------|------|-------|-------|-------|------|------|------|------------------|--------------------|
| India: Electricity produced from crop residues | | | 11.4 | 43.9 | 28.2 | 36.3 | 72.4 | 60.6 | 43.2 | 48.3 | 39.6 | 41.6 | 50.0 | 475.3 | 250.0 |
| India: Biogas systems for households | 5.0 | 12.0 | 11.4 | 10.5 | 10.0 | 9.2 | 6.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 64.4 | 0.0 |
| Kenya: Small biogas systems for households | | | | | | | | 1.1 | 1.8 | 2.6 | 2.7 | 3.0 | 3.2 | 14.5 | 17.8 |
| Thailand: Biogas from waste | | | | 5.5 | 8.2 | 17.7 | 18.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 50.0 | 0.0 |
| Nepal: Biogas | | | | | | | | 151.2 | 176.7 | 173.9 | 98.2 | 0.0 | 0.0 | 600.0 | 0.0 |
| Indonesia: Composting of household waste | | | | | | | 0.5 | 1.2 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 7.7 | 0.0 |

| Wind, water, sun | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | Total bis 2017 | Planning 2018-2025 |
|---|------|------|------|------|------|------|------|------|------|------|------|------|------|----------------|--------------------|
| Small hydro power | 6.0 | 12.7 | 20.7 | 9.7 | 34.4 | 31.7 | 23.2 | 21.6 | 20.3 | 15.9 | 13.2 | 15.0 | 15.0 | 239.4 | 30.0 |
| Nicaragua: Wind power | | | | 63.4 | 56.9 | 20.0 | 20.0 | 91.3 | 51.3 | 0.0 | 0.0 | 0.0 | 0.0 | 303.0 | 0.0 |
| Ethiopia: Solar Home Systems | | | | | | | | | | 0.5 | 0.8 | 0.8 | 1.0 | 3.0 | 21.0 |
| South Africa: Solar thermal power for hot water in households | | | | | | | | 9.34 | 0 | 0 | 0.0 | 0 | 0 | 9.34 | 0 |



Environmental education

– atmosfair does not credit the carbon savings to its own budget.

| Summe | 6.0 | 17.7 | 44.1 | 128.7 | 140.2 | 115.5 | 165.1 | 257.9 | 375.0 | 373.1 | 393.4 | 403.5 | 443.3 | 2863.7 | 2134.8 |
|--|-----|------|------|-------|-------|-------|-------|-------|--------|--------|--------|-------------------|------------------|--------|--------|
| Mandatory savings target from voluntary climate change mitigation contributions ³ | 0 | 9.5 | 9.5 | 63.5 | 88.6 | 92.2 | 93.6 | 82.6 | 92.0 | 96.8 | 106.9 | 132.1 | 127.5 | | |
| Mandatory savings targets on behalf of customers | | | | 3.5 | 15.0 | 63.8 | 40.3 | 66.4 | 80.3 | 60.7 | 169.3 | 68.2 ⁴ | 0.0 ⁴ | | |
| Accumulated mandatory savings | 0.0 | 9.5 | 19.0 | 86.0 | 189.6 | 345.6 | 479.5 | 628.5 | 800.8 | 958.4 | 1234.6 | 1434.9 | 1562.5 | | |
| gas savings target accumulated greenhouse gas saving, actual or stipulated in contracts | 6 | 23.7 | 67.9 | 196.6 | 336.8 | 452.3 | 617.4 | 875.3 | 1250.3 | 1623.4 | 2016.8 | 2420.4 | 2863.7 | | |

Targets met (comparison between savings and mandatory savings,



¹ In the table above, the allocations of climate gas reductions from monitoring periods across multiple years were standardized to calendar years. As a result, there are discrepancies for individual years compared to previous annual reports.

² The actual greenhouse gas savings can only be determined after the projects have been externally verified. Two to three years can elapse between savings and verification. The data on actual savings can therefore change from previous annual reports, even for past years.

³ Up to two years can elapse between when a donation is received and when it is used in a climate change mitigation project. As a result, the income for the 2016 reporting year is shown here as savings targets to be met in 2018.

⁴ Planning is based on the projected future income and is adjusted up or down accordingly every year.

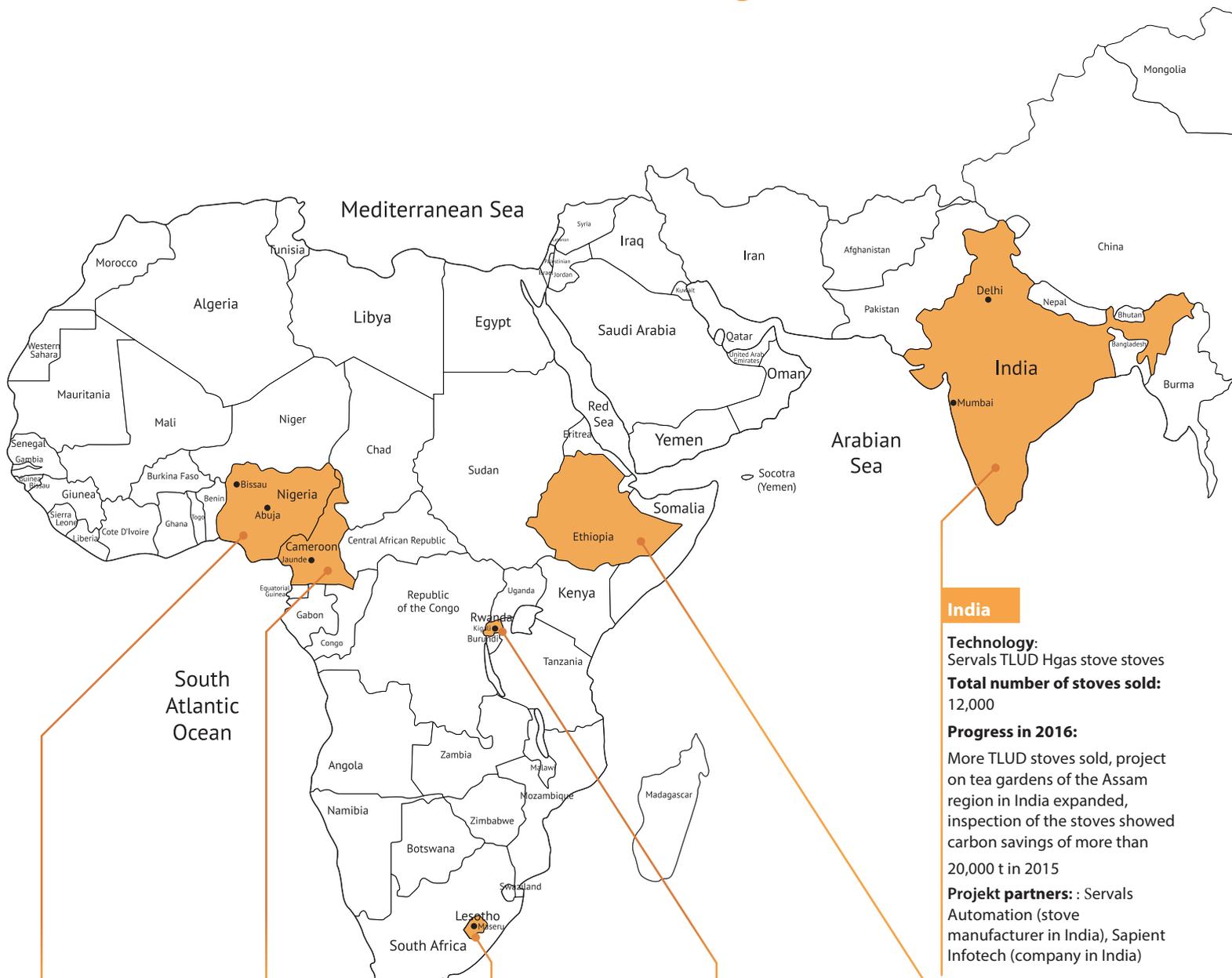
Efficient stoves

"I am very happy that I met the people from SaferRwanda and atmosfair. Today, I only spend Rwf 1,500 (around EUR 1.50) per month on firewood, I used to have to come up with 17,500 (around EUR 18) for the same period. I have been able to use the money I saved to expand my small business."

Mukamanzi Harriet, mother of five and resident of Kigali



Countries, technologies and stoves sold



Nigeria

Technology: Save80 stoves, Envirofit
Anzahl der verkauften Öfen insgesamt: 25,000
Progress in 2016: Project assessment carried out due to special permit due to security situation, total of 73,000 tons of carbon documented.
Projektpartner: DARE, BIA (NGOs and small companies in Nigeria)

Cameroon

Technology: Envirofit, Save80 stoves
Total number of stoves sold: 9,800
Progress 2016: Over 9,000 tons of carbon savings in the fourth year of the project documented, Northern Cameroon: Pilot phase completed and results of the first evaluation phase of the 300 Save80 stoves sold
Projekt partners: Pro Climate International, ROVENN and GTE-Sahel (NGOs in Cameroon)

Lesotho

Technologie: Save80 Stoves
Anzahl der verkauften Öfen insgesamt: 10,000
Progress 2016: The first climate project with Fairtrade label in the world, on-site visit to the Fairtrade auditors, over 24,000 tons of carbon savings in the fourth year verified by UN auditors
Projekt partners: Solar Lights (small and medium-sized companies in Lesotho)

Rwanda

Technology: Save80 stoves
Total number of stoves sold: 30,000
Progress in 2016: : The first climate project with Fairtrade label in the world, on-site visit to the Fairtrade auditors, over 24,000 tons of carbon savings in the fourth year verified by UN auditors
Projekt partners: Safer Rwanda, Rwanda Women Network (NGOS), UNHCR

Ethiopia

Technology: Permanently installed mirt clay stoves to bake injera and portable tikkil stoves for cooking
Total number of stoves sold 9,271 each
Progress in 2016: The project was successfully audited for the first time by UN auditors. A total of 24,458 t of carbon savings through the use of mirt and tikkil stoves in 9,271 households confirmed
Projektpartner: World Food Program, Ethiopian government

India

Technology: Servals TLUD Hgas stove stoves
Total number of stoves sold: 12,000
Progress in 2016: More TLUD stoves sold, project on tea gardens of the Assam region in India expanded, inspection of the stoves showed carbon savings of more than 20,000 t in 2015
Projekt partners: : Servals Automation (stove manufacturer in India), Sapient Infotech (company in India)



Breathing deeply in the UNHCR refugee camp in Rwanda



On-site medical study shows: atmosfair stoves help the lungs of camp residents

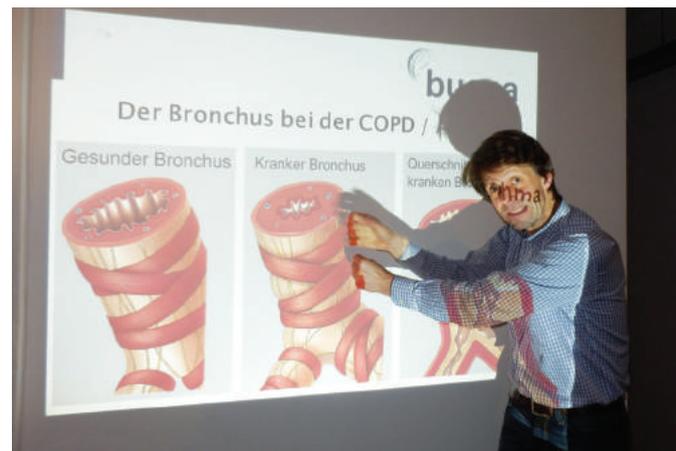
More than 81,000 people have fled the civil war in the Democratic Republic of Congo and live in Camps in Rwanda. The UNHCR agency supplies them with the absolute essentials, basic food and firewood for cooking. The problem is that the three-stone ovens that are traditionally used for cooking over an open fire in Rwanda need a lot of wood. In the small, densely populated country, deforestation is already at an advanced stage and firewood is scarce. In cooperation with atmosfair, the UNHCR therefore provides efficient Save80 stoves. They need 80% less firewood than a conventional oven. This conserves natural resources and prevents conflicts with local communities. And it protects people's health.

climate and the environment, the technology is also a blessing for the respiratory tracts of its users. For the study,



Eingang des Flüchtlingscamps Kiziba: Hier untersuchten Mediziner die gesundheitlichen Folgen von traditionellen Kochgewohnheiten.

An atmosfair health study has now confirmed this for the first time in the field. Together with the UNHCR, the University of Lübeck and Buana, a non-profit organization based in Hamburg, atmosfair conducted tests of lung function in the Kiziba refugee camp. The tests which lasted several months were completed in the spring of 2016 and presented at atmosfair in Berlin. The results are impressive: Save80 stoves benefit not only the



Henning Kothe tested the lungs of 500 women before and after using the Save80 stoves: damage to the bronchial tubes is prevented.

PhD student Fernando Wolff tested nearly 500 Congolese women on location before and then 8 months after the stoves were distributed. The tests of lung function first showed the consequences of the open fire on the lung condition of the cooking women. After distribution of the Save80 stoves, Wolff tested whether their use led to a measurable improvement in the health of the users' lungs. The first analysis showed that 52 women (12%) already exhibited measurable changes in lung function by constricting the bronchi. This kind of constriction is comparable to chronic bronchitis, familiar in western countries, caused by years of cigarette smoking. The only difference in this case is that only two women smoked.

Already 8 months after the stoves were introduced, lung function improved among all test subjects. The test subjects themselves also notice an



Many women cook the family meals with the traditional three-stone system: the consequences are constricted bronchial tubes like the ones typical for heavy smokers (photo on the left). PhD student Fernando Wolff measures the lung function of the women (photo on the right).



easing of their symptoms. Fortunately, the improvement was greatest among women whose bronchi had been previously damaged by cooking on an open fire. It can therefore be assumed that permanently reducing the damage to the lungs and bronchial system also minimizes the risk of long-term effects, such as the occurrence of malignant tumors in the lungs.

The stoves have been very well received by the families because they save wood and time (cooking time was reduced on average from 4.1 to 2.5 hours), they are no longer exposed to smoke and the way the stoves are used is very similar to their previous cooking habits. Consequently, both we and UNICEF view these efficient stoves as an important component in sustainable development. Since 2013, atmosfair has already distributed 11,000 efficient stoves in the Kigeme, Mugombwa and Kiziba refugee camps. Our employees on the ground have taught

camp residents to assemble and distribute the stoves and demonstrate how they are used to other camp residents and neighbors. This year's review of the project showed that this training led to paid employment for 137 residents. Since continuous expansion of the scope of the project is currently in the planning stage, this involves long-term employment opportunities. atmosfair makes it possible to gradually expand the project thanks to the annual carbon savings generated. The sale of certificates will allow atmosfair to supply more efficient wood stoves for the UNHCR to Rwanda in years to come that are then either given to other refugee camps or to the neighboring municipalities.



Trainers explain how the stoves work to new users in the camp.



Stove assembly in the camp: the residents share their knowledge

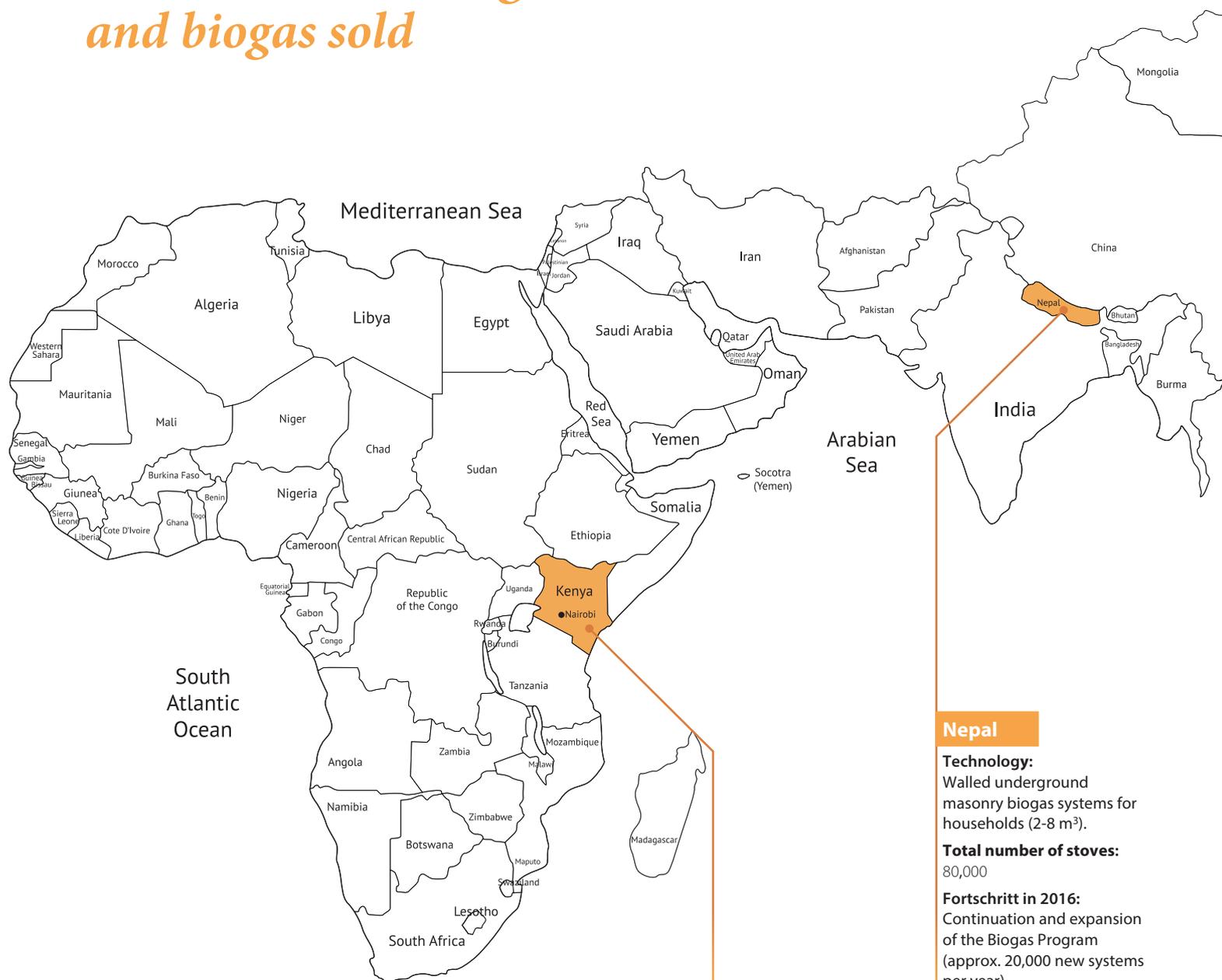
Biogas

"I use biogas for cooking every day. And the manure from the system is good fertilizer for the vegetables in my garden. I can now feed my family with safe and healthy food. I also recommended to my neighbors that they set up a biogas system in the garden. This way, we need way less fire wood and time."

Ms. Durga Maya Gauli from Jhapa Shivaganj VDC in the eastern region of Nepal



Countries, technologies and biogas sold



Kenya

Technology: Walled underground biogas systems (Deenbandhu 2000 model) that produce approx. 3 m³ of biogas per day for cooking.

Total numbers of stoves sold: 600

Progress in 2016: Further expansion of the project in preparation for the next review in 2017.

Projektpartner: Sustainable Energy Strategies (SES), Action for Food Production (AFPRO).

Nepal

Technology: Walled underground masonry biogas systems for households (2-8 m³).

Total number of stoves: 80,000

Fortschritt in 2016: Continuation and expansion of the Biogas Program (approx. 20,000 new systems per year).

Carbon savings of 60,000 tons averaged over 10 years.

atmosfair provided funding for the repair of 200 biogas systems damaged by earthquakes.

Projekt partners: Alternative Energy Promotion Centre (government organization), Biogas Sector Partnership Nepal (non-governmental organization and biogas authority in Nepal), over 200 microfinance institutions, over 100 construction companies throughout the country.



„The time has come to share our wealth“



Interview with the climate researcher and atmosfair patron Mojib Latif about his donation to the atmosfair project "New Energy for Nepal"

➤ Why did you decide to donate all of your prize money to atmosfair?

Mojib Latif: atmosfair is a climate change mitigation organization that supports a lot of great sustainability projects, especially in the third world where aid is particularly necessary. Every euro is used transparently and doesn't disappear behind the scenes. People are helped directly on the ground, their lives are made easier, they are helped to become more independent and the environment is protected in the process.

➤ Why is Nepal and the reconstruction after the severe earthquake in 2015 so important to you?

After major disasters like the one in Nepal, there is a great deal of attention and willingness to help. But when the public's eye quickly shifts to other events, help still needs to continue. The destruction was devastating, especially in large parts of Nepal. People who had lost everything were fighting to survive. atmosfair was able to help with quick and unconventional support without losing sight of environmental aspects.



↑ atmosfair Julia Hoffmann visits biogas users in Nepal.

➤ How does climate change impact countries such as Nepal and Rwanda?

Poor countries in particular are especially hard hit by climate change. Countries like Nepal and Rwanda emit hardly any greenhouse gases, but face significant consequences from climate change. These countries lack the funds for climate adaptation measures to the extent that adaptation is even possible at all. Here the old industrialized countries in particular, of which Germany is one have a big responsibility. We have achieved our prosperity at the expense of environment. Now the time has come to share our wealth.

➤ What do you hope climate change mitigation measures will achieve in these countries?

I hope for two things. First, that the measures will improve the lives of the people by, e.g. by providing access clean energy and strengthening the local economy. Second, that the measures promote sustainable development in these countries which contributes to climate change mitigation.

Nepal: 200 families are happy that their biogas systems have been repaired

Flashback: in April and May 2015 the earth shook in Nepal – with terrible consequences for the country and its people. 9,000 deaths and more than 100,000 injured were reported, 900,000 houses collapsed completely or partially. Also many household biogas systems, which can be used to cook without harming the environment and people's health, were damaged.

Thanks to a generous donation from the climate researcher Mojib Latif (see box), atmosfair was able to finance the repair of 200 systems in the village of Bhimtar in the south-west of the Sindhupalchok district in 2016. The district, north-east of the capital of Kathmandu, was particularly hard hit by the earthquake and is one of the priority areas of the reconstruction aid from atmosfair.

Even before the earthquake, atmosfair had supported the construction of household biogas systems in rural Nepal. The technology has been used successfully now for 40 years in the country. The systems are operated with the dung of at least two cows. They replace the otherwise open, inefficient wood-burning stoves and supply smoke-free and reliable biogas right to the kitchen. Together with our partner, the Alternative Energy Promotion Centre, the Nepalese authority for the promotion of renewable energy, we therefore provide support for the construction of more than 10,000 new biogas systems every year. The financing we provide is comprised of a non-repayable grant of approximately 20 to 50% of the construction costs of each system depending on the size and financial situation of the household in question.



A woman in Nepal with donations from atmosfair - including a solar lamp.



Reconstructed biogas system in the Sindhupalchok district

Right after the earthquake, atmosfair decided to help the country rebuild. The initiative "New Energy for Nepal", a joint project of forum anders reisen and atmosfair, provides support in three steps. First, emergency aid with solar lamps and efficient stoves. They were distributed between 2015 and the beginning of 2016. Second, repair of damaged biogas systems. Third, creation of the first climate-friendly trekking trail (see page 20).

There were 1,800 biogas systems in the Sindhupalchok district before the earthquake. The strength of the quake 7.3 caused severe damage. More than 28,000 houses were completely or partially destroyed, over 40% of households were affected. 400 of the existing biogas systems were damaged which is equivalent to 22%. They were either completely out of operation or only partly operational. People were forced to return to fire wood for cooking as a result. This type of cooking produces a lot of smoke, damaging people's respiratory systems and eyes. Many people therefore asked our project partners to help repair their biogas systems.

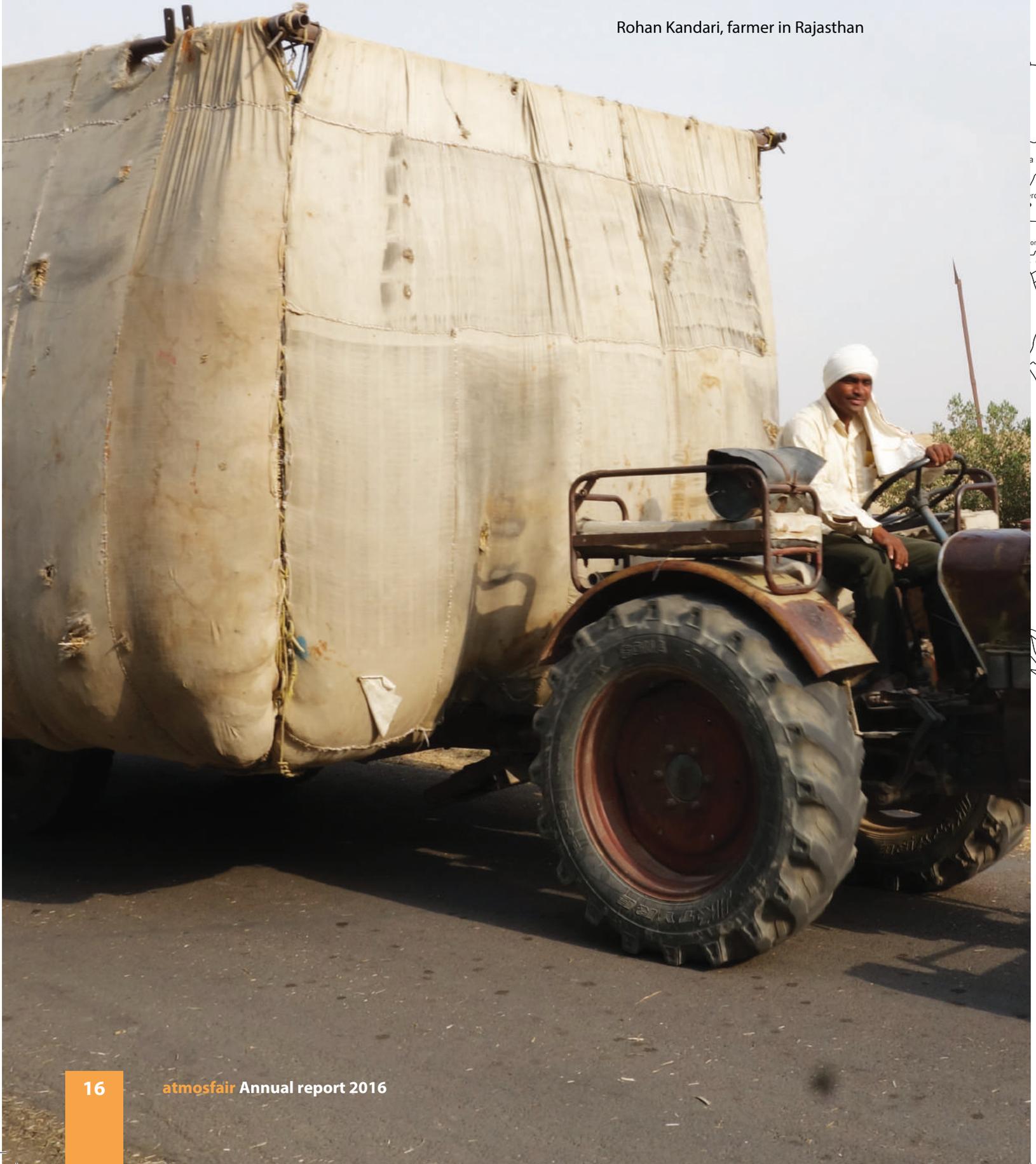
This was now possible with the donation from atmosfair patron Mojib Latif. The damage was appraised and repaired by special biogas technicians. They were often the same technicians who had built the systems a few years ago.

This is a great help for the people living there. And it means another step toward being able to live normally on the otherwise slowly progressing path of recovery.

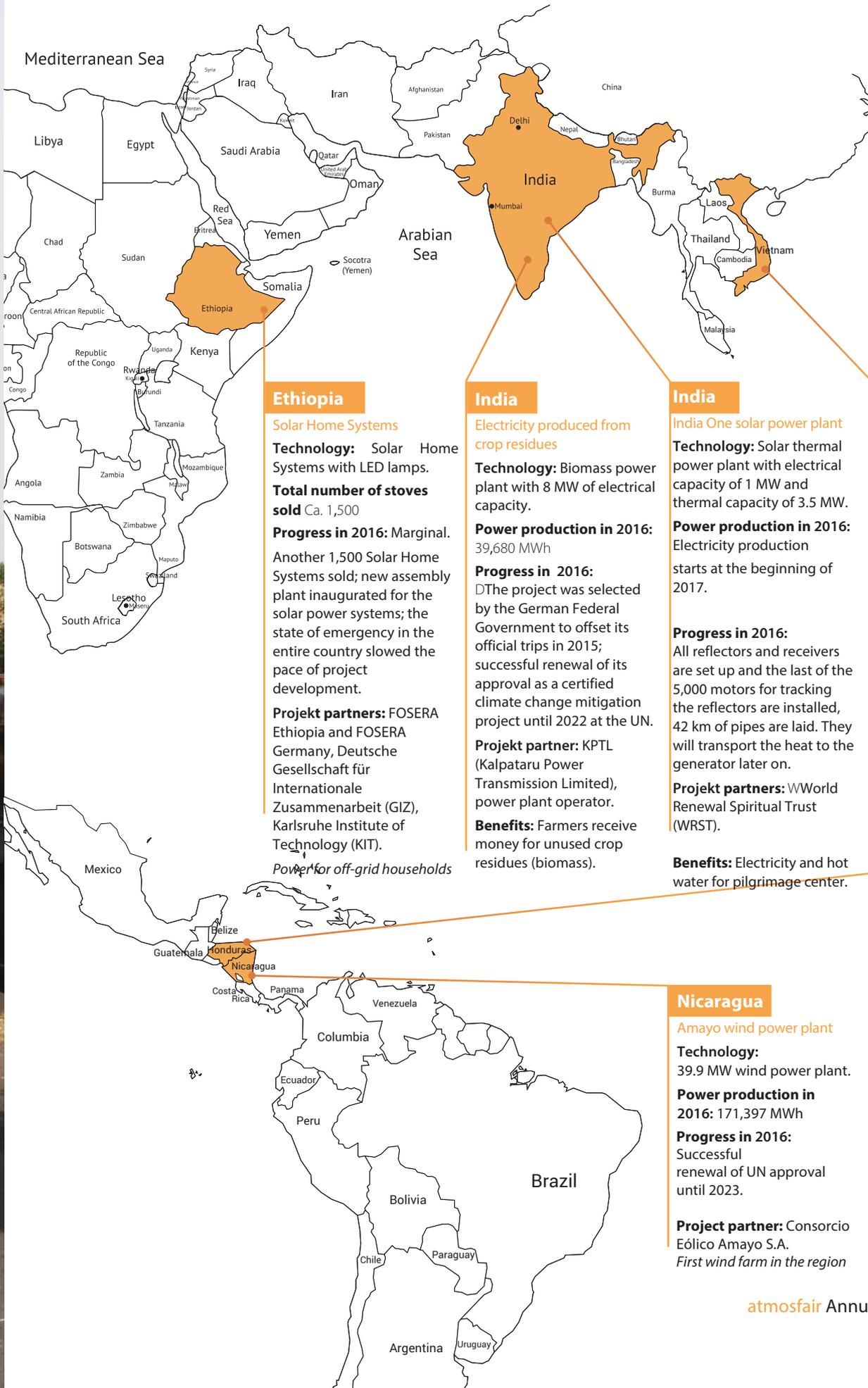
A big thank you goes out again to Mojib Latif. We are all happy about what has been accomplished!

"After the mustard plants are harvested, we sell the seeds as we have in the past, but now we can also sell all the crop residues ever since the power plant has been here. This generates additional income for us. I used to earn 20,000 rupees a year and now my income is around 28,000."

Rohan Kandari, farmer in Rajasthan



Countries, technologies and installed renewable energy systems



Ethiopia

Solar Home Systems
Technology: Solar Home Systems with LED lamps.
Total number of stoves sold Ca. 1,500
Progress in 2016: Marginal. Another 1,500 Solar Home Systems sold; new assembly plant inaugurated for the solar power systems; the state of emergency in the entire country slowed the pace of project development.
Projekt partners: FOSERA Ethiopia and FOSERA Germany, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), Karlsruhe Institute of Technology (KIT).

Power for off-grid households

India

Electricity produced from crop residues
Technology: Biomass power plant with 8 MW of electrical capacity.
Power production in 2016: 39,680 MWh
Progress in 2016: The project was selected by the German Federal Government to offset its official trips in 2015; successful renewal of its approval as a certified climate change mitigation project until 2022 at the UN.
Projekt partner: KPTL (Kalpataru Power Transmission Limited), power plant operator.
Benefits: Farmers receive money for unused crop residues (biomass).

India

India One solar power plant
Technology: Solar thermal power plant with electrical capacity of 1 MW and thermal capacity of 3.5 MW.
Power production in 2016: Electricity production starts at the beginning of 2017.
Progress in 2016: All reflectors and receivers are set up and the last of the 5,000 motors for tracking the reflectors are installed, 42 km of pipes are laid. They will transport the heat to the generator later on.
Projekt partners: WWorld Renewal Spiritual Trust (WRST).
Benefits: Electricity and hot water for pilgrimage center.

Viet Nam

Binh Thuan wind power plant
Technology: : 30 MW wind power plant.
Power production in 2016: 44,360 MWh
Projekt partner: Cleaner Climate Ltd., operator.
Benefits: First wind farm in the region

Honduras

La Esperanza hydro power plant
Technologie: Hydro power plant with 14.6 MW
Power production in 2016: 37,211 MWh
Progress in 2016: Carbon savings of 23,610 tons; renewal of the registration as a climate change mitigation project for seven years with the UN.
Projekt partner: Consorcio de Inversiones S.A. (CISA), power plant operator.
Benefits: Power for local businesses and region.

Nicaragua

Amayo wind power plant
Technologie: 39.9 MW wind power plant.
Power production in 2016: 171,397 MWh
Progress in 2016: Successful renewal of UN approval until 2023.
Projekt partner: Consorcio Eólico Amayo S.A.
First wind farm in the region

New from atmosfair projects from around the world

Kuyasa, Südafrika

Technology: Solar thermal heating systems and heat insulation for houses in poor areas.

Number of houses equipped: 2,300 houses were equipped with solar-powered water heaters, insulation material and efficient lighting.

Progress in 2016: The project was successfully registered as a Gold Standard project. Initial confirmation of carbon savings of 9,500 t by UN auditors.

Project partners: City of Cape Town, South African Export Development Fund.



Ethiopia, Worl Food Programme

Technology: Mirt and tikkil stoves.

Number of stoves distributed or sold: 22,000

Progress in 2016: For the first time, UN auditors verified 24,500 tons of carbon savings. atmosfair employee Sven Bratschke supported the on-site visit of the auditors.

Project partner: World Food Programme.



Dar es Salaam

Technology: Composting facility

Progress in 2016: The soil investigation was conducted and an access road created to the future site of the composting facility. The construction plans were finalized.

Project partners: City of Hamburg; district of Kinondoni, city of Dar es Salaam.





Indonesia

Technology: Composting facilities

Project scope: Household waste from 8,000 households, 15 recycling centers

Progress in 2016: An average of 800 kg of compost was extracted from the organic content of the household waste collected per recycling center and month. The compost is used for vegetable farming. Initial confirmation of carbon savings of 2,300 t

Project partner: Borda e.V.



Ethiopia fosera

Technology: Solar Home Systems with LED lamps.

Number of systems sold: 1,000

Progress in 2016: Fosera moved into a larger factory hall to be able to expand assembly of the solar power systems. The outbreak of violent ethnic conflicts in the project region, however, has slowed the sale of Solar Home Systems. In addition, new legal regulations led to delays in the import of solar systems to Ethiopia.

Project partners: fosera, Institute id-eee, GIZ, KIT.



FlixBus cargo bikes

Technology: Electric cargo bikes

Number of bikes distributed: 5

Progress in 2016: One e-cargo bike was provided to each local food sharing group in Berlin, Leipzig, Hamburg, Heidelberg and Cologne. Food sharing uses the bikes to collect and distribute food that would otherwise end up in the garbage. Each of these cargo bikes can transport up to 300 kg and travel as many as 200 km without the battery being charged. The batteries are charged with green electricity.

Project partners: FlixBus, Foodsharing e.V.



Fairtrade Lesotho

Technology: Save80 stoves

Total number of stoves sold: 10,000

Progress in 2016: The project has been successfully certified as compliant with the new Fairtrade standard and is thus the first Fairtrade Carbon Project in the world! To this end, small-scale farmers have come together to form producer groups. With part of the future income, these groups can implement their own climate change mitigation projects and measures to adapt to climate change.

Project partners: Solar Lights, DHL.



The Nepal Climate Trek: reconstruction and sustainable tourism in practice

In cooperation with forum anders reisen and companies from Nepal

Nepal, beginning of 2016. Even months after the strong earthquake in the spring of 2015, hundreds of thousands of people still live in temporary accommodation. The reconstruction of their destroyed houses is moving slowly. In the particularly hard hit district of Sindupalchok north-east of Kathmandu, we distributed the last of a total of 175 solar lamps and efficient stoves so that the people here at least have light and a clean and reliable way to cook. The emergency aid as well as the repair of biogas systems (see report p. 14/15) is part of the "New Energy for Nepal" project jointly initiated by forum anders reisen and atmosfair.

The "New Energy for Nepal" initiative also aims to help in the long term – and, at the same time, strengthen environmental protection in Nepal. To achieve this aim, we are creating the first climate-friendly trekking trail in the country. "Climate Trek Nepal" links reconstruction with sustainable tourism. It is especially important in a country like Nepal because for many people here tourism is an important or even the most important source of income. We work with four travel agencies based in Kathmandu, forum anders reisen with the German tour operators Hauser Exkursionen and Neue Wege Reisen as well as the Nepalese Development Program "Samarth-Nepal Market Development Programme".

The basic idea: We support guesthouse owners, schools and medical centers in rebuilding earthquake-proof housing and buildings. And we are committed to sustainability when it comes to energy, water, waste and wastewater. This way we ensure that tourists come to the region regularly and that people have a reliable income – and in a way that is environmentally and climate-friendly. To this end, we worked with our partners to develop comfort and environmental standards in 2016 that all participating

lodging operators will fulfil.

In June 2016, our project manager Julia Hoffmann visited Helambu, the first project area. Helambu is a region with strong Tibetan cultural influences around 30 kilometers north of Kathmandu. Together with Niki Shrestha from Samarth, Julia Hoffmann hiked the 46-kilometer route of the climate trek to meet the participating guesthouse owners, schools and medical centers in the six villages and discuss the project. 14 lodges have already committed to being part of the climate trek. At a meeting in Kathmandu in September 2016, the lodge owners met the other parties involved in the project.

And what does the support look like in practice? A team of architects designed an earthquake-proof and environmentally friendly lodge design. Guesthouse owners can use it as a blueprint for reconstructing their lodges.

Engineers determine the energy needs of each lodge. atmosfair then makes it possible for each lodge owner the buy resource-saving



technologies tailored to each lodge at favorable conditions: solar panels, hot water heaters, biogas system, insulating materials. Environmental educators then give tips and guidance on energy efficiency measures.

In fall and winter of 2016, the two young engineers Enrico Dal Farra and Josef Hermann traveled to Kathmandu and Helambu for three months to help determine the energy needs of the lodges.

The first trekking tour should be possible in the fall of 2017 even if not all construction work is completed by then which will certainly be the case. The monsoon in the summer makes outdoor work impossible. The members of forum anders reisen will be the only operator to market the "Climate Trek Nepal". Visitors can then see with their own eyes what has been achieved with the offsetting payments of customers of forum anders reisen.

We especially want to thank the climate researcher Mojib Latif who donated his prize money for the 2015 Environmental Award to atmosfair. This makes it possible in Nepal to not only repair damaged biogas systems (page 14/15), but also to develop renewable energy in Helambu.



The village of Tarkeghyang destroyed by the earthquake on the climate trek.

More information and blog at:

<https://forumandersreisen.de/climate-trek-nepal>



The clean-up work in the village of Tarkeghyang is still under way- even after months of the disaster



Clean drinking water with help of the sun



In the desert region west of the Nile in Egypt, the Western Desert, traces of the first human high culture can be found which emerged here more than 5000 years ago: ancient Egypt. In this extremely dry and mostly hostile environment, there is a permanent water shortage. But there are a number of small to medium-sized oases where people have settled since time immemorial. Here, they take their drinking water from wells and drink it directly or boil it. Cooking kills the harmful bacteria, but doesn't destroy the heavy metals contained in the drinking water, e.g. iron and manganese. This means the drinking water poses a health danger not only for children and vulnerable people.



Water comparison before and after: the "Sun meets water" technology also filters heavy metals out of the water.

atmosfair and the international hotel group Deutsche Hospitality (formerly Steigenberger Hotels AG) decided to launch a joint project for a sustainable drinking water supply in the desert region of Egypt. They initiated the program German Hospitality 1x1: the "Sun Meets Water" (SuMeWa) technology developed by the Kassel-based company Autarcon, winner of the 2013 German Innovation Prize for Climate and Environment, will be used. The SuMeWa system filters out heavy metals from the water and sterilizes it.

Financed by online bookings for the Steigenberger Hotel

For every reservation made on the German Hospitality website, the hotel group donates 1 euro to the development of SuMeWa systems. In November 2016, the first solar-powered purification system for drinking water financed by Steigenberger went into operation in the municipality of El Kefah. 3,000 people in El Kefah will be able to enjoy clean and healthy drinking water right from the tap in the future. The "Research Institute for a Sustainable Environment RISE", a multidisciplinary institute and non-profit organization of the American University in Cairo (AUC) is a strong and experienced local partner. In the project with atmosfair, RISE handles coordination on the ground and provides support to conduct a study on climate change mitigation and the positive social impact of the systems.

Prior to the installation of the system, our local project partner RISE met with representatives of the municipality. At the meeting, a price was set for the water and a person designated to handle the income from water sales. The price is determined by residents collectively to guarantee that everyone can afford the water. The income from the sale of water is used exclusively for maintenance work or to purchase spare parts. Payment is cashless with a card system. Each user has a prepaid card that he holds up to the reader when tapping the water.

Number of climate expeditions at school doubled

In 2016, atmosfair together with its cooperation partner Germanwatch carried out 28 climate expeditions - at a total of 13 high schools and comprehensive schools in and around Bayreuth, Berlin, Bonn, Düsseldorf, Hamburg and Munich. Thanks to the commitment of the airline airberlin, we even doubled the number of supported climate expeditions from 2015. The content of the geographical adventure for students focuses on sustainable mobility and travel.



The "climate expeditions" consist of 90-minute, interactive climate education units with satellite images broadcast live into the classroom. Students from grade 5 to 13 can learn about the causes and consequences of climate change and the global economy, for example, by visualizing glacier shrinkage and the rise in the world's oceans.

Three new schools make fifty/fifty

atmosfair supports 34 schools nationwide that are actively involved in the energy-saving initiative. The participating schools receive 50% of the energy costs saved through awareness of user behavior to use as they want. The other 50 percent is kept by the school boards. This gives the schools an incentive to contribute to environmental and climate change mitigation and reduce their energy costs. In the 2016/2017 academic year, three new schools were added in Hamburg, Bremen and Berlin. At the Willen elementary school in Lower Saxony, atmosfair trained what are known as "energy sheriffs" in all 4 grades in 2016. In addition, the campaign raised the children's awareness for the issues of solar and wind power and waste prevention. As a result of technical improvements in the school building, the schools noticeably lowered electricity and heat consumption. An energy inspection in the Rheingau high school in Berlin resulted in simple yet effective energy-saving measures and the thermostats were set to the correct temperature.



Hamburg students win Climate Award

The Barmbek district school in Hamburg won the climate competition held under the auspices of the Federal Environment Minister, Barbara Hendricks, in 2016. The students impressed the energy-saving jury and atmosfair for two reasons: they don't just actively save energy and reduce carbon emissions at their own school, they also work to combat global climate change. As a patron of the Barmbek district school, atmosfair organized the workshop series "Green Light for Togo". During class, the students built solar lamps for their partners of the Kopeme microfinancing group in West African Togo. The lamps replace kerosene lamps, which are harmful to the environment in the villages, and eliminate residents' dependency on the expensive and unhealthy fuel. In addition, teachers and students work in the interest of their own school: the list of environmental and climate change mitigation measures of the residents of Hamburg is long. There is, for example, already a rainwater utilization system, roof insulation to lower energy costs, motion detectors in the buildings for efficient light control, waste separation, a mobility concept that makes it possible for the teachers to commute between the three locations and the introduction of a veggie day. 83 tons of carbon have already been saved over the life of

the entire project. For the Climate Award, a jury of experts selects one energy-saving master school in each state that made a special contribution to climate change mitigation. atmosfair assumes sponsorship for one of the 16 winning schools. With the prize money of EUR 2,500 sponsored by atmosfair, the Hamburg students want to continue to vigorously work for climate change mitigation and the sustainable use of energy.



Climate policy in international air travel – Was 2016 a turning point?

The importance of air travel in climate change has continued to gain ground in recent decades due to the enormous growth in passenger numbers

The advances in materials, aircraft design, engines and utilization of airline capacity have slowed this growth, but have not been able to stop it. Carbon emissions currently amount to less than 3% of total global greenhouse gases. If, however, other sectors such as energy or industry drastically reduce their emissions as planned and air travel continues to grow as predicted, this percentage could increase to more than 20% of global emissions by 2050 – and thus undermine all efforts to keep global warming to below 2°C.

In the winter of 2015, the historical Paris Agreement on Climate Change of the United Nations once again put the common solution to climate change prominently on the political agenda of countries worldwide, but without mentioning air travel. In the fall of 2016, the International Civil Aviation Organisation (ICAO) thus came under increased pressure from the international public in the run-up to its 39th General Assembly. The mission: transpose the political moment and political will from Paris into a plan to reduce international aviation emissions. To reach this goal, a milestone needs to be achieved in Montreal on a journey that began almost 20 years earlier in Kyoto.

Stagnation since Kyoto, 1997

At the UN Climate Change Conference in Kyoto in 1997, the participating states had transferred coordination and responsibility for reducing greenhouse gas emissions from international aviation to the ICAO. This made it possible to work on climate change mitigation measures without having to solve the problem of which country the emissions from international flights should be attributed to. These emissions were not counted by the states and were therefore not subject to the national climate policy of these countries.

But developments in the ICAO after 1997 were slow. The agenda included postponing and commissioning new reports ("we still don't know enough"); eliminating models like fuel taxes which could endanger growth ("fairness between countries"); unambitious efficiency goals ("must be achievable for all market participants"). As a result, there was no solution in sight for a long time.

Around 2010, the ICAO brought the first proposals for an offsetting scheme to the table. This was designed to allow air traffic to meet its own climate change mitigation objectives through measures in other sectors, similar to existing rules in the Kyoto Protocol. In 2013 the industry then proposed the following: via the IATA, the worldwide lobby organization representing the interests of the aviation industry, airlines around the world set the target of not letting their carbon emissions increase

What is the ICAO?

The ICAO is the International Civil Aviation Organization, a special organization of the United Nations with headquarters in Montreal. The main objective of the ICAO is the sustainable growth of civil aviation. Founded in 1944 as the executive body of the Convention on International Civil Aviation, the ICAO is the central international organization for the development and definition of standards of all kinds, e.g. the allocation of ICAO codes for countries and types of aircraft or the definition of limit values for aircraft noise and pollutants. The ICAO was designated as the organization responsible for climate change mitigation in air travel in the Kyoto Protocol in 1997.

Kyoto Protocol, Paragraph II

"The Parties included in Annex I shall pursue limitation or reproduction of emission of greenhouse gases not controlled by the Montreal Protocol from aviation and marine bunker fuels, working through the International Civil Aviation Organization..."

Kyoto Protokoll, Paragraph II

"The Parties included in Annex I shall pursue limitation or reduction of emissions of greenhouse gases not controlled by the Montreal Protocol from aviation and marine bunker fuels, working through the International Civil Aviation Organization..."

after 2020 and to cut them in half by 2050 (called "carbon neutral growth 2020"). Together with an increase in the carbon efficiency of aircraft from 1.5% annually, this is intended to reduce the climate footprint of the industry and simultaneously facilitate its growth. This results in a timeline comprised of sector growth and expected savings as a result of technology measures until 2050 (see graphic).

ICAO 2016, introduction of CORSIA

The ICAO transposed the IATA's plan to an international agreement in 2016 in Montreal, with precise rules, definitions and technical details. The ICAO adopted an offsetting scheme in Montreal which stipulates that airlines that release quantities of carbon emissions after 2020 that exceed the 2020 level must bring about reductions in other countries and other sectors. This scheme was launched in Montreal under the name CORSIA – Carbon Offsetting and Reduction Scheme for International Aviation.

CORSIA is to be introduced slowly in several phases: a one-year pilot project will get under way in 2020, followed by a 4-year phase I in which countries participate voluntarily followed by a mandatory second phase from 2025-2030. Fears that only a few countries will take part in the voluntary phase I have not materialized: currently the countries that are voluntarily participating in phase I represent over 85% of emissions from international aviation.

The exact formula that determines which airline has to offset how much changes from phase to phase. In phase 1, the airlines have to offset the entire industry growth together for the most part, while the individual airlines will have to offset their individual growth in the second phase. This compromise allows individual, often younger airlines to continue to grow significantly, while the costs of offsetting are allocated to all airlines, also older airlines.

So where do we stand now with CORSIA? On a positive note, we finally have an internationally valid agreement for climate change mitigation in air traffic nearly 20 years after the Kyoto Protocol. What is worrying, however, are the list of things missing in CORSIA:

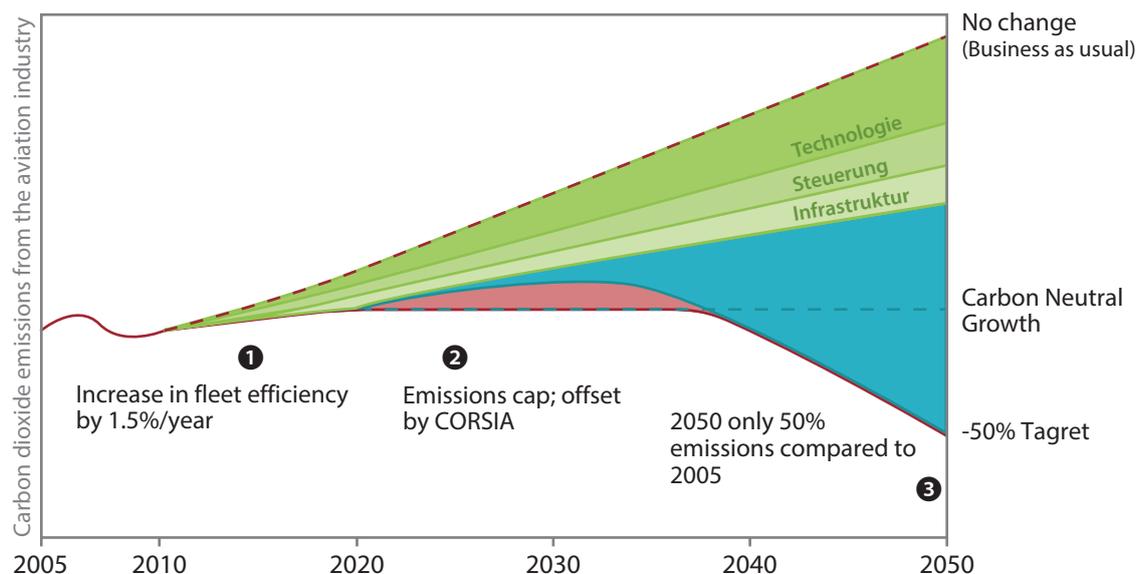
- Reduction targets: rising air traffic emissions are to be offset starting in 2020, but CORSIA lacks objectives and measures for how carbon emissions in aviation are to be reduced.
- Non-carbon effects such as vapor trails or ozone formation at high flying altitudes. They contribute to global warming together around twice as much as the CO₂ from aircraft alone.
- Carbon emissions from domestic flights (these make up about 40% of global aviation emissions, international flights 60%).

- Criteria for the offset projects: here the fear is that airlines will choose low-cost, large-scale projects that are already running and hardly contribute to the global energy transition. In the worst case, the result will be large reforestation projects which displace local residents or giant dams with flooding like the ones in China.
- Technical implementing provisions: CORSIA is only a framework, the details must be clarified by the ICAO in the next few years.

There are many unanswered questions: can the ICAO process satisfy the implementing provisions in the short time by 2020? Will the standards for ICAO projects be high enough? Will there be further efforts in the decade 2020-2030 that increase the technological requirements for efficiency improvements within the airline industry? Will the ICAO combination of technology improvements, offsetting and the development of alternative fuels really reduce the overall footprint of air transport after 2030?

The targets set by the ICAO formulation mean that offsetting will only be mandatory for a small portion of all flights after 2020. Until this changes, it remains the responsibility of each individual to reduce the number of personal flights – and if they cannot be avoided, to offset them.

IATA plan for the aviation industry and the role of CORSIA



Graphic based on Nature Climate Change 2, 308-309(2012) doi:10.1038/nclimate1493

- Expected improvement in technology, operational measures and infrastructure
- Biofuels and anticipated further improvements in technology
- Markt mechanism / CORSIA
- Planned net emissions of the aviation industry
- Business as usual emissions of the aviation industry

New from atmosfair partnerships from around the world

Berlin Energy Transition Dialogue: atmosfair offsets climate impact



Round-trip travel, heating, meals: atmosfair offsets the unavoidable emissions at the Energy Transition Dialogue held in Berlin on 17 and 18 March 2016. The global energy elite came together at the Berlin Energy Transition Dialogue. Federal Foreign Minister Frank Walter Steinmeier and Federal Minister of Economics Sigmar Gabriel (both SPD) kicked off the event. Together with the organizer, atmosfair developed a concept in advance for reducing the carbon footprint for the summit - so that no unnecessary emissions were produced in the first place.

airberlin and atmosfair provide support for climate education project

atmosfair has been collaborating with airberlin since summer 2015. The airline has undertaken to reduce the carbon emissions of its air operations. To this end, it drafted a set of more than 70 measures in the areas of flight planning, weight reduction, aircraft modernization and optimized flight procedures that reduce the kerosene consumption. airberlin donates three euros to atmosfair for every ton of carbon saved. The money is channeled into an educational project for children called the Germanwatch Climate Expedition. Students take an interactive journey through current and previous satellite images from the classroom which makes the impacts of climate change - for example, glacier shrinkage - visible and tangible.

Climate partnership with 32 Steigenberger Hotels

Steigenberger Hotels AG expanded the scope of its cooperation with atmosfair in 2016. Their partnership is part of the "Green Meeting" conference concept which includes not only measures related to

energy efficiency, resource conservation and environmental protection, but also completely offsetting the hotel's own emissions during conferences. Eight pilot hotels offered the "Green Meetings" concept at the beginning but their number has grown to 32 hotels,



Giving the gift of climate change mitigation: new ideas to choose from

Since 2016, atmosfair has been offering anyone looking for sustainable gifts even more options for every budget. While it used to be possible to offset carbon on behalf of the gift recipient, there is now an entire portfolio of climate change mitigation projects available as gifts. For example, the donor can finance a Wonderbox or an efficient wood gas stove to reduce the use of firewood in developing countries which is harmful to the climate. The gift recipient then receives a certificate issued in his name. You can find the gifts at www.atmosfair.de/de/klimaschutz-verschenken. The gifts change - only those projects are displayed that currently need financing.

Germany and Switzerland offset their carbon emissions with atmosfair

Both the German and Swiss governments once again chose atmosfair in 2016 to offset their carbon emissions from official travel of all federal ministries and agencies. atmosfair won them over with the quality of its climate change mitigation projects - they were looking for projects certified to comply with the strict criteria of the United Nations and the Gold Standard. This ensures, for example, that the carbon savings are sustainable and people are helped locally. The atmosfair projects have fulfilled all requirements

Sustainable tourism: atmosfair trains travel agencies

In 2016, atmosfair began to offer sustainability training to employees of travel agencies. atmosfair developed the sales training "Mit Klima punkten" ("Scoring points with the climate") together with the tourism industry and training experts. It is designed to help sell climate-friendly travel. This is good for the environment, but also benefits travel agents and customers: the new expertise that travel agents gain gives them a competitive advantage over online travel portals. Travelers benefit from the high level of product knowledge and good advice from staff - the travel agencies, on the other hand, create strong ties with customers and tap into new target groups. A win-win situation.

atmosfair calculates the value of business trips for companies

In 2016, atmosfair once again offered German companies the opportunity to take part in "benchmarking sustainability in business travel and mobility". The evaluation shows them where they rank compared to other companies in terms of sustainability and where deficiencies still exist in business travel and mobility. For the first time this year, atmosfair examined how much money companies spend on business travel and whether these costs



are worthwhile on the basis of specific indicators. The result: there is still a lot of optimization potential when it comes to planning business trips - to mitigate climate change, save money and reduce the strain on employees. Some companies spend five times as much money on business travel as others with the same level of economic success. In addition, the decision-makers of many companies knew very little about their business travel and the internal travel policies. atmosfair's CEO Dietrich Brockhagen discussed to what extent business travel contributes to corporate success at the International Tourism Exchange (ITB) Berlin with representatives of the accounting firm KPMG and Deutsche Telekom.



atmosfair discusses incentives for sustainable mobility

atmosfair and the consulting firm EcoLibro were guests at this year's spring conference of the Verband Deutsches Reisemanagement e.V. (German Business Travel Association, VDR). They talked with participants about ways companies can motivate their employees to pursue sustainable mobility. The focus was on the trends "nudging" and "gamification". In other words: influencing people's behavior without imposing prohibitions or rules. Instead, the new conditions are created to make it easier to achieve the desired behavior - either by making them simple or by turning them into a game. The starting point were the results of a benchmarking process carried out by atmosfair and EcoLibro the previous year. The analysis compared companies for the first time in terms of sustainable business travel, company cars and staff mobility. Participants discussed the advantages and disadvantages of nudging and gamification using practical examples in a role play seen from the different strategic positions of a company. Be creative for climate change mitigation - a motto that will hopefully set a precedent!

„Offsetting must be a more integral part of the travel costs.“



Petra Thomas from forum anders reisen on the environmental impact of long-distance travel, a pilot project for sustainable tour operators and the climate-friendly trekking trail in Nepal.

What role does climate change mitigation play for forum anders reisen and how important is the concept of offsetting?

Petra Thomas: The core issue of forum anders reisen travel is designing travel to be environmentally friendly, but also incorporating social and economic aspects. Mobility, by its very nature, serves as the basis for travel. But it also produces emissions harmful to the climate. Our operators give preference to ground travel, i.e. bus or rail, which emits fewer harmful pollutants, wherever this is possible. Particularly in the case of long-distance travel, however, there are not really any true alternatives to flying.

Early on, we developed an entire package of measures to be able to offer environmentally friendly travel options: Everywhere where there is no alternative to air travel, a minimum stay is defined to create a good balance between travel time to and from the destination, the distance and the duration of the trip. This can reduce climate-damaging emissions of the flights, but not completely prevent them. This is the starting point for the idea of offsetting: the members of forum anders reisen introduced the offsetting model to the German travel market by launching atmosfair in 2003 as its co-founder.

forum anders reisen is one of the first German tourism actors to publish its rate of offsetting. What do you think of the result?

It was time for a proper assessment. Of course we have evaluated how many travelers actually offset their travel voluntarily over the years. For this complicated procedure, atmosfair has now programmed its very own emissions calculator. Our members have now entered all airline routes sold and offset amounts for the years of travel 2014 and 2015. The result is sobering because the rate of offsetting was 3.1% for 2014 and 3.4% for 2015. Although this is significantly higher than the average rate on the German travel market which is well below 1%, it falls way short of our expectations. Our goal is to double the figure from 2014 in the coming years. We have considered measures and collected joint recommendations which are based on the experiences of the members who have achieved particularly high rates. For example, some members also suggest simply integrating climate change mitigation contributions into the travel services from the very outset.

There are pioneers among the operators in forum anders reisen (see list below) who are already doing this. Outside of forum anders reisen, the responsibility is shifted to the traveler.

The first members started the 2014 travel season with a pilot project: all of the participants had previously relied on voluntary payment from travelers, but this was the first time that a total of 17 operators began to include the offsetting payment in the price of travel as a fixed service component. The members, however, were worried that their trips would no longer be competitive on the market. But the initial feedback has been very positive. The group of operators has now expanded to more than 20 companies. For all intents and purposes, the German market has a high level of awareness of social and environmental issues. If the surveys are to be believed, around 30% of travelers are interested in environmental issues, but unfortunately they do not act accordingly in practice. This would be a good place to start.

The forum worked with atmosfair to launch "New Energy for Nepal" and is constructing the first climate-friendly trekking trail in Nepal using climate change mitigation funds. What progress was made in the projects in 2016?

We began our project right after the earthquake in May 2015. Since then, all offsetting payments by the organizers and their guests have been channeled to biogas systems in Nepal and the new community project to support reconstruction. The unique feature: targeted and long-term support is being provided for expansion with low carbon and consumption energy technologies for the reconstruction of homes, schools, medical centers and lodges. Under the leadership of atmosfair, 175 households in the Helambu region have now been contacted to equip them with "new energy". Many lodges and hotels will be provided with new energy sources from biogas, photovoltaics and highly efficient stoves. The next step is to create opportunities locally to generate income again from tourism. To this end, we are creating the first climate-friendly trekking trail in Nepal as part of the reconstruction efforts. The trail leads through six villages which are participating in our "new energy" project. In the comfortable and climate-friendly lodges, travelers can see for themselves the progress that has been made. The "Climate Trek" is offered and sold exclusively by forum anders reisen in Germany. All member operators help finance the project even though many do not even offer the trip themselves. This is unique, also in the German tourism

Supporters of the New Energy Initiative for Nepal:



Airline Index 2016: Air travel is growing faster than technical development

Chinese Airline in the lead for the first time

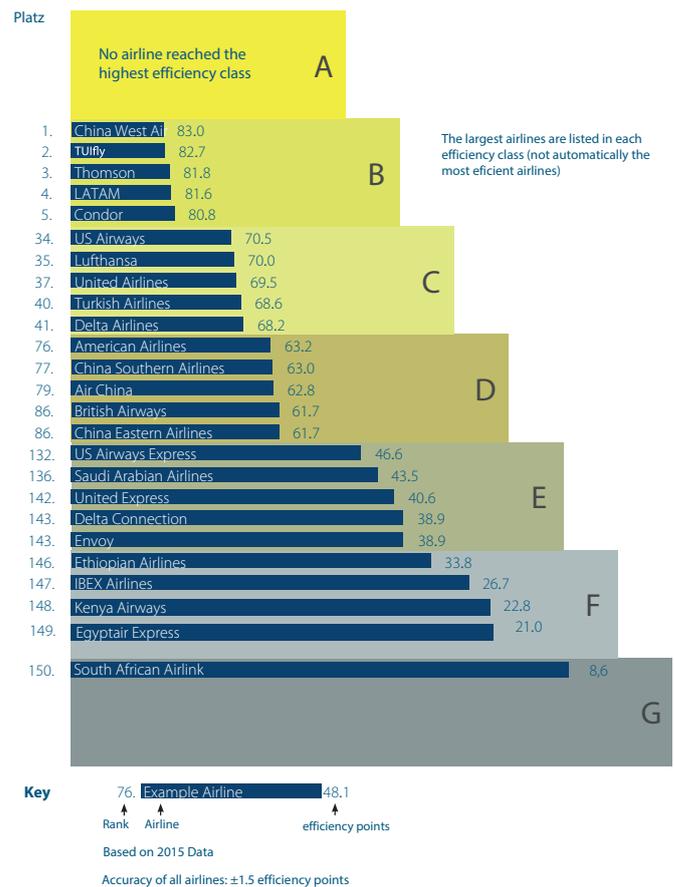
In parallel to the 22nd Climate Change Conference in Marrakesh in November 2016, atmosfair presented its climate ranking of the world's largest airlines. For the first time a Chinese airline won the distinction of the cleanest airline in the world: The regional airline China West Air reached 83% of the technically possible optimum. Overall, Chinese also gained ground vis-à-vis the EU: of the top 50 most efficient airlines in the world, 16 came from the EU and now 10 from China. TUIfly and Condor are among the top 10 of the most carbon-efficient airlines. Air Berlin is the best European commercial airline.

Despite these "winners", air travel worldwide is growing faster than technical development and carbon efficiency is only improving marginally. The AAI shows that the increasing efficiency of airlines is due in large part to replacing older aircraft models like the Boeing 747 or older Boeing 737 models by the Boeing 777, Airbus 330 or Boeing 737 Next Generation. In addition, the highly efficient Boeing 787 is being deployed more. The latest generation, such as the Airbus A350, was only delivered at the end of 2014 and therefore hardly plays a role in this index. Retrofitting old aircraft with aerodynamic wing tips (winglets) has proven to have a positive effect. The new planes set the benchmark for carbon efficiency higher. Because they are now being used on many global routes, airlines that have not changed their fleet or have only made minor improvements are losing out.

The new planes do not dominate the fleet of any airline which is why no airline reached efficiency class A and only the top 10 made it to class B.

Compliance with the 2015 Paris Agreement to achieve the 1.5°C global warming target requires that carbon emissions throughout the world reach their highest point before 2020 and then begin to decrease. Aviation is not directly regulated in the Paris Agreement, while the new resolution on climate change of the International Civil Aviation Organization (ICAO) signed in Montreal is only legally binding for airlines starting in 2027. "Our results show that air travel around the world is not on track for either the 1.5°C or the 2°C Paris target," said atmosfair CEO Dietrich Brockhagen. "While some airlines have considerably improved their carbon efficiency by purchasing new aircraft, technical development is too slow to keep up with growing global traffic."

AAI 2016 ranking for medium-haul routes (from 800km to 3800 km)





Financial report

With a good EUR 4 million, atmosfair's income increased considerably from the previous year, once again reaching the 2014 level.

atmosfair received no public funding. No single offsetting customer contributed more than 10% to total income; this means that atmosfair as a non-profit, limited liability company (gGmbH), maintained its financial independence. Since 2007, the donations have been supplemented by income from commercial business operations. The surplus generated here pays some of the costs in the non-profit part of atmosfair. This made it possible to keep the portion of donation income spent on administration and fundraising to 9.9%. Overall, more than EUR 90 of EUR 100 of donation income has been spent on the direct purchase of climate change mitigation technologies like efficient stoves or Solar Home Systems or on planners and operators of projects dealing with renewable electricity production projects since atmosfair's inception; atmosfair used just EUR 10 of EUR 100 for its own personnel for donor support as well as for other costs including IT, accounting, public relations work, rent, and credit card fees

Organization / non-profit status

Stiftung Zukunftsfähigkeit based in Bonn continues to be atmosfair gGmbH's sole shareholder, the four-person advisory board, consisting of two representatives of the German Federal Ministry for the Environment and two representatives from environmental organizations, approved the climate change mitigation projects contracted in 2016 for support. None of the people in these bodies received compensation or reimbursement for their work. The fiscal authority certified the non-profit, limited liability company's tax exemption for 2016. For the climate change mitigation contributions received in 2016,

the non-profit GmbH issued donation certificates in due form.

Financially independent

In 2016, atmosfair financed itself from donations for carbon offsetting and income from commercial business operations. The latter is also permitted to a limited extent in a non-profit organization. atmosfair did not receive any public funding and is therefore financially independent. The sole shareholder Stiftung Zukunftsfähigkeit did not pay any money to atmosfair in 2016, and atmosfair did not pay any money to the foundation

Earnings and expenditures

In 2016, atmosfair generated earnings totaling just under EUR 4.2 million. The biggest line items for expenditures were payments for the climate change mitigation projects. These include costs for the purchase of technologies (e.g. efficient stoves), project setup and operation including inspection by the TÜV and other UN-accredited auditors as well as for project staff working abroad. In total, atmosfair spent around EUR 3.2 million in this area, liquidating reserves from the previous years. atmosfair also created new reserves totaling a good EUR 0.2 million for the new climate change mitigation projects. atmosfair keeps further reserves to initiate pilot projects. On top of the expenditures for carbon offsetting projects came the staff costs for project planning and project support that totaled around EUR 300,000 in 2016.

Since it was founded, atmosfair has supported climate change mitigation projects with over EUR 16 million in total. In addition, atmosfair has contractually pledged project operators another approx. EUR 10 million in funds until 2020.

Salaries set according to collective wage agreements (TVL)

Besides the climate change mitigation 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), where 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 around EUR 68,000. EUR 64,000 was spent on rent. In addition, atmosfair has to pay costs for credit card fees and payment services every year. These are necessary to account for the incoming online payments and transfer them to the atmosfair account; together they amounted to EUR 12,000 in 2016.

Low own costs

One of the atmosfair standards requires contributions to be used efficiently; this means that only a small percentage of contributions may be used for atmosfair's own costs, i.e., those funds that are not used for climate change mitigation projects, but rather by atmosfair for its own administrative and fundraising work. In 2016, around EUR 550,000 in total was spent for this purpose broken down into personnel costs as well as the costs of materials for public relations work including

IT, accounting, credit card fees, travel costs, etc. (see table p. 40, blocks b) and c) under Expenses).

Cost reduction through profits

In 2016, atmosfair earned surpluses in the commercial business operations with services for companies totaling EUR 100,000 after taxes that were generated through the operation of climate change mitigation projects on the behalf of customers, sales of carbon accounting software, and consulting services (climate service for companies). These were used as a contribution margin to lower atmosfair's own costs (see the table on page 40, Expenses, block e) Use of surpluses). In 2016, atmosfair also liquidated available reserves in the amount of EUR 30,000 that were recognized in the previous years from the profits of commercial operations (see balance sheet, equity).

The low costs are also made possible because atmosfair continued to forgo all forms of paid advertisement such as promotion teams in 2016 and instead used campaigns with relevant content like the atmosfair Airline Index to gain visibility in the public media at no cost. Partners financed the advertising campaign at airports, and the participating celebrities made their contribution free of charge.

Balance sheet of atmosfair gGmbH

| Assets | Euro | Liabilities | Euro |
|--|---------------------|---|---------------------|
| A Assets | 521,342.00 | A Equity | 4,671,759.59 |
| I. Intangible assets | 3.00 | I. Subscribed capital | 25,000.00 |
| II. Tangible assets | 21,339.00 | II. Reserves provided for by the articles of association for projects | 4,646,759.59 |
| III. Financial assets | 500,000.00 | | |
| B Current assets | 8,003,725.33 | B Accruals | 3,702,220.18 |
| I. Inventory | 121,551.97 | Tax accruals | |
| II. Receivables | | Accruals for climate change mitigation projects | 3,677,864.00 |
| - Trade accounts receivable | 604,700.28 | Other accruals | 24,356.18 |
| - Other assets | 338,215.55 | | |
| III. Cash on hand, bank balances, etc. | 6,939,257.53 | | |
| C Prepaid expenses and deferred charges | 1,788.31 | C Verbindlichkeiten | 152,875.87 |
| | | - Trade accounts payable | 107,852.11 |
| | | - Other liabilities | 45,023.76 |
| | | D Deferred income | 0.00 |
| Balance sheet total | 8,526,855.64 | Balance sheet total | 8,526,855.64 |

| 2016 Income statement | | | |
|--|-------------------|---------------|-------------------|
| | 2016 | 2016 | 2015 |
| Income | € | % | € |
| Voluntary climate change mitigation contributions for climate change mitigation projects | 3,509,649 | 88.6 | 2,873,114 |
| Climate change mitigation projects on behalf of customers and funds towards the purchase of technologies, before taxes (CBO) | 450,281 | 11.4 | 314,457 |
| <i>Sub-total for climate change mitigation projects</i> | <i>3,959,929</i> | <i>100</i> | <i>3,187,571</i> |
| Carbon accounting software, consulting, etc., before taxes (CBO) | 202,803 | 5.1 | 142,227 |
| Other income (interest. etc.) | 22,633 | 0.6 | 22,556 |
| Total | 4,185,366 | 105.7 | 3,352,354 |
| Expenses | | | |
| a) a) Climate change mitigation projects for carbon offsetting, private and corporate customers | | | |
| - Direct expenses (planning, setup, operation, technology purchase, verification and staff in developing countries) | | -80.4 | -2,01,342 |
| - Reserves created for climate change mitigation projects, non-profit part | -179,370 | -4.5 | -274,627 |
| <i>Total</i> | <i>-3,364,275</i> | <i>-84.9</i> | <i>-2,375,969</i> |
| - Personnel: Project planning and support from atmosfair employees in Germany and the project countries | -308,766 | -7.8 | -304,482 |
| b) b) Administrative costs: support for donors and partners, fundraising, public relations work | | | |
| - Personnel costs | -224,557 | -5.6 | -221,442 |
| - Editorial work for PR | -18,876 | -0.5 | -21,112 |
| <i>Total</i> | <i>-243,434</i> | <i>-6.1</i> | <i>-242,554</i> |
| c) Other administrative costs | | | |
| - Administration (telecommunications, postage, office supplies, insurance, membership fees, depreciation) | -67,546 | -1.7 | -64,308 |
| - Rent and maintenance | -64,147 | -1.6 | -83,252 |
| - Credit card fees, payment services, account fees, exchange rate differences | -12,530 | -0.3 | -20,237 |
| - IT (fees, maintenance costs, server rental fees) | -50,647 | -1.3 | -82,525 |
| - Accounting, tax advisory services, financial statements, financial auditors | -64,542 | -1.7 | -37,355 |
| - Printing costs for publications | -893 | 0,0 | -4,264 |
| - Work contracts | -37,910 | -1.0 | -91,395 |
| -- Travel expenses | -6,608 | -0.2 | -11,917 |
| <i>Total</i> | <i>-304,821</i> | <i>-7.8</i> | <i>-395,254</i> |
| d) Commercial business operations: climate service for companies | | | |
| - Carbon accounting software | -25,323 | -0.6 | -41,263 |
| - Personnel: climate service for companies | -28,070 | -0.7 | -27,680 |
| - Taxes on income from climate service and climate change mitigation projects for corporate customers | -43,279 | -1.1 | -26,118 |
| <i>Total</i> | <i>-96,672</i> | <i>-2.4</i> | <i>-95,061</i> |
| e) For informational purposes: use of surpluses | | | |
| Surpluses from commercial business operations 2016 to lower administrative costs | 102,601 | 2.6 | 60,966 |
| Liquidation of reserves to lower administrative costs 2016 | 30,000 | 0.8 | 200,000 |
| Total | -4 85,366 | -105.7 | -3,352,354 |
| Result after reserves created for climate change mitigation projects/surplus use | 0 | | 0 |

*CBO=commercial business operations

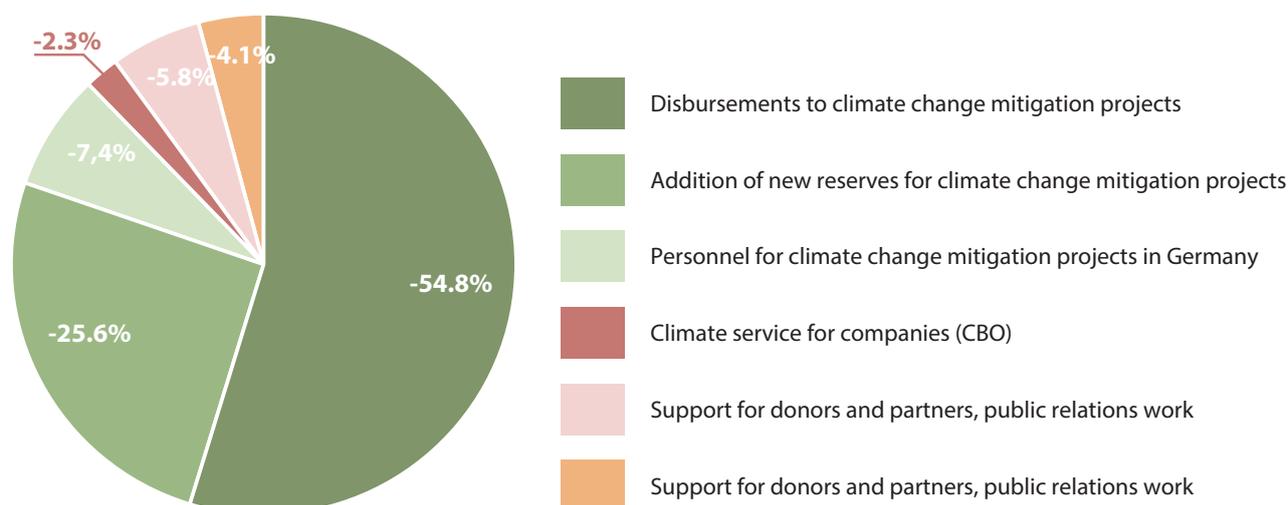
Achievement of objectives

The climate change mitigation projects already covered by contracts have fulfilled the existing savings targets (see Overview, table on page 7). atmosfair has always reduced greenhouse gases far more than was required by the contributions

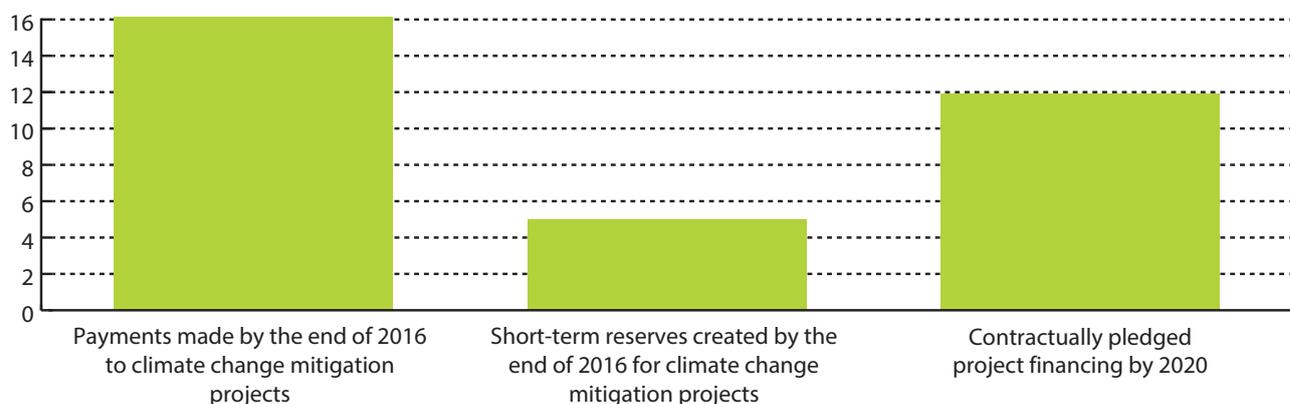
CEO's review and discharge

The CEO of the gGmbH drew up the financial statements on December 31, 2016. The general meeting of shareholders determined that the annual report had been properly completed on June 16th, 2017 and discharged the CEO. A financial auditor was commissioned to audit the annual financial statements; the results are expected in Q4 2017. The previous financial statements from 2016 were presented to a financial auditor in 2017 as stipulated in the articles of association. The auditor confirmed the annual financial statements and did not raise any objections as in previous years.

Expenses of atmosfair gGmbH 2016



Project financing, as the end of 2016 [EUR m]



References (selection)

Companies



NGOs, politicians and organizations



Climate-friendly events



Partners (selection)

Business trip



Tourismus



Event venues



Climate change mitigation projects



Nov. 7, 2016 Spiegel Online

SPIEGEL ONLINE

Climate ranking - China West Air is the cleanest airline in the world. Less legroom in the air isn't so good for passengers, but it's good for the environment. This formula is the basis for the climate ranking of the cleanest airline, a distinction awarded for the first time ever to an airline from China. Airbus of China West Air over the Fuzhou airline in south-east China. A small regional airline from China is the most climate-friendly airline in the world. In the current Airline Index of the environmental organization atmosfair, China's WestAir has come in first place according to SPIEGEL information - this means that a Chinese airline has taken the top spot in the ranking... Among the German airlines, the holiday charter airline TUIfly from Hanover which came in a stable second in the overall evaluation performed best in lowest carbon emissions per passenger and kilometer, followed by Condor at spot 7 and Air Berlin at spot 16. As the largest German airline, Lufthansa has ended up in the mid-range at spot 77... overall, the atmosfair Airline Index (AAI) captures around 92% of global air travel with around 32 million flights. The global pollutant emissions from air travel have grown half as much as transport mileage according to atmosfair. But air travel is not on track to meet international climate targets, said CEO Dietrich Brockhagen according to SPIEGEL.

Feb. 9, 2016 FWV

fwv Lagging behind in sustainability. Companies like to present themselves

as sustainable. But thinking about environmental protection often only plays a secondary role in business travel. The German federal government is a good role model: during this legislative period, the harmful emissions released by the cabinet's official trips will be offset by the purchase of emissions credits to promote climate projects. The German Federal Environmental Agency recently purchased on behalf of the government total climate certificates initially to the amount of a good 138,000 tons of carbon dioxide equivalents for 2014. This corresponds to the emissions of all official trips that were taken by the 16 ministries and 58 federal agencies by plane or company car. The offset by the purchase of other credits for the past year is still slated to happen in the second half of 2016. The value of the credits is currently being used to support five environmental projects, including a project for electricity generation from crop residues in India and the construction of decentralized biogas systems in Nepal...

March 30, 2016 Technology Review

Technology Review The offsetter: high ceilings,

sparse furnishings - a start-up could call this home. But in the entrance area, it looks more like a camping supply store with around a dozen hexagonal, knee-high, stainless steel wood stoves in various models. The non-profit atmosfair GmbH uses them to combat climate. "Ten years of development work went into these stoves," says CEO Dietrich Brockhagen...in the meantime, this kind of business with industrial gases is no longer permitted but the reputation of CDM has been damaged. Dietrich Brockhagen would be the last person to defend the aberrations of the offset segment. He helped design the CDM himself: as early as the Climate Summit in Kyoto in 1997, he attended as an observer - travelling by train for ten days to reach the event... frustrated, he realized even back then that there wouldn't be climate regulations for air travel any time soon (domestic European flights were only included in emissions trading in 2010). In response, Brockhagen founded atmosfair in 2004 - initially as a one-man show, supported by forum anders reisen and the non-profit organization Germanwatch...

June 17, 2016 Süddeutsche.de

Süddeutsche.de

Every trip is a compromise
Every time you travel to far off natural wonders, you contribute to their demise. But the solution is not to stop travelling altogether. What a wonderful trip to Patagonia. Hiking through the deserted Tierra del Fuego region, ambling through the cold rainforest on the island of Chiloé, waiting for the rain to stop in a tent at the foot of the Fitz Roy. Rarely experienced such spectacular nature. And rarely destroyed so much. The flight to Santiago de Chile alone and another short domestic flight to the north because the Atacama Desert with its salt lake is a must-see... The kinds of certificates offered by atmosfair cannot unmake the emissions but the money is invested in climate change mitigation. It's better than nothing. And the general rule of thumb apparently holds true here as well: the wealthier people are, the more problematic their trips are. According to the UN tourism organization, 5% of global emissions are accounted for by tourism, on average around a quarter ton of CO₂ for every trip... apparently there is no perfect mode of travel for seven billion people; and it's impossible to dictate to them what they can and can't do anyway. Traveling is like eating: it's about the right combination. Flying should be a rare exception, nature has earned respect, restraint is always good.

June 26, 2016 WDR Online

WDR Technik Wissen WDR

The environmental footprint of your travel service mobile carbon calculator. Your vacation is booked, you've read the travel guide. You're getting ready to leave, the best weeks of the year. Have you really thought of everything? Also about your environmental footprint? All of us leave footprints, in our daily lives and on vacation.

Because our consumption produces emissions that can be converted to carbon emissions to make them easier to compare. The result is our carbon footprint. Yes, I think it's important to reduce carbon emissions - but not on vacation... the most well-known calculator from atmosfair calculates, for example, the carbon emissions of flights breaking them down in detail. The calculator was developed in cooperation with the German Federal Environment Agency. It calculates not only emissions of carbon dioxide but also other pollutants. Which is why this calculator provides a very comprehensive analysis of the carbon footprint. atmosfair also makes it possible to directly offset the carbon emissions of flights...

June 28, 2016 Badische Zeitung

Badische Zeitung

"The potential lies in solar energy" with the city climate manager Bernadette Kurte about the possibilities for climate change mitigation of a medium-sized city and what each individual can do personally. OFFENBURG. The city climate manager, Bernadette Kurte, works with her department to ensure that Offenburg becomes more climate-friendly and to spark interest among the city's citizens about how to integrate sustainability into their everyday lives. In an interview with Judith Reinbold, she talks about the energy potential analysis of the city and the global challenge of climate change... BZ: What is the situation with flying? Kurte: I fly and offset. Of course, I don't fly short distances. I wouldn't think of flying within Germany or the European continent. Especially because we are in a convenient location in Offenburg. But when it can't be avoided, then I fly but I offset the flight via atmosfair.de. Positive effects are achieved through the projects atmosfair invests in...

July 4th, 2016 Stn.de Stuttgarter

STUTTGARTER NACHRICHTEN

The environmental impact of flying - summer, sun, climate change mitigation. Vacation is finally here - just a few hours in the air to reach a beach in paradise. But the route to vacation usually has a negative effect on your personal climate impact. Travelers can calculate online the carbon emissions of their flight. Stuttgart - summer, sun, summer vacation - many people wait for what seems like forever to start their vacation. They can fly to wonderful beaches and exotic cities quickly and with little fuss. But flying has a negative impact on individual carbon footprint. If you want to know how negative, there are different online calculators that generate this data, for example, at atmosfair.de (https://www.atmosfair.de/de/kompen-sieren). You enter your airport of departure and arrival, flight class, flight type and type of aircraft and the number of people traveling. For a person who flies from

Stuttgart to Majorca in economy class of an Airbus A321 and back, atmosfair calculates that 367 kg of carbon emissions are generated. The offset amount that the climate change mitigation organization proposes for these emissions is EUR 10. If you decide to donate the amount, atmosfair uses the money to support climate change mitigation projects and sustainable development. If you want to travel more green in the future, you can learn about the climate efficiency of the 190 largest airlines using atmosfair's Airline Index.

July 14th, 2016 Frankfurter Rundschau

Frankfurter Rundschau

It's time for vacation: passengers wait in line to check in at Düsseldorf airport. Between Bali and Borkum. More and more Germans are flying to their vacation destinations - the mode of travel most harmful to the climate. Finally vacation! The suitcases are packed. A hectic journey from the city to the airport... If things really continue this way, the only option left is carbon offsetting. This means reducing the quantity of carbon dioxide emitted somewhere else... a sure bet is projects that support decentralized renewable energy in poor countries and work with local organizations to implement the relevant measures. And it's still true: not even producing carbon dioxide in the first place is better than offsetting emissions. Which is why, for example, the offset provider atmosfair is currently carrying out training for employees of travel agencies. The focus is how to understand and sell travel services better from a climate perspective, for example, that traveling by train will certainly prevent any fears of overweight luggage, earaches or jetlag.

03.02.2016 Osnabrücker Zeitung

NEUE OSNABRÜCKER ZEITUNG

VOLUNTARY OFFSET SERVICES

Flying with a halfway good conscience despite huge quantities of CO₂ - Osnabrück. Flying keeps getting cheaper and cheaper, more and more people are flying, even relatively short distances. Customers are happy but the climate is suffering. Air travelers can at least contribute an offset amount. atmosfair: atmosfair is a non-profit organization based in Bonn. Travelers can use the emissions calculator to determine how much they have to pay to offset their emissions. Example: an individual wants to fly from Frankfurt to Delhi in India. Around 3.5 tons of emissions are generated for a round-trip flight in economy class according to atmosfair. The emissions calculator says not for the entire aircraft, only for a single passenger. In comparison: according to atmosfair, the average Indian only emits 1.4 tons of CO₂ - per year. To offset the huge quantity of CO₂ for the flight, atmosfair calculates an offset amount of EUR 76...

The team

Patrons



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



Prof. Dr. Mojib Latif
Professor at the Helmholtz Centre for Ocean Research



Prof. Dr. Hartmut Graßl
Ehemaliger Direktor des Max-Planck-Instituts für Meteorologie in Hamburg

CEOs



Dr. Dietrich Brockhagen
Physicist and economist formerly held positions at the German Aerospace Center, the European Commission, and the German Federal Ministry for the Environment



Steffen Pohlmann
Financial accounting Accounting and controlling

Management team



Bernd Freymann
head of projectteam



Jakob Völker
Physicist and economist Authorized signatory

Scientific advisory board for atmosfair standard



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



Norbert Gorißen
Leader of KI II 7 dept. at the Federal Ministry for the Environment: intl. climate change mitigation financing, International Climate Initiative



Dr. Silke Karcher
Head of Department at the German Ministry of the Environment (BMUB), Department KI I 6 "Basic questions of European climate and energy policy; new market mechanisms



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

Employees in CDM project development



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



Florian Eickhold
Degree in Latin American studies CDM expert



Anja Endres
M.A. Politics & environmental science CDM project management



Nele Erdmann
Degree in economic engineering & environmental management CDM-Projectmanagement



Andrea Geldner
Degree in landscape planning Database controlling and quality management



Dr. Katrin Wolf
Geographer CDM projectmanagement



Julia Hoffmann
M.A. Environmental studies & sustainability sciences CDM project management



Denis Machnik
Degree in technical environmental protection CDM project management



Bhai Raja Ma
Geographer Nepal Consultant



Allan Mubiru
Economist Rwanda Country Manager



Toyin Oshaniwa
Environment and Sustainability Management Nigeria Country Manager

Employees in customer support and product development



Bernd Becker
Degree in business CO₂-reporting & consulting for business



Cathleen Herrich
Degree in tourism management Key account travel & carbon



Saskia Sanchez
Freelance employee, Travel agency and sustainability trainer



Ruth von Heusinger
Degree in physics Business Development



Lina Tabea Maguhn
B.A. business/ environmental Social Media



Dr. Henning Kothe
Doctor of internal medicine & pneumology



Anna Lene Maaß
M.A. German studies Strategic Partnerships & Corporate Relations

Other employees



Maik Höhne
Economic engineer Carbon accounting for cruises & air travel



Tobias Posselt
B.Sc. student technical environmental protection student trainee HR & office management



Thorsten Schmid
Degree in geology IT-manager



Olaf Schreiber
Physicist IT-coordination & project-management

2013 "Test winner for the holidays" (December 2013) test of charitable organizations

The table shows excerpts of the test results (the selection focuses on environmental organizations). Included here are all six organizations in the best category "transparent and well organized" in the original order.

| Name of the organization | Transparency | Organisation & Control |
|--|--------------|------------------------|
| Transparent and well-organized | | |
| atmosfair | Medium | High |
| BUND – Bund für Umwelt und Naturschutz Deutschland | Medium | High |
| Deutscher Tierschutzbund | Medium | Medium |
| Greenpeace | Medium | Medium |
| ProVieh – Verein gegen tierquälische Massentierhaltung | Medium | Medium |
| WWF Deutschland | Medium | High |
| Mäßig transparent oder organisiert | | |
| ... | | |
| NABU Naturschutzbund Deutschland | niedrig | Medium |
| Pro Wildlife | Inadequate | Low |
| Deutsche Umwelthilfe | Low | Medium |
| Bundesverband Tierschutz | Low | Low |
| ... | | |
| Unwirtschaftlich arbeitende Organisationen | | |
| ... | | |
| Heinz Sielmann Stiftung | Medium | Medium |
| Vier Pfoten – Stiftung für Tierschutz | Medium | Low |
| ... | | |



2012 fvw – Magazine for Business and Travel, 1st place

Mystery Shopper: test of websites of carbon offset providers

"Short profiles of all projects can be found on a world map. The information about the certifications and standards is clear.(...) I can download the receipt for the donation (...) and the certificate myself. I would be happy to do it again!"



2010 Federation of German Consumer Organizations, 1st place:

Test of greenhouse gas offset providers

"The test winner is – as in many other international comparisons – atmosfair, an offset provider for flights. atmosfair achieved very good, and at least good, ratings, for almost all the criteria."

University of Graz 1st place

Voluntary Carbon Offsets – An evaluation of European greenhouse gas offset certificate providers

"Highly recommended: atmosfair."



2010 Environmental Data Services:

The ENDS Guide to carbon offset

„atmosfair has one of the best offset portfolios in the entire industry“

Université Libre de Bruxelles, 1. Platz

Etude comparative des programmes de compensation volontaire de CO2 en Belgique

"This study places atmosfair at the top of offset providers, an organization that at present offers the highest quality and remains a model for others."



Ambitious standards for carbon offsetting

Climate change mitigation

Approach



Climate change mitigation projects



CO₂-calculation



Organisation & finances



Standards

- Offsetting is only the second best option; direct avoidance is more effective
- Saving the climate is more important than maximizing donations
- Essential component: raising awareness leads to direct carbon avoidance in longer term

- Longterm CO₂-reduction
- Contribution to North-South technology transfer
- Direct help for people locally
- Contribution to local environmental protection

- Complete
- Scientifically based
- Documented
- Verified

- Non-profit
- Independant
- Efficient
- Transparent
- Responsible

atmosfair was founded in 2004 as part of a research project of the German Federal Ministry of the Environment. In this project, ambitious standards for voluntary carbon offsetting were developed.

The atmosfair standards serve as a benchmark for the carbon offsetting market that has since emerged. atmosfair has come out on top in many international comparative studies.



Bundesministerium
für Umwelt, Naturschutz
und Reaktorsicherheit

Implementation

- Cooperation with business travel specialists to optimize travel, including videoconferencing
- No cooperation with partners that do not meet atmosfair standards (e.g. in carbon calculation) even if this would generate more income for atmosfair
- No offsetting of activities for which there are better and simpler solutions to avoid carbon (e.g. driving a private car or electricity consumption)
- Presentation of the actual climate impact (see CO₂ calculation), independent of industry

- All projects have to meet two standards: CDM (UN) and Gold Standard (environmental NGOs), up to 10% of the savings according to the Gold Standard Microscale
- Calculation and monitoring of the carbon reduction according to UN standards
- Qualified and UN-approved auditors (e.g. TÜV) who have to accept the liability for errors
- Documentation of all auditing reports via the website of the UN Climate Change Secretariat
- No forest projects, only renewable energy and energy efficiency
- All data sources and methods are documented on the atmosfair website



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



- Low administrative costs: over 90% of income from donations is invested in climate change mitigation projects in developing countries for planning, setup, and operation
- Donations are tax-deductible and reviewed by the tax authorities
- Complex legal status "non-profit company with limited liability": liability and publication in the German Commercial Register
- Advisory Board composed of high-profile patrons and environmental experts, including from the German Federal Ministry for the Environment, NGOs, and the scientific community

atmosfair wind project in Nicaragua



ANNETT FLEISCHER

Annett Fleischer is an actress in comedies and new genres of feature films like documentary thrillers. She gained prominence in successful TV shows including "Böse Mädchen" (RTL) and the popular ARD series "Hubert & Staller" where she has been a key cast member from the very beginning. As an individual with a big heart, a committed activist and justice advocate, she works for sustainability, environmental protection and social justice.

ANNETT FLEISCHER

"I support climate justice. This is the only way to keep nature and our planet in balance to some degree. I assume responsibility and therefore offset my flights with atmosfair - because they are dedicated to a balanced planet."

go climate conscious

atmosfair 