



Annual Report 2019

Interview with Bärbel Höhn:
“Africa has the opportunity to
skip the coal step”

Focus:
The North – South Energy transition



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Cover

Construction of greenhouses with solar systems in Madagascar

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Editorial

Dear readers,

This will come as no surprise, but the corona outbreak has without doubt affected global carbon emissions through a reduction in air traffic, reduced industrial activity and lowered energy consumption. In 2020, the few first months saw a reduction of 8% in comparison to the same period in 2019. But, as good as it feels to finally read actual cuts in emissions, this nonetheless does little to mitigate climate change.

First of all, these reductions are not enough. According to atmosfair's patron Mojib Latif, a climatologist at the GEOMAR Helmholtz Centre for Ocean Research in Kiel : "Global carbon emissions might have significantly dropped in 2020 - but this needs to happen every year. In 2021, carbon emissions should be cut by another 8%, and the same goes each following year. The lockdown gives us a glimpse of the reality of the task that we are facing."

Secondly, this reduction of emissions is not the result of any type of technological innovation - which are critical in order to achieve lasting reductions. A global energy transition would require around 700 billion Euros every year - equaling 5% of the global GDP. But with a world economy weakened by the pandemic, these investments may fall short.

The North-South energy transition is lacking funds. Closing this financial gap will require a common global effort. atmosfair's main source of income, voluntary offsets, almost fell flat - but our projects in support of a global energy transition are still running and requiring funds. We have therefore shifted our focus on our website away from air traffic more towards the energy transition, because with or without air traffic, it is necessary.

After long months of preparation, our stove construction plant in Northern Nigeria is finally taking shape. Our newly founded nigerian subsidiary is now licenced to build the most energy efficient home-cooking stove in the world and is staffed with national personal, local suppliers and partners.



atmosfair supporting the Berlin food bank (Berliner Tafel)

The production process itself is currently being tested in a workshop here in Berlin. Furthermore, we are also renting a warehouse in Rwanda as a production place for stove parts, and have started supplying 10 villages with solar energy in the South of Madagascar, providing continuous access to enough electricity to power shops and create employment.

On atmosfair.de/en, you will find a documentary about a refugee camp in Northern Iraq, which we have equipped with a photovoltaic system with the support of the German federal state Baden-Württemberg. Moving images of hope show us how mutual trust and cooperation can shine light even on the most desperate situations.

And last but not least of course... COVID-19. Atmosfair's team offers their support at the Berlin-Kreuzberg food bank (Berliner Tafel), delivering food and supplies to those who are unable to come to the distributions. Lastly, in 2019, more than 21 million Euros have been raised, of which around 20 millions were used directly for climate change mitigation projects - in 2019, and for the first time, we have been able to save over one million tons of carbon emissions!

Thank you for your trust and support !

Dr. Dietrich Brockhagen,
CEO atmosfair gGmbH



Efficient cookstoves

atmosfair subsidizes energy efficient stoves in Africa and Asia. The small stoves are very popular as users immediately notice how much wood and money they save.



Wind, water & sun

Solar, wind, and water are the three pillars of regenerative energy sources. atmosfair supports partners and technologies which further the development of local economies and the environment.



Biogas & biomass

atmosfair partners build small biogas plants which transform cow and pig manure into gas used for cooking and valuable fertilizer. atmosfair also supports electricity production from crop residues and the composting of organic waste.



Education

Climate protection starts at your doorstep. This is why atmosfair promotes educational projects in German schools as an investment for the future. We do not claim any resulting carbon reductions.

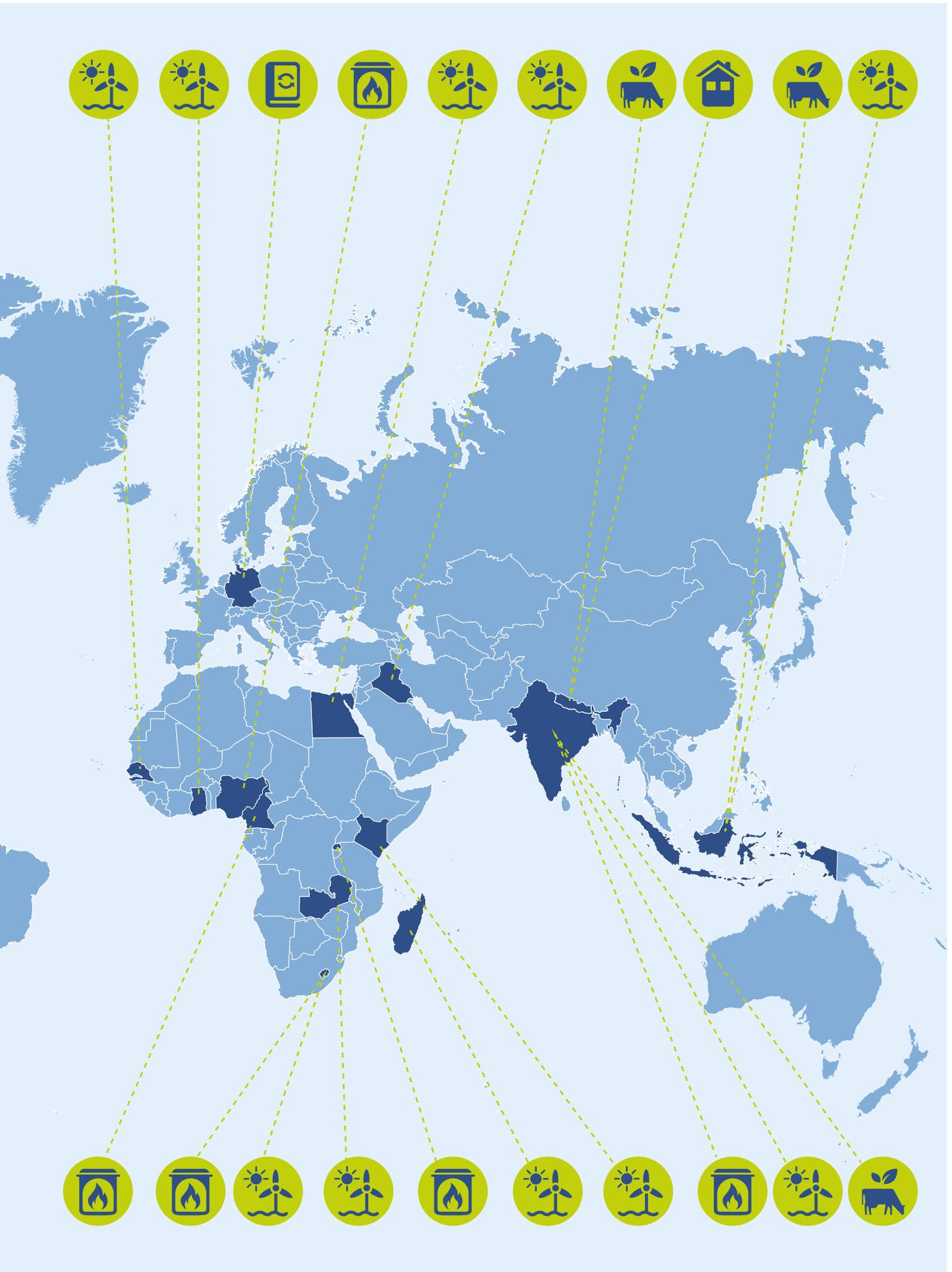


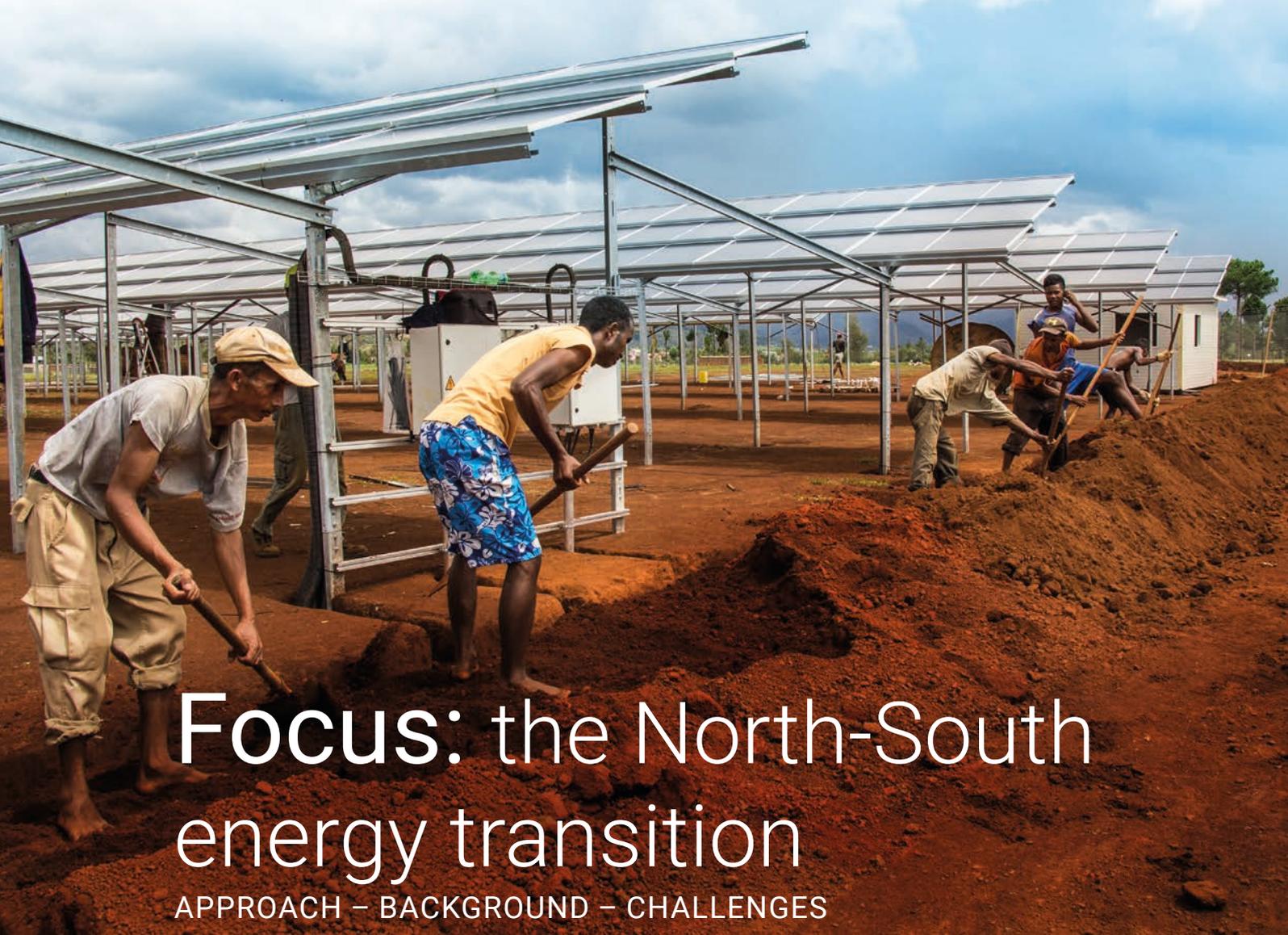
Energy mix

After the violent earthquake in Nepal in 2015, atmosfair supported the construction of energy self-sufficient lodges. This helps shift tourism, an important economic sector in the country, towards an environmentally friendly foundation.

atmosfair projects worldwide







Focus: the North-South energy transition

APPROACH – BACKGROUND – CHALLENGES

Together with their partner SUNfarming, atmosfair is building solar greenhouses

The people's concerns about climate change are undeniably growing, which is evident from the numerous questions and inquiries that we have received from our customers and donors over the last year – some linking with fundamental aspects of our work. We would like to use this opportunity to provide some in-depth answers.

1.1 Regarding the quick growth of the organisation: are there enough climate change mitigation projects relevant for atmosfair that can be invested in ?

Yes, atmosfair's climate change mitigation projects are rarely shortsighted projects with restrictive boundaries – but rather innovative technical approaches designed to solve problems. Therefore, they are scalable and can continue to grow. We aim to provide access to clean energy in the Global South – which presents a large shortage to overcome. According to the International Energy Agency (IEA), in 2016, more than a billion people did not have access to electricity – let alone green energy.

A yearly 700 billion Euros would be needed for a successful global energy transition.

In order to maintain the 1.5°C goal set in Paris and keep the consequences of climate change in

check, global greenhouse emissions have to be reduced to net 0 by 2050. Energy-related emissions account for about 60% of carbon emissions, making the shift towards 100% renewable energy sources unavoidable.

Scientist Dimitrii Bogdanov, has shown that this shift is both technically and financially possible by 2050 – but investments are largely lagging behind. To adapt all global energy systems, a yearly investment of one Trillion Euros is needed – while actual investments only reach 300 billion Euros per year. This 700 billion Euro investment gap needs to be filled, and quickly - but how? State households will not be able to cover these costs alone and the necessary investments will probably have to be provided by the private sector. This means offering green, sustainable and affordable products, which can also be accessed by poorer households – quite the challenge!

The private sector plays a significant role – especially in the Global South

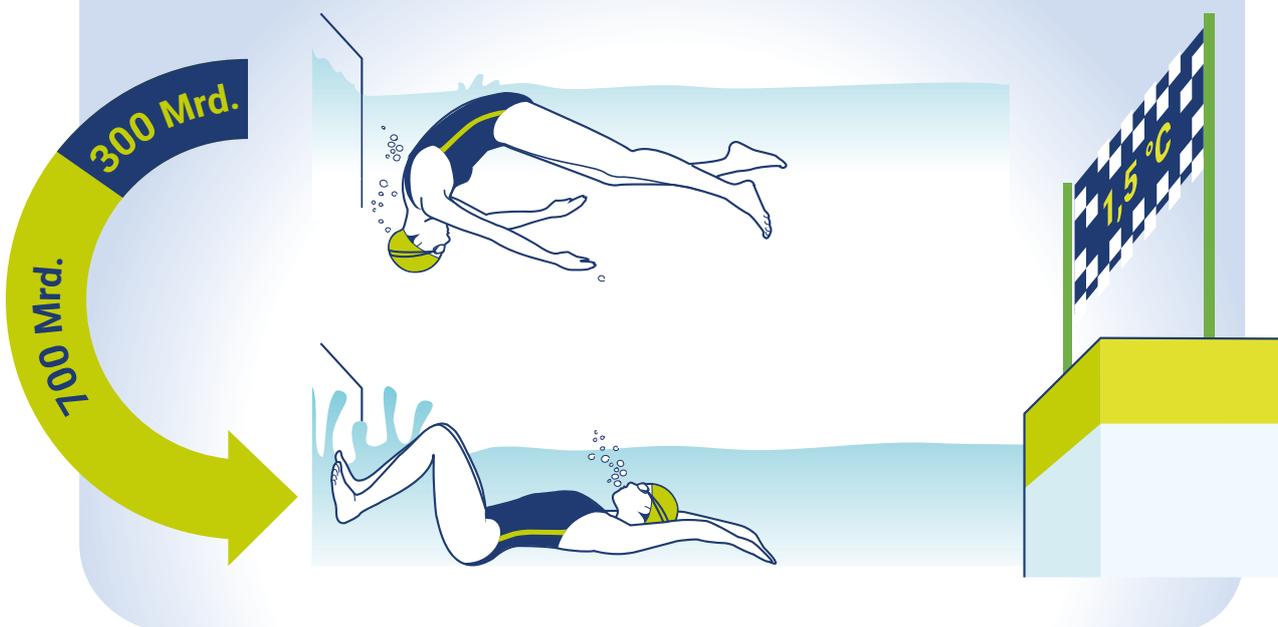
What is needed, are incentives to promote renewable energies in the Global South. Those living in the Global South are the most exposed to the terrible consequences of the long-term use of coal, gas and oil-based energy systems – while at the same time, 800 million people in this region still do not have access to electricity. Providing these people with access to energy from cleaner sources

than fossil fuels will undeniably be a determining factor in meeting the global 1.5°C threshold. In his autobiography, “The Boy Who Harnessed the Wind”, William Kamkwamba describes with poignant precision what it means to grow up as a farmer’s son in a poor household in rural Malawi, without any electricity. With scrap and old bicycle parts, the 14 year old boy manages to construct a 5-meter high windmill and provides his parents’ house with a source of electricity - finally allowing him to read his school books after dark.

Giving the initial push

atmosfair’s goal is to give private entrepreneurship, and the development of new business models in the Global South, the necessary push. Therefore, our answer to this chapter’s question is yes. Yes, we need more climate change mitigation projects in order to drive the global energy transition. But the problem is not a lack of innovative, or inventive new projects but a lack of funds. atmosfair can hardly fill the yearly 700 Billion Euros gap by itself. We do what we can, through opening new opportunities for new private actors and implementing our climate projects.

In the race of keeping global warming below a 1.5°C increase, no less than 700 billion Euros are needed every year to finance the global energy transition.



The energy transition requires another 700 billion Euros per year



Peter Stahlhofen, Friend and coworker of the German Rockband die Toten Hosen lends a hand with the mustard harvest in Tonk

1.2 What makes an atmosfair project?

Efficient climate action cannot be based on charity

“What impressed me the most, was how all stakeholders met eye to eye. This is not about charity. Through this project, atmosfair supports and promotes economic actors - the project employs and remunerates, with a fair salary, experts from all over India.”

These are the words of Peter Stahlhofen, after visiting atmosfair’s biomass plant in Tonk, Rajasthan, India. Peter is a long-standing friend and coworker of the German Rockband ‘Die Toten Hosen’ who, with the earnings of their last tour, have sponsored part of the atmosfair project in Tonk. The impressions he describes accurately define the essence of an atmosfair project. atmosfair invests donors’ voluntary climate donations to financially support companies, NGOs and organisations in developing business models for the promotion of new technologies - overall driving the global energy transition. Unlike charity

initiatives, this supposes long-term and sustainable projects aimed to become financially viable by themselves.

Projects should reach financial viability in the long-term

atmosfair wants to squeeze the most out of the donations it receives - for both the beneficiaries and the climate. This is why we target projects that can stay in the hands of local staff and continue even after our additional funding ceases. Allowing us then to seek new ventures, knowing our investment is in good hands. The support we offer in our projects is twofold. On the one hand, the subsidies put into our products, and on the other hand, the affordable loans we offer far below market average price.

An example would be our solar kiosks in Ghana, with more details on page 22. In this project, atmosfair is building 25 solar kiosks in remote villages that do not have access to the national grid. These kiosks enclose a multitude of small charging stations connected to a solar panel, which can be used by the villagers to charge their solar lamps, for a small fee. These fees not only cover our partners’ costs in waiting and maintaining the kiosks. But there is even enough leftover to finance the construction of more solar kiosks! With the current goal being set at 200 more kiosks.

1.3 What role does atmosfair play in the global energy transition?

It is just like David standing in front of Goliath. The 20 million Euro revenue atmosfair received in 2019 represents a thousandth of the funds necessary for the global energy transition. Where to even begin?

Creating a market for new technologies were there isn’t one



Not a charity - atmosfair invests into green market actors

The switch to renewable energies can only happen if private actors, such as companies or investors, can pursue an economic interest. Implementing new technologies, such as biomass or solar energy, has to become financially viable, implying the existence of a market and lowered costs.

The market for these technologies is not yet omnipresent in the countries of the Global South. This is where atmosfair comes into play. We fill this gap by promoting these technologies to spark the interest of the private sector. We identify the potential economic barriers and help our local partners in breaking them. atmosfair tries to cover a large variety of such technologies, ranging from small household technologies such as efficient cookstoves, to solar-powered mini-grids, and even up to larger installations such as biomass plants.

The driver takes the risk

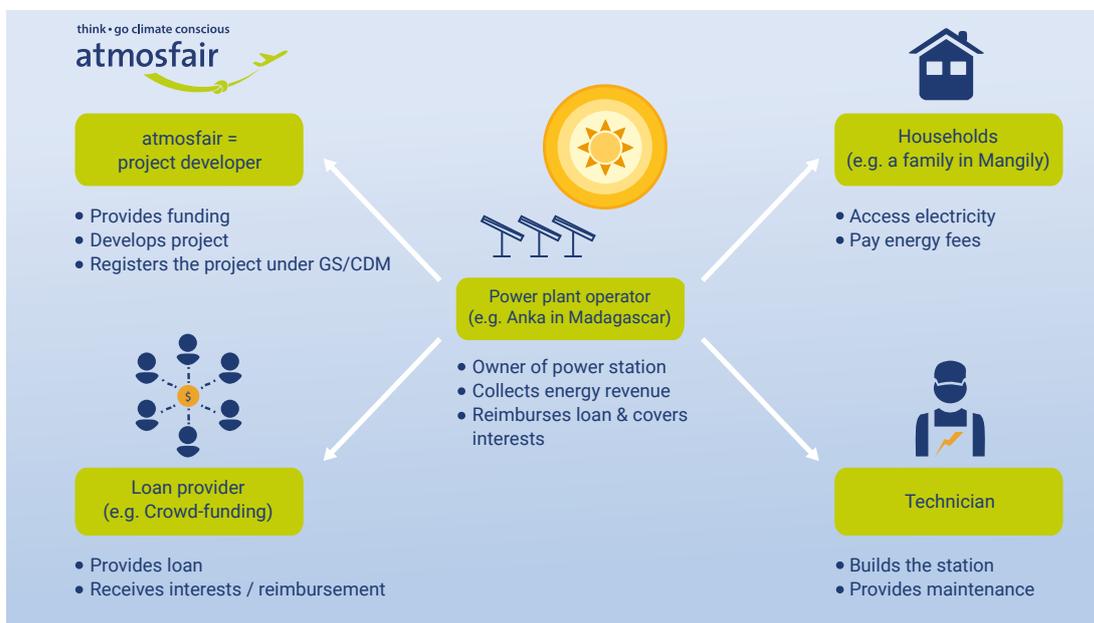
There are many hurdles for private enterprises in promoting efficient energy technologies. The largest and most common is the financial aspect. Significant starting capital is needed for the initial purchase of technologies. Often, the only option is a private loan with unfavourable interest rates, due to insufficient financial security. In Africa, monthly interest rates of 20% are no rarity, which is why atmosfair offers some initial funding. We offer loans with an interest rate of 1 - 2% per month over much longer periods of time, allowing the operators to sell solar energy to households at a low price. But by providing the investment, atmosfair also carries the risk: should the revenue be too low to reimburse the loan, the full investment might never be recovered.



Not a charity - atmosfair invests into green market actors

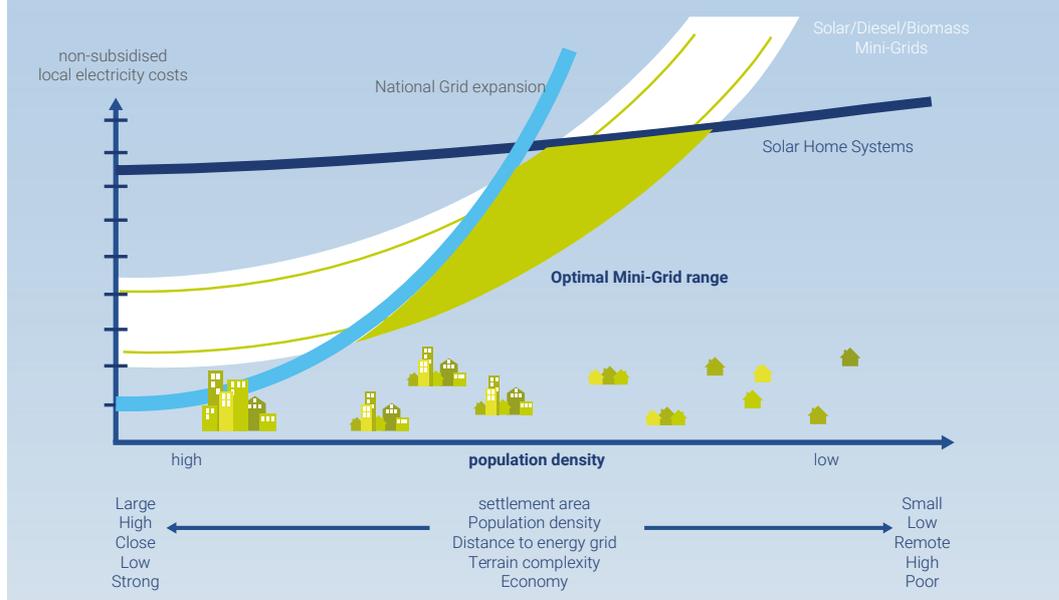
Building networks and connecting the right actors

atmosfair does not usually provide all the financing by itself. In Madagascar, our share covers 30-50% of the project costs, depending on location. This initial funding lowers the risk enough for other investors to jump on board. By bringing together the right actors, the initial funding leverages further investment.



Our projects connect the right stakeholders

Energy supply - from SHS to grid expansion



Costs for mini-grids and Solar Home Systems in relation to population density (Source: Franz, Peterschmidt, Rohrer and Kondev, 2014).

Being a pioneer

atmosfair usually selects countries with a particularly urgent need for help, thus often becoming a pioneer in the region. For instance, in 2019, atmosfair launched the construction of a stove manufacturing plant in the region of Kano in Northern Nigeria - an unstable region usually avoided by private investors. However, deforestation is advancing at an alarming rate, with families relying on the timber as their main source of energy. atmosfair will be the first producer of high-quality cooking stoves made of steel. atmosfair was also the first to build a solar energy plant in Northern Iraq in 2018, which now provides electricity for a refugee camp.



Pioneer work in Iraq: atmosfair's solar park in the Mam Rashaan refugee camp provides electricity for 1,800 households. At the opening ceremony, atmosfair project manager Nele Erdmann and Philipp Keil from the Stiftung Entwicklungszusammenarbeit of the German Land Baden-Württemberg had the honour of cutting the red ribbon.

1.4 How does atmosfair develop its projects?

One of the most frequent questions we receive from our partners and donors is "how do you actually design your projects?"

While every undertaking is its own, with different stakeholders and a large panel of different technologies coming into play, atmosfair has clear guidelines defining its process - which can be presented as follows:

Determining "who" and "what"

A decisive first step is determining which technology can impact which region most and achieve the highest carbon emissions savings with the lowest cost. Which parts of the Global South are particularly affected by deforestation? What are the driving factors? What would be the best type of intervention? Next is to determine which measures would be adapted to the region's given conditions (e.g. choosing between solar home systems or mini-grids). Together with our partners and beneficiaries, we then establish which technologies would fit most into local customs. During this planification stage, we try to think one step ahead by considering the development potential for the whole region. In India for example, we re-utilised the waste product of our wood gas stoves and created a new value chain, which now generates additional profits for the users and created well-paid employment opportunities.



atmosfair's project manager Janine Adler and local employees Bimal B.K. and Passang Tang, sitting together discussing the energy systems intended for the new climate-friendly lodges in the Lang Tang valley in Nepal.



(no) waste: the charcoal leftover from the pyrolysis stove becomes an important source of income for our beneficiaries in India.

Our key factor: Strong local partners

Once we have determined the technical, economic and climate-related benefits of the chosen technology and region, we start looking for a local partner. Partner roles can be construction and maintenance, product promotion and sales (such as solar systems or biogas plants), or supply and delivery. We find these partners usually by publishing bids or going through the extensive network atmosfair has been building over the years. Our current partner in Madagascar, ANKA, was recommended to us by the Berlin-based battery manufacturer Qinous GmbH (see also interview with ANKA on page 21).

A sustainable business model

With these new potential partners, atmosfair then lays the groundwork for a viable business model. First, by determining the project size and calculating the potential carbon savings. Then, we design purchasing, retail and marketing models for the materials, taking into account the specificity of the technology and the local circumstances. In Kenya, our aim is to support small farmers by

offering and subsidising biogas plants. In Madagascar, we support a small local enterprise by providing a low-interest loan for the construction of a solar power plant, killing two birds with one stone: first, it allows our partner to carry out the project and secondly it provides clean and affordable energy to end users, without making it free, thereby creating a lasting incentive to upkeep the technology.

Dream big - the advisory board's review

Before a project is launched, it and the potential partner needs to be approved by the advisory board. For new technologies, a pilot project is first rolled out, with the main project being launched only after the successful completion of the pilot. All project indicators are continuously monitored and evaluated throughout the whole project. How do beneficiaries respond to the technologies? How much electricity is being generated? How many emissions are being saved? With this last point also being independently monitored and certified by UN-auditors. Consistent monitoring allows us to detect problems at an early stage and develop solutions for improvement.



Monitoring our waste project in Indonesia: regular check-ups and continuous exchange with our local partners allow us to detect potential areas of improvement



Our partner in Rwanda employs 50% women for the stove assembly

1.5 An example: Building up stove production in Rwanda

Widespread reliance on firewood drive the disappearance of the forests

Where have the forests gone? Lush green hills and fields roll as far as the eye can see - but there is not a single tree in sight. The absence of the forest strikes you when driving through the Burera region of Northern Rwanda. Since its independence in 1962, Rwanda has lost 60% of its natural forest coverage. In 2018, population density averaged about 499 inhabitants per square kilometer - more than twice the density of Germany. With the rural population relying mainly on firewood for energy coupled with the widespread use of the particularly wood-intensive three-stone fireplace, the pressure on this resource has exploded and deforestation rates have skyrocketed.

Save80 stoves as guardians of the woodlands and the climate

Addressing the issue of deforestation already came into atmosfair's focus in 2010, with the aim to reduce firewood consumption. Our selected approach was to offer an energy-efficient alternative to families in Rwanda, which would replace cooking on traditional three-stone fires. An efficient cookstove would only require a small fraction of the firewood without implying changes in cooking habits. To be more precise: up to 80% less, which is also where it got its name, the Save80. High-quality materials and manufacture guarantee a long lifespan of up to 10 years.

Next to climate action, our on-site partners are also actively engaging in initiatives for disarmament and the strengthening of women's rights

As a platform to present the Save80 stove concept and find potential partners, atmosfair organised a local conference in Rwanda. By mingling with the various interested parties, atmosfair was finally able to select two new adequate partners: SaferRwanda and the NGO Rwanda Women's Network. SaferRwanda is a solar panel manufacturer also implicated in various environmental and peace initiatives, pursuing for instance reforestation or non-proliferation of small firearms. The Rwanda Women's Network on the other hand provides professional training to women and helps them integrate the job market.

"the project has improved my life"
says Harriette Muhoza

For our first test run, we sent 500 stove building kits fabricated in Germany to our partners in Rwanda for them to assemble and sell. The test was a success. The stove's numerous benefits quickly won over the hearts of the beneficiaries, who can now save money by significantly reducing their firewood consumption and are less exposed to smoke from open fires and its harmful effects on the eyes and the respiratory tracts. The Wonderbox, an abrasion-proof and well-isolated cookbox sold along with the stove, in which meals can stay warm and even 'continue cooking', was also met with great enthusiasm. After the successful completion of the pilot, the project was fully launched in 2013.

Our partners used the insights gained from this pilot phase in order to develop a long-term business model for the cookstoves, from assembly to distribution,

that would always maintain affordable prices. This model is now running successfully: while atmosfair covers the manufacturing and shipping costs of the stove parts made in Germany, the partners ensure the assembling and distribution of the final product to local households at an affordable price. Until now, more than 55.000 stoves have been sold in Rwanda and are being used on a regular basis, with the oldest ones having been in use for over 7 years - as confirmed by the independent UN-auditors who were on-site in December 2019.

Local production over import: building a stove manufacturing plant

Over the past few years we have been developing a solid business and distribution model in Rwanda, which we have now decided to expand by localising production. Before the end of the year we will start building a manufacturing plant along with our partners. At first, atmosfair will be providing its full support to launch the construction but then gradually withdraw until the initial goal is reached: empower our partners to autonomously drive the energy transition.

Frankfurter Allgemeine

16.11.2019 - Aktualisiert: 24.11.2019, 14:54 Uhr
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Kompensation von Flugreisen

Der Preis für das gute Gewissen

Was geschieht mit dem Geld all jener Flugreisender, die schlechtes Gewissen und Umweltauswirkungen durch Klimaspenden verringern wollen? Ein Beispiel aus Ruanda.

Von KARIN FINKENZELLER



Schwein gehäut: der Koben der Familie Uzabaho in Ruanda.

© Karin Finkenzeller

Esther Nirere kann jetzt Milch für ihre Familie kaufen. Früher, erzählt die 41-Jährige, sei das meiste Haushaltsgeld für Holz oder Holzkohle draufgegangen. Damit habe sie stundenlang das Essen auf dem offenen Feuer zubereitet. Anstatt wie damals ständig weiteres Brennmaterial nachzulegen, kann sie den neuen Ofen sich selbst überlassen und in der Zwischenzeit die Hühner versorgen, die sie von dem Ersparten kauft und deren Eier auf dem Markt in Gasabo, einem Vorort von Kigali, zusätzliches Einkommen bringen. Die hochgewachsene, schlanke Frau strahlt über das ganze Gesicht, während sie klein geschnittene Zwiebeln in das siedende Wasser wirft und dann den Reis für das Abendessen hinzugibt. „Ich brauche jetzt nicht mehr jede Woche Holz oder Holzkohle für zehntausend Ruanda-Franc, sondern komme mit einem Drittel der Menge aus.“

“I don't need to spend ten thousands of Rwandan francs to buy wood and charcoal anymore. Now I only need a third of the wood that I needed before.”

tells 41-year-old Esther Nirere

Article published in the Frankfurter Allgemeine Zeitung on 24.11.2019, written by Katrin Finkenzeller, who visited our project in Rwanda

“Today, Africa has the possibility to skip the coal stage”

Interview with Bärbel Höhn about the energy transition in the Global South

The energy transition is a multi-faceted process that can only be tackled through a diversified approach. To define the efficiency of atmosfair's engagement and get an overview of the situation in the Global South, atmosfair CEO Dietrich Brockhagen has interviewed Bärbel Höhn.



Dear Bärbel - you have been around Africa and the Global South - what is the status of the energy transition there?

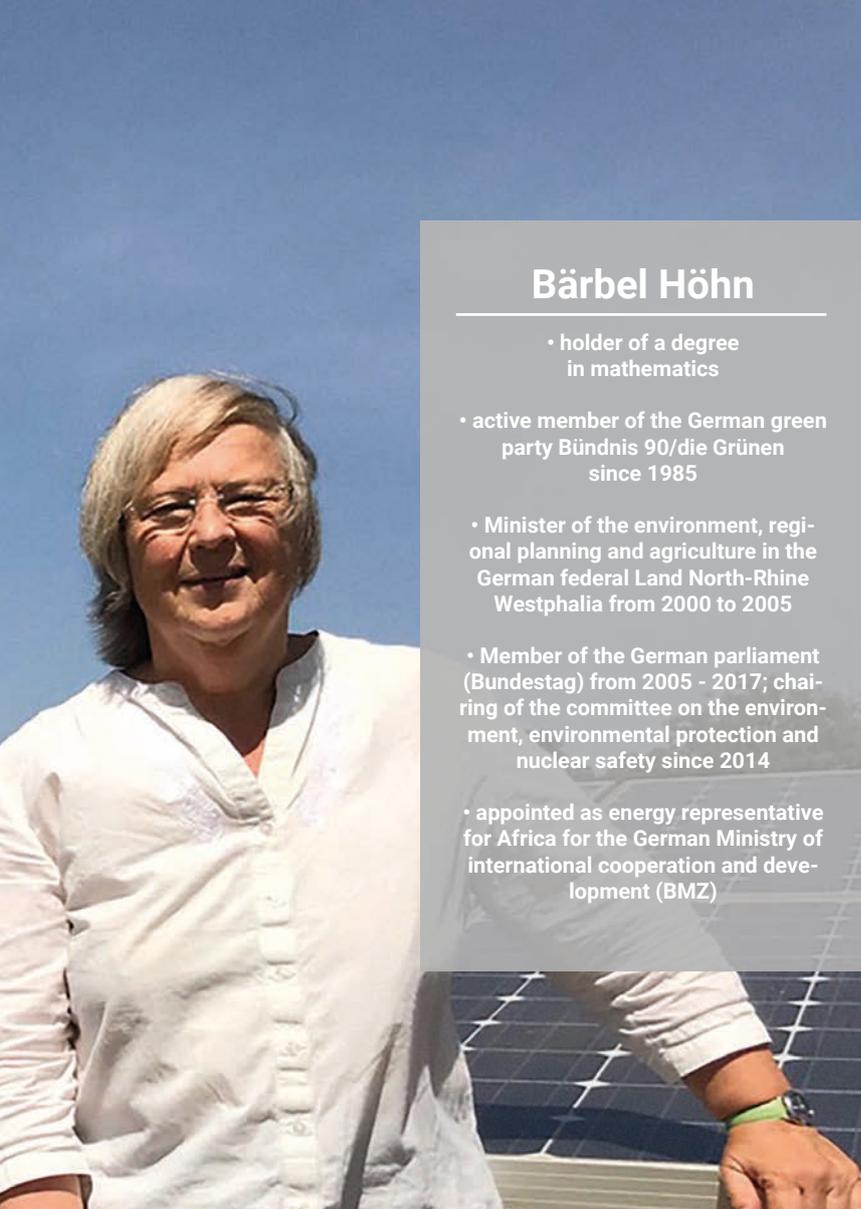
Höhn: in many countries, in particular in Asia, hundreds of coal plants are currently being planned or built to answer the growing demand of electricity. Around the world, about one billion people do not have access to electricity, and of these, about 600 million live in Africa - representing 50% of the population. Of which 90% live in rural areas. These regions are mainly powered by diesel generators and petroleum lamps. In order for these people to overcome hunger and poverty, they will need access to electricity. By designing the SDGs, the world community has pledged to reach universal access to electricity in 2030.

Germany driving the energy transition has truly been a blessing for the rest of the world. It has covered the costs for the development of photovoltaic energy systems and therefore significantly pushed down the market prices. Unlike 150 years ago, we now have new alternatives to reach full global electricity access as we no longer need to rely on centralised coal-based energy networks connecting even the remotest villages. In terms of necessary climate policies and cost-efficiency, the best solution is to opt for small scale renewable energy grids. In terms of energy supply, Africa is still a blank sheet! Thus, we can rely on

modern technologies. Solar Home Systems, for one, can provide solar electricity to households for daily use, e.g. to charge phones, run internet connections or lighting. Local energy grids from renewable sources can power up whole villages, and provide enough power for drying the latest harvest, grain milling, welding, for powering refrigerators to cool medicine in medical stations or even light schools after sundown. Plus, a lot of yet unknown social benefits will spring from these local solutions, especially for women.

What are the current conditions surrounding the energy transition?

At the moment, countries like Japan, but also China, are adapting their national coal policies to comply with the Paris Agreement. However, they are simultaneously offering large subsidies and low credit rates for the export of coal-based technologies to countries of the Global South. These projects are often subject to high levels of corruption, making them popular in certain decision-making circles. Without the support, the political will and/or the right set of climate policies decentral solutions will continue to be largely overlooked. Western African nations for example have tipped the balance towards centralised energy networks under french influence, whereas small scale energy solutions are more prominent in eastern Africa. Now, new financial tools are needed, which could support local



Bärbel Höhn

- holder of a degree in mathematics
- active member of the German green party Bündnis 90/die Grünen since 1985
- Minister of the environment, regional planning and agriculture in the German federal Land North-Rhine Westphalia from 2000 to 2005
- Member of the German parliament (Bundestag) from 2005 - 2017; chairing of the committee on the environment, environmental protection and nuclear safety since 2014
- appointed as energy representative for Africa for the German Ministry of international cooperation and development (BMZ)

electricity grids or small entrepreneurs in Africa, a mission for which the KfW (the German Reconstruction Loan Corporation) is playing a central role. I am myself currently seeking out these tools in cooperation with the KfW to support large numbers of small projects rather than a few large ones, e.g. crowdfunding.

What other potential benefits could the North-South Energy transition bring? Will it affect leading causes of immigration?

Yes, it definitely should. Energy access brings new income and job opportunities for local populations: drying, cooling, manufacturing but also maintenance. This is particularly relevant for young people as it offers them new perspectives, which in turn lowers the rural exodus to the cities, and, by extension, to foreign countries. In many African countries, more than half of the population is under 18. The education, the jobs and the incomes that would be generated by renewable energies would be very beneficial, especially for women.

Next to subsidies, atmosfair also offers cheap credit bundled with other creditors. Do you think this is the right way to do it?

Yes - it makes sense. Nothing should just be given away for free, a part of the investment needs to be paid back.

The return on investment for replacing an expensive diesel generator by photovoltaics is about 2-3 years. A solar lamp saves petrol or wax and reduces the risk of fires and burns.

Numerous countries of the Global South have already taken big

steps in the right direction. State agencies are reviewing initiatives to support, such as village-wide solar energy networks, and offering cheap credits and subsidies from diversified financial sources for the necessary time. Thereby allowing single households to get access to the village network. But the underlying conditions for financial support are not the only factor that can turn the tables: it is also important that donors do not see each other as competitors, but instead choose to work together.

To reach the climate goals of the Paris Agreement, we need green rural electrification. Has the agreement yielded any results yet?

It is still too early to say. A study by the Mercator research institute in Berlin has shown that there will be a great increase in carbon emissions in Sub-Saharan Africa, due to growing population and a growing demand for electricity. But how should one go about discouraging a head of state from building new coal plants to answer the demand in a country where the individual carbon footprint lies at about 0.5 tons, when Germany itself has just connected to the grid up a new coal plant this very year and the average carbon footprint lies at 8 tons?

The question is: what does Africa want? Wait years for coal plants to be built everywhere? Or rather quickly bring small renewable energies options to the villages, with all the benefits they bring? With the exception of South Africa and a few others, there is still a possibility to skip the coal step in many countries.

Thank you for your time! Is there anything else you would like to address?

Next to rural electrification, another problem is the deforestation due to cooking on open fires. The issue of access to timber is getting more pressing every day in many African countries. We should therefore think and develop new solutions to create better and more efficient cooking habits. Germany has already invested a lot in this issue, but a lot still needs to be done.

Our standards

Approach

Principles

- Offsetting is only ever the second-best solution, avoiding emissions is much more effective
- Climate change mitigation is the priority – not the maximization of revenues
- A key element is building climate awareness – it fosters long-term avoidance of the initial carbon emission
- Optimizing travel with the help of business travel specialists, incl. video conferencing

Action

- No cooperation with actors that do not comply with atmosfair's standards – e.g. in carbon reporting – despite the possibility of financial gains for atmosfair.
- No offsetting of activities for which better and less carbon-intensive solutions are available – e.g. emissions due to car travel or electricity consumption
- Representation of the real climate impact (see carbon calculation), regardless of the industry

Carbon mitigation projects

Principles

- Permanent reduction of carbon emissions
- Additionality
- Contribute to north-to-south technology transfer
- Direct support to local population
- Contribute to protecting the local environmental
- Consideration for local circumstances when choosing technologies
- Coherence with national development efforts

Action

- All projects must be compliant with two standards: CdM (UN) and Gold Standard (environmental NGOs); up to 10% savings under Gold Standard Microscale
- CdM + Gold Standard + X: X stands for atmosfair's own additional criteria, such as the carbon quota as proof of additionality or the exclusion of unsuitable or high-risk project types (e.g. afforestation projects)
- Calculation and monitoring of carbon emission reductions according to UN standards
- Qualified and UN-certified auditors (e.g. TÜV) who also bear liability
- Documentation of all audit reports on the website of the UN Climate Secretariat
- Projects are planned and developed by atmosfair and implemented alongside experienced partners in developing countries

Gold Standard
Climate Justice & Sustainable Development



United Nations
Framework Convention on
Climate Change

Carbon emissions calculation

Organization & finances

Principles

- Comprehensive
- Scientifically sound
- Well documented
- Verified

Principles

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

Action

- Incorporation of all climate effects of air travel (e.g. condensation trails, ozone formation, etc.) based on current scientific findings (iPCC), meaning that the calculated climate impact is significantly higher than CO₂ alone
- Self-developed emissions calculator, verified by the German Federal Environment Agenc
- Documentation of all data sources and methods used on the atmosfair website

Action

- Low administrative costs: over 90% of donations flow directly into the climate change mitigation projects in the global south, for planning, implementation and operations
- In Germany, donations are tax deductible, under the supervision of German tax authorities
- Legal form gGmbH (non-profit): liability and publication in the commercial register
- Advisory board composed of high-profile patrons and environmental experts, including representatives of the environmental ministry, NGOs and the scientific community



Bundesministerium
für Umwelt, Naturschutz
und nukleare Sicherheit

atmosfair was created in 2004 as the outcome of a research project led by the German Ministry for the Environment. the project goal was to develop high standards for voluntary offsetting. The atmosfair standards have since then become a benchmark of the growing voluntary offset market. atmosfair has also reached first place in numerous international comparative studies.



Madagascar: Living without coal, solar lights up in 40 villages

The mounted solar panels on Madagascar's first solar-powered greenhouse in Madagascar

A smiling Rija Rakotson opens the door of the Le Palétuvier Hotel in Tulear. Today is the 13th of December 2019, and Rija is about to present the new atmosfair project: "Rural electrification for Madagascar". He is waiting for representatives from participating village communities, regional and national public administration bodies, and from the energy sector. Soon, the invited audience streams in and fills the room with joyful, eager chatter until Rija finally kicks off the event. Over the course of 5 hours, Rija and the guests will be discussing atmosfair's implementation of a large scale



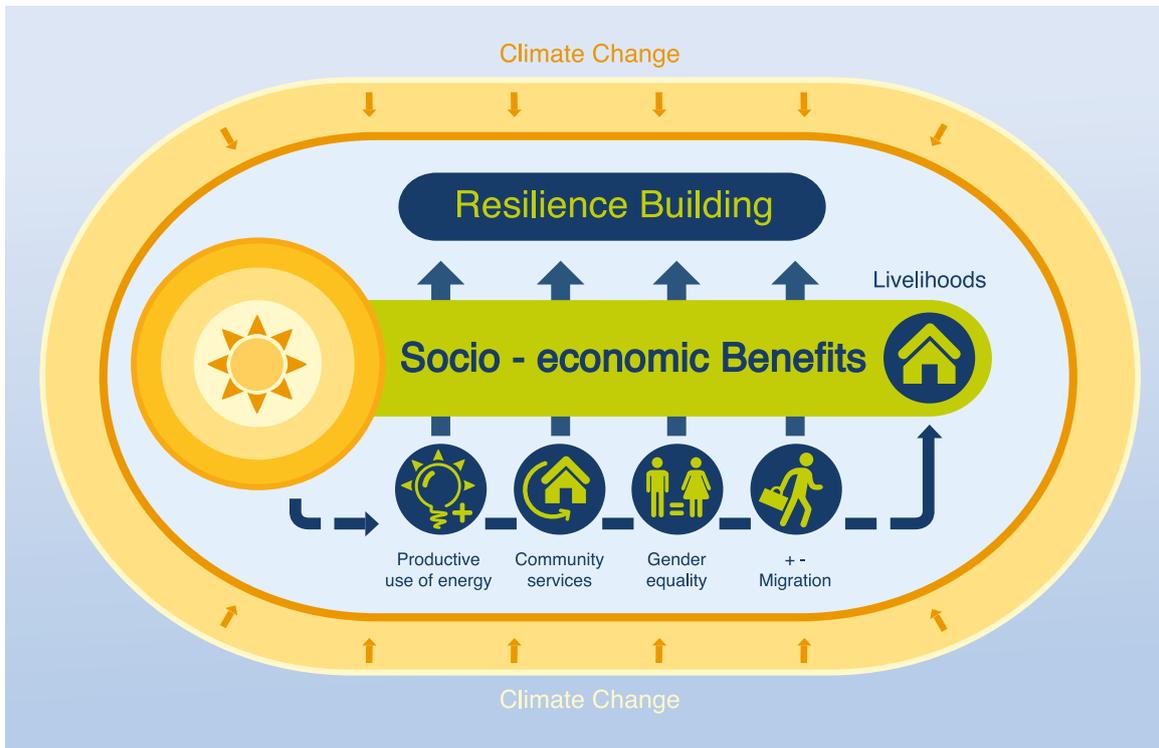
Mangily, Madagascar



rural electrification project, and the lessons learned from the previous pilot projects. This time, the goal is to provide access to solar energy to around 5,000 - 10,000 inhabitants in 40 villages, who currently lack complete access to energy, or rely on diesel generators. For this, the project developers (Akuo Energy SAS, ANKA Madagascar, Autarsys

GmbH und SunFarming GmbH) will build solar systems with battery systems as well as decentralised mini-grids. These will provide clean and affordable energy to households and workshops (see also the interview with Bärbel Höhn on pages 14-15). During the discussions, the expectation of an economic upturn became clear, as people

Madagascar is Africa's largest island state and the 4th largest island in the world. But with a gross national income averaging just under \$400 a year, it also lies far behind other sub-saharan states. Overall, only 23% have access to electricity - even less in rural areas, where the average lies at about 17%. Many Madagascans have to travel several miles by foot to access a phone charger. Better access to electricity would mean increased production possibilities and improved access to food, benefiting health, among others. It is an urgent matter, but the subsidies supporting the country's main and only energy provider strains the national household budget. The likeliness of a national power grid expansion is therefore unlikely as the necessary funds and resources required are not yet available. However, with a stunning 3,000 hours of sunshine per year, Madagascar is one of the sunniest countries in the world. Decentralised solar power systems could in fact be the best and cheapest option to bring light to Madagascar's rural areas.



Rija Rakotoson presenting the project in Tulear

Not waiting for the grid

expected that savings would be made by not having to buy expensive diesel. During the following days, Rija visits the different villages to present the project to those unable to attend the organised event. The feedback he receives is mainly positive. As he explains, “most villagers are thrilled at the idea of getting their own access to energy”. Only some were worried about possible electricity costs - but Camille from ANKA had reassuring responses ready: atmosfair is committed to keep energy prices low and affordable for all village inhabitants. For grants, atmosfair would also offer the possibility to choose between pre and post-payments - minimising debt in the process.

During the project’s first phase, we will reinforce Tulear’s local, diesel-based electric grid with a 2,9 MWp solar installation and will provide access for 40 more villages (10 by the end of 2020). This project will serve as a model to motivate investors to invest in Madagascar’s electrification. The project is a significant step towards 100% energy access, whilst simultaneously driving its energy transition, and avoids relying on the national grid expansion and relying on fossil fuels.



Engineers performing preliminary measurements on the Mangily site

“Our ongoing projects have definitely impacted the lives of the population”

When and why did you become a project developer in Madagascar ?

I came to Madagascar in 2013 and started my experience working with rural electrification by founding the *BeGRID Madagascar* Start-Up. The name was then changed to *ANKA Madagascar* because of the fusion with others. What defines us is a holistic approach to the subject of electricity access. This stems from my initial thoughts when I first came to Madagascar: Work towards and contribute to a vision of the future where equal rights are not a dream but a reality, local potential is supported and encouraged, and where sustainability triumphs over short-term illusions.

What are the biggest challenges in your opinion?

Overall, the whole sector is rather clueless - but without a plan and a clear vision it is extremely difficult to position yourself on the market and offer appropriate solutions - especially in remote areas. From a financial point of view, securing finance is still a major challenge, particularly considering that our target group has a rather weak purchase power. Unfortunately, Madagascar still struggles to attract enough investors and projects remain uncertain, suffering from lengthy processes.



Interview with Camille André-Bataille, CEO ANKA Madagascar

Camille André-Bataille, CEO of our partner ANKA Madagascar

Looking back on your projects, do you think that they met the expectations of their beneficiaries?

Our current projects have definitely changed the lives of those involved. We now see new economic activities springing up and even certain public authorities have started taking more responsibility in the development of their villages. However, we are still convinced that it is not sufficient to break these villages out of their isolation and achieve real change. Thus, we always try to come up with new solutions, for example solar-powered water treatment or other new approaches that would connect electricity access to the development of agricultural value chains and increase employment - boosting local economic development and achieving nation-wide increases in purchasing power.



Insert coin to charge phone and save up for a Solar Home System-Upgrades to our solar kiosks in Ghana open new doors

Transporting a solar module to the Prida Island (Source: Sunhut Limited)

Clutched on his motorcycle, Isaac Darkoh makes his way along Ghana's sandy and rust-coloured paths through banana trees and cocoa plantations. His destination is lake Volta - the world's largest artificial reservoir. There he will find the village Bumpata and in its centre, a solar kiosk built by *Sunhut Limited*. Isaac works as an Operations Manager for Sunhut and goes on-site twice a month on their behalf.

He parks his bike in the sun and starts to work in the shade of the solar kiosk. Above him, the solar modules are working too: producing 1kWh of electricity, enough to charge 80 phones and 80 solar lamps simultaneously. The first villagers start arriving and the Sunhut-envoy starts his busy day. *Sunhut* operates so-called solar kiosks and provides affordable Solar Home Systems (SHS) to Ghana's most remote regions.

Isaac had come to Bumpata for the very first time about 6 months ago, when he was tasked with promoting the lamps, solar panels, power banks and radios in the scorching heat. These events aim to evaluate the village resident's interest in solar kiosks before installing them.



Isaac Darkoh on his motorcycle (Source: Sunhut Limited)

Today, the kiosk is built and villagers can bring broken equipment to Isaac for him to fix and do not miss the opportunity to bombard him with curious questions.

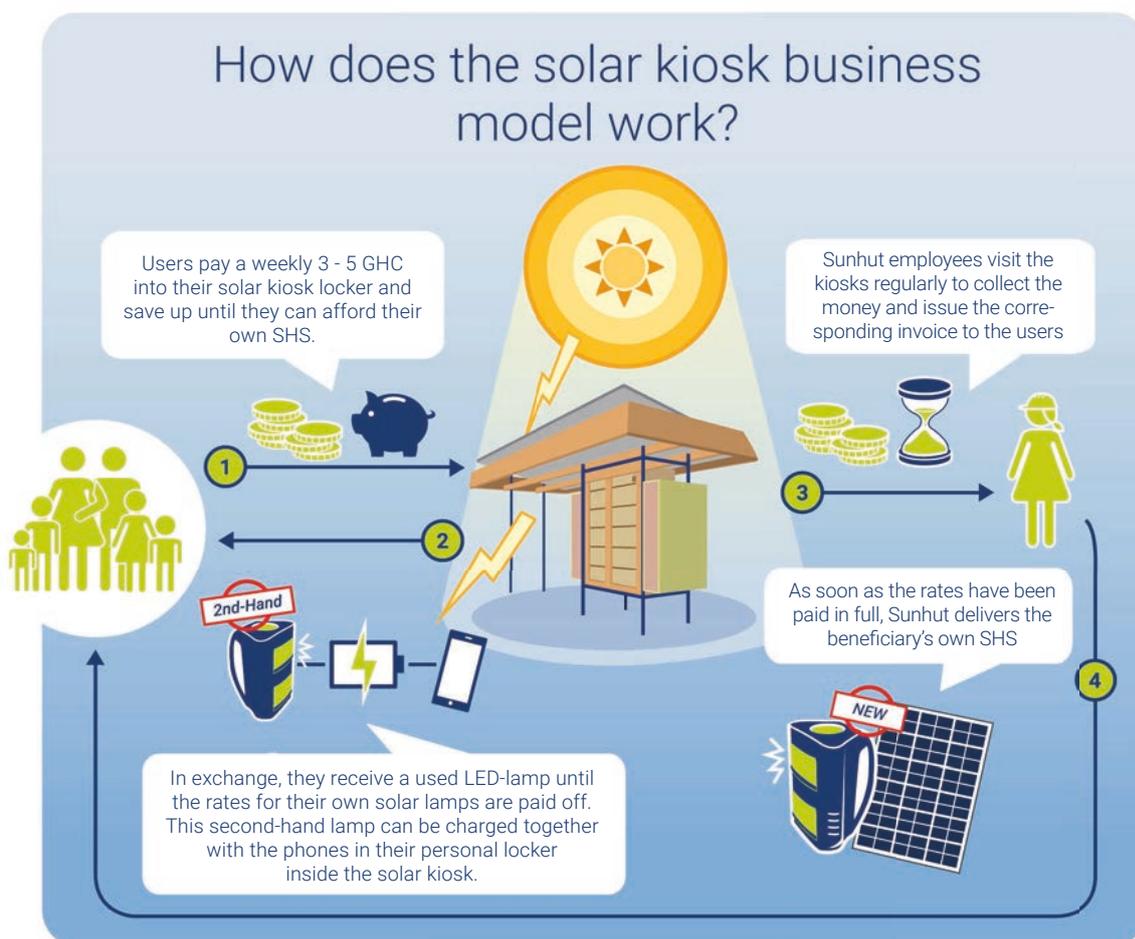
Isaac throws a glance on a document and compares received payments with the payment plan. When all of a user's payments are cleared, he issues the corresponding receipt. Obed Adi-Darko is one of the villagers who has already fulfilled all his payment obligations: the operations manager now hands him his own brand-new LED lamp. Only a few months later Obed will receive a 7 Watt solar panel with which he will be able to finally charge his lamp and cell phone himself autonomously. It usually takes the users about 1 and a half years to fully purchase their own SHS.

atmosfair's interest in this concept started in 2018. Back then, Edward Osew, Sunhut's CEO, and Thomas Ricke, CEO of Villageboom, submitted their joint application answering our tender for rural electrification. During our first on-site



A villagers charges his lamp at the kiosk (Source: Sunhut Limited)

project visit we analysed the local conditions as well as the pilot project installation. Our assessment had shown that Ghana's rural population relies mainly on pocket lamps with disposable batteries - meaning high costs, a large carbon footprint and a waste problem. The new solar kiosks offer a nice alternative. With atmosfair getting involved in the project, more solar kiosks can now be built and installed. So far, 37 of the 200 planned kiosks are already up and running.





A water kiosk in Burani, Kenya

Kenya: Drinking water desalination - new in atmosfair's technical development

On the 24th of August 2019, atmosfair celebrated the opening of the first solar-powered water desalination plant in Burani, Kenya, with its partner Boreal Light GmbH. The system desalinates and cleans up to 25,000 litres of water, extracting fluoride, chlorine, bacteria and viruses - giving around 6,000 People access to drinkable water, who come to fill up 20-litre containers.

The project was launched in 2018, when atmosfair started to look for partners and technologies in the solar-powered water treatment sector. We discovered a new and promising system that could function without a connec-

tion to a power network, diesel generators or batteries. The technology is based on the 'reverse osmosis' principle through which changes in pressure push water through membranes that filter out impurities. Our eye was caught by Berlin manufacturer Boreal Light GmbH and french manufacturer Mascara. In 2019, Boreal had won the KfW award "Gründen" ("Founding"). We decided to take a closer look at these technologies and to test the products on-site in the Global South.

While also testing at production sites, we worked on the implementation of our very first water kiosk pilots. The first installation, built in

2019 in Burani, was a success as villagers were no longer obligated to undertake a 2-hour walk to fetch water, which then had to be boiled over an open fire - with timber collected from the surrounding forests.

The kiosk also provides water of lower quality, which can be used to water plants, fish farming and for sanitary installations. Here in Burani, the kiosk provides enough water for a vertical farm for fruits and vegetables, three fish tanks and a public sanitary installation for the village. The generated revenue also covers employees' salaries and the maintenance costs. This first installation will operate as a model for 40 other water kiosks to be built in Kenya.



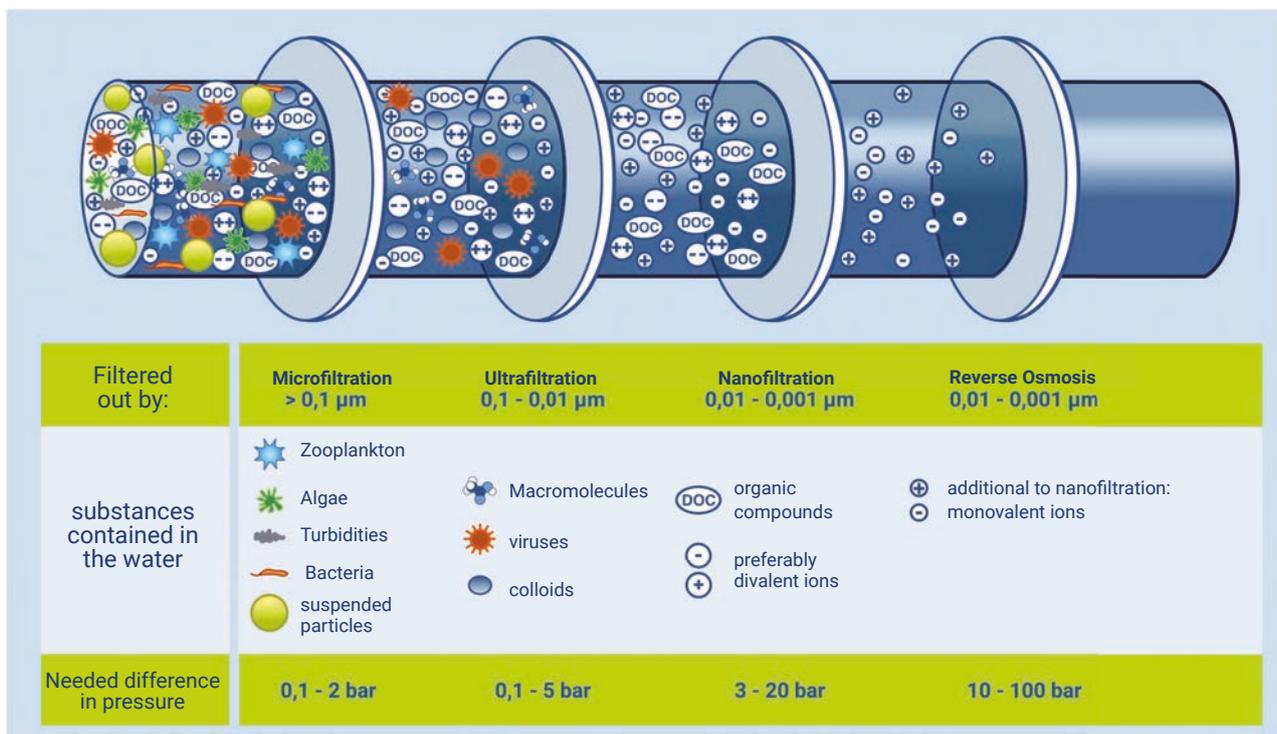
A vertical farm with an integrated watering system

“Our life has not been the same since we have had such easy access to drinking water and sanitary installations. Young people are even generating additional income by selling the drinkable water to neighbouring villages.”

Mwanahamsisi Salim was born and raised in Burani, a village in the South East of Kenya, a 3-hour drive away from Mombasa.



Villagers filling up tanks with drinking water in Burani, Kenya



Water is filtered through membranes and different pressure scales (TZW)

From donation to results

Donations for climate change mitigation have doubled

Since 2005, atmosfair has been funding and managing climate change mitigation projects in the whole world, with the help of voluntary climate donations. First, we establish a funding agreement with the project developer. This explicitly stipulates the amount of carbon emissions that are to be saved through the project on a yearly basis, as well as the conditionalities of atmosfair's financing. One and a half years then approximately separate the initial donation from the actual carbon saving – the timeframe we need to develop and run the project. UN-accredited auditors then certify the reduced emissions. The timeline goes as follows:

Following your money – from donation to project

Day 1: Reception of your voluntary climate payment

Months 3 to 6: atmosfair, or a partner, purchase the necessary hardware like construction materials or solar panels locally, prioritising local value chains. This is not always possible, as many African countries for example don't produce steel and import it instead. Nevertheless, we produce as many components locally as possible – for instance pots for the efficient cookstoves, although the quality is sometimes lower than when using stainless steel. One of our 'most local' technologies are the small biogas plants for farmers in Nepal or Kenya, which are made almost 100% from materials that are readily available in the region, in this case, baked clay tiles and screed.

Months 7 - 9: Delivery of the materials to the project partner. When importing materials, we

often face issues with custom controls. Sometimes, deliveries can get stuck in harbours for numerous months or we get charged considerable custom charges. We try to send members of our local teams and involve experts to lead negotiations with the authorities, but they are always delicate situations, especially regarding our zero tolerance for corruption policy. Building up logistics in project countries is also rarely an easy task, safety issues in particular can create delays.

Months 10 - 16: Production and distribution of the climate change mitigation products (efficient cookstove, biogas plant) or building of plants (e.g. PV system for a village). Different technologies require different amounts of time and effort. Efficient stoves in Rwanda only require the quick and easy mounting of different parts. In Nepal, the biogas plants are built on small construction sites within a few days, whereas photovoltaic systems are more complex during their installation and require a detailed planning process. For household projects on the other hand, we must take into account the distribution, as the voluntary climate payments allow us to sell these technologies at a highly subsidized price. For the distribution of the efficient stoves in particular, the sales teams often have to drive their delivery trucks hundreds of kilometres to organize sales events and deliver the goods to remote villages. This step requires the most local employees, and in some large projects their numbers can go up into the hundreds.

Months 17 - 30: Initial operational period of project, carbon emissions are physically avoided. Launching operation of the technology immediately saves carbon because, for example, a diesel generator is now replaced and can be turned off – users are pleased.

Project expenses 2019

Project category	Project name	Expenses 2019*	
Efficient stoves	Ethiopia	0,8%	15,6%
	India	7,3%	
	Lesotho	0,5%	
	Nigeria	0,5%	
	Rwanda	6,5%	
Biogas & Biomass	Kenya: small biogas plants for dairy farms	1,0%	24,7%
	Nepal: Biogas	10,4%	
	Tanzania	4,3%	
	Germany: test peoject DAC	9,0%	
Wind, Water, Sun	Honduras: small hydropower plant	0,5%	39,9%
	Iraq: Energy for the refugee camp Mam Rashan	4,8%	
	Kenya: Solar-powered water treatment	0,7%	
	Madagascar: rural electrification	21,0%	
	Senegal: Solar	1,5%	
	Indonesia: solar-powered water treatment	0,5%	
	Ghana: Solar kiosks	0,5%	
	Lesotho Solar Home Systems	0,5%	
	Zambia: solar irrigation	0,5%	
	Germany: pilot project green hydrogen	9,4%	
Educational and transformative projects	Germany, education: ‚Energiesparmeister‘ And DUA	1,5%	18,8%
	Germany: transformative projects (Cargo bikes)	1,0	
	Kenya Electric Taxis	1,3%	
	Germany: green transport	15,0%	
Energy mix	Nepal New energies and the Langtang Trek	1,0%	1,0%
Gesamtausgaben in 2019:	19.376.173 €	Total	100%

*smaller share = maintenance + on-going operation, larger share = new projects and implementation

Months 31 - 34: Verification of the carbon reductions by UN-accredited external auditors, drawing up of the test report. This step is then repeated yearly. The auditors test installations and measuring instruments (e.g. the electricity meter linked to a PV system), conduct interviews with operators, and control all collected data required by the corresponding UN method. On this basis, they calculate the actual carbon savings accumulated over an indicated period. The auditors themselves have to renew their accreditation by the UN every three years, and bear liability if a mistake were to occur. Their reports are published by the UN on publicly available websites, in order for any affected or interested party to be able to access and possibly raise objections. This allows for an exceptional degree of transparency and accountability for project support through NGOs.

Months 35 - 39: Specific UN bodies carry out cross-examinations of the test reports and additional auditing is performed by the Gold Standard. This step is almost exclusively administrative in nature and, in practice, consists of a back and forth between the auditor and the UN committees, until all the committee's questions are answered.

Month 40: The UN climate secretariat issues the carbon reduction certificates to atmosfair's register at the German Emissions trading Authority, which is part of the Federal Environment Agency (UBA). This final step does not affect the project itself anymore, but is nonetheless important for atmosfair's documentation (see below). Registering atmosfair's emission reductions with the UBA is a guarantee for donors, as the data is processed and saved by an official governmental body that acts as an independent third party.

Offset obligations and carbon reductions achieved in 2019

Greenhouse gas reductions, achieved and verified by UN auditors ⁽¹⁾ [1.000 t CO ₂]		2005 - 2012	2013	2014	2015
Efficient stoves	Nigeria: Efficient cookstoves	1,8	17,0	2,3	18,2
	India: Efficient cookstoves			5,6	0,0
	Cameroon: Efficient cookstoves		3,2	9,0	9,9
	Lesotho: Efficient cookstoves		3,3	17,8	21,8
	Rwanda: Efficient cookstoves				6,5
	Ethiopia World Food Program: Efficient cookstoves				
Biogas & Biomass	India: Generating power from harvest residues	18,8	117,4	0,0	119,9
	India: Biogas plants for households	24,1	21,1	19,5	0,0
	Kenya: Biogas plants for dairy farms				
	Thailand: Biogas from waste water			50,5	0,0
	Nepal: Biogas				
	Indonesia: Composting household waste				
Wind, hydro, solar	Honduras: Small hydropower plant	64,0	59,2	22,7	0,0
	Nicaragua: Wind power	118,7	0,0	45,0	102,7
	Vietnam: Wind power				
	South Africa: Warm Water for households through solar				
	Senegal: Clean solar power for households				
	Total, GHG reductions, achieved and verified by UN auditor	227,4	221,2	172,5	279,0
Reduction obligations based on received voluntary climate payments		439,5	96,8	106,9	132,9
Reduction obligations from carbon mitigation projects commissioned by clients		122,6	66,4	80,3	60,3
Reduction obligations, total		562,1	163,2	187,2	193,2
Accumulated GHG reduction obligations		562,1	725,3	912,5	1.105,7
Actual GHG reductions, as verified by UN auditor, accumulated		227,4	448,5	621,0	900,0

In total, it takes about:

- half a year for your donation to be used in an existing project
- a year and a half for your donation to physically offset carbon emissions
- three years for the first savings to be officially verified by an independent auditor
- three and a half years for atmosfair to receive the UN's official documentation for the carbon emission reduction

The table above shows the carbon emission reductions atmosfair has achieved all the way – in other words, emissions that have been saved, verified, reviewed, and confirmed by the UN. Documents relating to these reductions are also avail-

able as part of the test reports published on the website of the United Nations Framework Convention on Climate Change (UNFCCC), independently from atmosfair. Links to these UNFCCC pages are available on our atmosfair website.

At the end of the table, these CO₂ reductions are compared with atmosfair's CO₂ reduction obligations for the donors. As described above, we have shown the CO₂ reductions on the last time step, but the reduction obligations on the first time step, with the receipt of your climate protection contribution on the atmosfair account.

Reduction obligations slightly overfulfilled

Even though it takes three and half years for a donation to turn into actual UN-certified carbon emission reductions, the figures show that atmosfair was able to reduce this timespan to almost zero. In 2019, atmosfair committed to

	2016	2017	2018	2019	2020 ⁽²⁾	Total projections incl. 2020 ⁽²⁾
	0,0	123,0	85,5	36,2	39,8	272,3
	0,0	39,1	20,0	40,0	20,0	124,6
	0,0	9,3	19,6	0,0	0,0	51,0
	24,8	27,6	28,9	28,7	25,0	177,9
	0,0	98,0	107,8	124,3	160,6	477,7
				24,5	0,0	24,5
	69,3	0,0	56,1	68,6	61,9	512,0
	0,0	0,0	0,0	0,0	0,0	64,7
	2,8	0,0	5,4	6,6	0,0	14,7
	0,0	0,0	0,0	0,0	0,0	50,5
	60,0	298,9	213,9	711,8	768,1	1.998,3
	2,3	0,0	2,5	0,0	2,4	7,3
	41,0	0,0	0,0	28,8	34,2	249,9
	0,0	0,0	0,0	0,0	0,0	266,3
	10,0	32,0	0,0	0,0	0,0	42,0
		9,3	0,0	0,0	0,0	9,3
				49,8	85,5	135,3
	210,2	637,0	539,7	1.119,3	1.197,5	4.603,6
	148,6	225,3	325,1	503,3		
	149,9	251,5	207,9	311,95		
	291,0	476,8	533,0	815,0		
	1.489,4	1.966,3	2.499,3	3.314,7		
	1.110,2	1.747,1	2.286,8	3.406,1	4.603,6	

1. GHG reductions in the table are indicated according to the year in which they are verified by an auditor and certified by a standard. Therefore, emissions reductions achieved in 2018 might not be included in that year, as they are still in the process of being certified. Savings achieved in 2018 but certified in 2019 will appear in the 2019 column.

2. The indicated GHG reductions for the year 2020 are a forecast and therefore subject to possible changes in future annual reports

offset 3.31 million tons of carbon emissions. However, before the end of the year, atmosfair had already reached 3.41 million tons of verified carbon savings! Meaning that atmosfair was able to balance the still outstanding 215,000 tons of reduction obligations from 2018 while also getting a headstart of 85,000 tons carbon savings for 2020.

This is due to the numerous technologies, mainly the stoves, the biogas plants and the photovoltaic systems, that were already installed years ago and thus continue to achieve yearly reductions. 2019 also saw a major record being broken: the UN certified over 1.1 million of atmosfair's saved carbon emissions! At the same time, expenses for climate change mitigation projects have doubled, passing the 20 million Euros milestone (also see our Financial statement on page 30). Of these, 15% went into cooking stove projects, 25% went to biogas and biomass projects and 40% were allocated to

solar power projects, including solar-powered irrigation and solar-powered water treatment projects. A fifth of all expenditures were allocated to the development of educational and transformative projects in Germany.

In some of the ongoing projects, the table indicates zero carbon reductions. This only means that while the project is running successfully and carbon emissions are being physically saved, the UNFCCC has not published a report on the project during this calendar year. Since the verification periods of projects can begin and end independent of calendar years and do not always run exactly 12 months, emissions reductions listed here can fluctuate year by year, even for projects running constantly.

Financial Report

Overview

With about 22 million Euros worth of income, 2019 has seen a 12 million Euro increase in income from 2018, making 2019 our new record year in terms of revenue.

No public funds and no big spenders with donations exceeding 10 percent of our total annual income – in 2019 again, the non-profit organization atmosfair has kept its financial independence. Next to raising funds through voluntary climate donations, atmosfair has been generating revenue through economic business activity for over ten years, which in turn helps in covering some of the costs incurred by our non-profit activities. Looking through all the finances since the foundation of atmosfair, we can rightfully claim that in 2019 for every 100 Euros donated, about 95 Euros were invested in the direct purchase of climate change mitigation technologies – e.g. efficient stoves or household solar systems – or paid to the planners and developers of projects for green electricity generation. From this same 100 Euros, only 5 Euros were spent on atmosfair's own needs, for customer care staff as well as other costs such as IT-systems, accounting, public relations, rent for office spaces and banking fees.

Organization / non-profit

The Foundation for Sustainability (Stiftung zukunftsfähigkeit), based in Bonn, remains atmosfair's only shareholder. The four-person advisory board – consisting of two members of the German Federal Ministry for the Environment (BMU) and two representatives of environmental NGOs – ratified the new grant agreements for climate change mitigation projects; a process in which none of the board members received any form of payment or refunds for incurred expenses. Tax exemption was re-approved by the German tax authorities for the year 2019. Donations receipts were duly issued for all voluntary climate donations received in the course of 2019.

Financial independence – no public funding

In 2019, atmosfair's activities were fully financed through voluntary donations for carbon offsetting as well as revenue generated by economic business activities, the latter of which is permitted to non-profit organizations to a limited extent. In 2019, atmosfair received no public funds and thereby maintained its financial

independence. Furthermore, no payments were emitted between the only shareholder, the Foundation for Sustainability, and atmosfair.

Expenses, developing climate change mitigation projects

The largest share of expenses was incurred by the development and management of climate change mitigation projects. These include the purchase of technologies and material (e.g. efficient stoves), setting up and running projects, including the verification by UN-accredited auditors, and the salaries of the local project teams. For 2019, this share amounted to about 19 million Euros (see also table on page 27). Other

expenses include personnel costs for project planning and implementation, which amounted to about 500,000 Euros in 2019. In total, atmosfair has funded climate projects worth 55 million Euros since its creation.

To calculate an upcoming year's financial grants for climate change mitigation projects, we usually calculate with the average revenue of the two previous years. This not only allows using funds in a timely manner. It also provides us sufficient security to grant long-term financial support to our partners in the Global South, and design and implement new projects, even in the case of decreasing incomes. Furthermore, the preparation span of one to two years between a project idea and the corresponding investment of funds in hardware, such as efficient stoves or solar power systems, leaves little room for any other way of financial planning. atmosfair's revenue has seen a stronger increase between 2018 and 2019 than between 2017-2018. Ac-

Balance sheet 2019

Assets	2019 EUR	2018 EUR
A Fixed assets	525.873,00	518.316,00
I Intangible assets	3,00	3,00
II Tangible assets	25.870,00	18.313,00
III Financial assets	500.000,00	500.000,00
B Current assets	13.225.210,09	14.027.225,84
I Inventory	2,00	2,00
II Receivables		
Trade accounts receivable	1.593.580,39	669.158,81
Other assets	188.188,36	661.978,22
III Cash on hand, bank balances, etc.	11.443.439,34	12.696.086,81
C Prepaid expenses and deferred charges	7.773,00	1.706,20
Balance sheet total	13.758.856,09	14.547.248,04

According to the above mentioned rule of timely disbursement, 2019 should have seen an investment capacity of around 16 million Euros. However, with more than 20 million invested, atmosfair has largely surpassed expectations and was even able to liquidate reserves of about one million Euros. In consequence, the bank balance fell from 12.7 Million (in 2018) to about 11.4 million in 2019. Furthermore, in 2019 atmosfair retained reserves of about 1.6 million Euros for the implementation of five projects, after about 4 million worth of reserves from the previous year were liquidated. These new reserves are mainly destined for the construction of the stove production plants in Africa and rural electrification of villages with photovoltaic modules.

Salaries under the German public-service salary scheme (TVöD) for employees and management

After project-related expenditures, personnel costs are atmosfair's second most important cost factor. The salaries of atmosfair employees are derived from the German public-service salary scheme (TVöD), whereby the positions from project manager to CEO earn pay grades

Liabilities	2019 EUR	2018 EUR
A Equities	5.631.896,67	6.588.661,98
I Subscribed capital	25.000,00	25.000,00
II Reserves provided by the articles of association for projects		
Short-term reserves for climate change mitigation projects	747.980,52	2.491.216,59
Available reserves (also for projects)	4.858.916,15	4.072.445,39
B Accruals	7.105.477,61	5.334.434,76
Tax accruals	232.911,14	109.599,00
Accruals for climate change mitigation projects	6.850.000,00	5.205.376,00
Other	22.566,47	19.459,76
C Liabilities	1.021.481,81	2.624.151,30
Trade accounts payable	869.467,91	2.530.641,30
Other	152.013,90	93.510,00
D Deferred income	0,00	0,00
Balance sheet total	13.758.856,09	14.547.248,04

11 to 15. General administrative costs for telephone, postage, insurance and office supplies amount to around 120,000 Euros, while 78,000 Euros were spent on rent. Further administrative costs are listed in the income and expense table.

Administrative costs under 5%

One of atmosfair's standards is the efficient use of donations, which is why only a small percentage of donated funds can be used to cover the organization's own costs. These include all costs that are not directly linked to project costs but are needed for administration and fundraising. In 2019, these internal costs accounted for about 979,000 Euros, which were allocated to personnel and material costs in public relations, IT, accounting, credit card fees, travel expenses etc. (see table on pages 34-35, Expenses block b) and c)). The overall share of administrative costs represents less than 5% of total revenue. atmosfair was able to keep these costs low by renouncing all types of paid advertisement and only made itself visible through gratuitous publication of its achievements and work, such as the airline index. The voluntary support of numerous celebrities also helped increase the public's awareness about atmosfair's work.

Profits generated increase the funding volume for climate protection projects

In 2019, atmosfair's business activities yielded around 360,000 Euros after tax. These are services provided for business clients, ranging from providing climate change mitigation project management, carbon offsetting and

consulting services on climate and sustainability issues. These generated funds went directly into atmosfair's projects.

Reaching our goals

Since its foundation in 2005, atmosfair has achieved more carbon savings through its projects as it has received donations - a surplus of around 50,000 tons of carbon emissions (see also table on pages 28-29); thus, atmosfair has largely fulfilled and even surpassed its obligations towards its donors and clients.

The CEO's review and discharge

The 2018 financial statement was audited, approved without any objections issued and fully certified. On the 27th of June 2019, the shareholders assessed and approved atmosfair's financial statement for 2018 and discharged the board of directors from all liability. The financial statement for 2019 was established by the CEO on the 31st of December 2019 and was then given to auditors.

Income statement 2019

Income

Voluntary climate mitigation contributions for climate change mitigation projects

Climate change mitigation projects on behalf of customers and funds towards the purchase of technologies, before taxes (CBO)

Sub-total climate change mitigation projects

CO₂ accounting software, consulting etc., before taxes (CBO)

Additional income (interests, etc.)

Total

Expenses

A Climate change mitigation projects for carbon offsetting, private and business customers

Direct expenses (Planning, setup, operation, technology purchase, verification, staff in developing countries)

Creation of net provisions, reserves, non-deductible input tax

Claim – 3955k EUR; allocation of provisions 5600k EUR

Amortisation of accruals

Balance climate change mitigation projects carbon offsetting with use of earlier provisions

Personnel: Project planning and support by atmosfair staff in Germany and in project countries

B Administrative costs: support for donors and partners, fundraising, public relations work

Personnel costs

Editorial work for PR

Total:

C Other administrative costs

Office management (telecommunication, postage, office supplies, insurance, membership fees, depreciations)

Rent and maintenance

Credit card fees, payment services, account fees, exchange rate differences

IT (salaries, maintenance fees, renting of servers)

Accounting, tax advisory services, annual financial statement, financial auditor

Printing costs for publications

Service contracts

Travel expenses

Non-deductible taxes

Total

D Commercial business operations: climate services for companies

CO₂ accounting software

Personnel: climate service for companies

Taxes on income from climate services and climate change mitigation projects for corporate customers

Total

E For informational purposes: use of surpluses

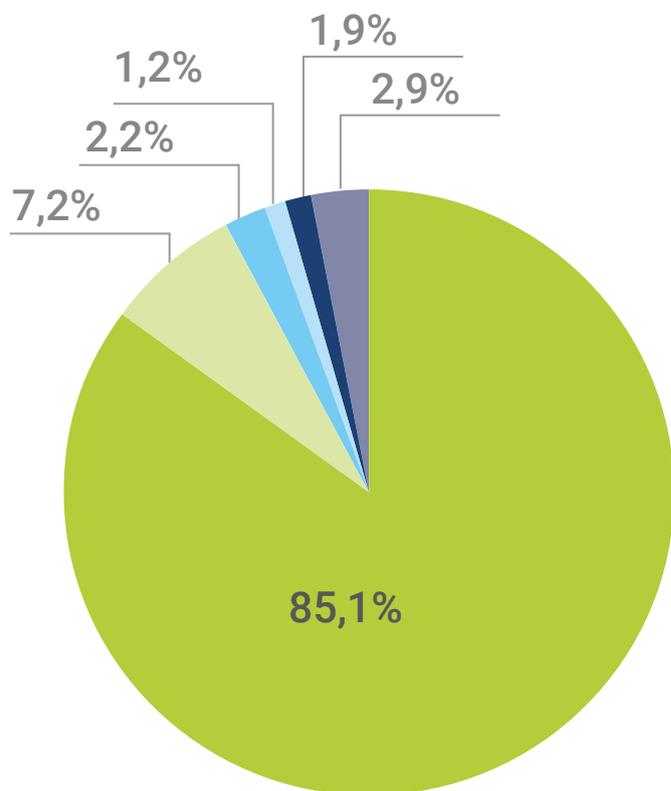
Surpluses generated through commercial business activities in 2019, after tax

Total

Results after creation of reserves for climate change mitigation projects and use of surpluses

Expenses of atmosfair gGmbH 2019 (%)

2019 EUR	2019 %	2018 EUR
19.832.745	90,9	8.342.363
1.434.379	6,6	1.410.798
21.267.124	97,5	9.753.160
518.012	2,4	156.479
29.810	0,1	30.469
21.814.946	100,0	9.940.109
-19.376.174	88,8	-5.004.553
-1.644.624	7,5	-3.081.378
956.765	-4,4	-718.153
-20.064.033	92,0	-8.804.084
-492.875	2,3	-526.053
-313.648	1,4	-203.902
-10.550	0,0	-16.166
-324.100	1,5	-220.000
-121.309	0,6	-24.981
-78.274	0,4	-66.961
-141.995	0,7	-20.020
-79.507	0,4	-25.450
-62.448	0,3	-24.517
-10.920	0,1	-9.679
-89.648	0,4	-6.189
-12.702	0,1	-4.436
-57.923	0,3	-
-655.027	3,0	-191.138
-39.903	0,2	-12.725
-89.614	0,4	-35.488
-149.290	0,7	-150.553
-278.913	1,3	-198.766
362.167	1,7	351.196
-21.814.946	100,00	-9.940.109
0		0



- Disbursements to climate change mitigation projects
- New reserves and accruals climate change mitigation projects
- Personnel climate projects Germany
- Climate services for companies (Commercial activities)
- Customer and partner liaison and support, public relations
- Other administrative costs

References & Partners

Corporate partners

50Hertz
Ableton AG
Aldi Nord, Aldi Süd
Bayerische Landesbank
BayWa r.e. renewable energy GmbH
borisgloger consulting GmbH
Carlson Wagonlit Travel
Chiesi GmbH
Consileon Business Consultancy
Daimler Benz AG
DB Cargo AG
Dentons
Deutsche Bahn AG
DHL Dolby Germany GmbH
Dr. Babor GmbH & Co. KG
FlixBus
FKP Scorpio Konzertproduktionen GmbH
Greiner AG Hannover Rückversicherung AG
HRG Sports
Infectopharm
ING DiBa
Janssen Cilag GmbH
JustWatch GmbH
Lufthansa AirPlus Servicekarten GmbH
net group Beteiligungen GmbH & Co. KG
Quantum Immobilien AG
QVARTZ
SICK AG
TravelPerk
Vector Informatik GmbH
VW Volkswagen AG

NGOs, political and academic institutions, trade associations

24 Gute Taten e.V.
Alfred Wegener Institut
Berliner Energieagentur GmbH
Bundesverband Solarwirtschaft e. V.
Deutsche Bundesregierung
Deutsches Zentrum für Luft- und Raumfahrt e. V.
Engagement Global
ETH Zürich
European Green Party
German Doctors e. V.
Greenpeace e. V.
Harvard University
Helmholtz-Zentrum für Umweltforschung GmbH
Landeshauptstadt Düsseldorf
Landeshauptstadt München
Lions Clubs International
Öko-Institut e. V.
Schweizer Umwelt Bundesamt
Skateistan
Stadt Hamburg
Stiftung Entwicklungs-Zusammenarbeit

Events

Besondere Orte
Umweltforum Berlin
Deutsche Hospitality
Fachagentur Nachwachsende Rohstoffe
GEOMAR Ocean Deoxygenation Conference Kiel 2018
International Transport Forum
ITB
Die Toten Hosen
Tollwood

Tourism

Aldi Suisse
Contrastravel
DAV Summit Club GmbH
Durchblick Leserreisen
Forum Anders Reisen
Frosch Sportreisen
Hauser Exkursionen
Hofer
Laade Gartenreisen
Neue Wege Reisen
RTK Reisebürokooperation
World Insight

Awards



atmosfair has been named winner in ten international comparative studies. All comparative studies for offset providers conducted since atmosfair's foundation in 2005 are available for download on our website (www.atmosfair.de/en).

We have selected two examples:

atmosfair getestet von
Stiftung Warentest
Finanztest Heft 3/2018

Stiftung Warentest
(Finanztest, issue 3/2018)

“Above the clouds” – carbon offset providers compared

The consumer rights agency Stiftung Warentest tested a number of organizations that offer voluntary carbon offsetting. Evaluation criteria included ‘quality of offset’ and ‘transparency’.

The criterion ‘quality of offset’ mainly evaluates the standards of the climate change mitigation projects generating the carbon emission reductions, while also taking into consideration involvement in the project’s development process.

‘Transparency’, another important factor, examined the accessibility of the organization’s financial data including the access to administrative and marketing-related expenditures, as well as the distribution of project funds to individual projects.

You can find the complete article here (only available in German, download fee 1 Euro):
<https://www.test.de/CO2-Kompensation-Diese-Anbieter-tun-am-meisten-fuer-denKlimaschutz-5282502-0/>

Overall rating:
Total score: **0,6 (very good)**
Offset quality: **very good**
Transparency: **very good**
Quotation: **„Testsieger“**



Eberswalde University for Sustainable Development – Germany (2010)

Greenhouse gas offsetting providers in Germany

“... And the winner is – the multiple award winner atmosfair.”

In 2010, the Federation of German Consumer Organisations (vzbv) commissioned a study from the Eberswalde University for Sustainable Development to compare more than 20 different organisations offering carbon offsets. The study analyzed the overall quality of the offsetting projects, the accuracy of the calculation, and donor relations. atmosfair was the only provider to be awarded the rating ‘very good’.

Overall rating:
Truthful calculations: **very good**
Offset quality: **very good**
Donor relations: **very good**
Total score: **very good**

The Team

Patrons

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

Prof. Dr. Mojib Latif, Professor at the Helmholtz GEOMAR Centre for Ocean Research in Kiel

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

CEOs

Dr. Dietrich Brockhagen, Physicist and environmental economist

Steffen Pohlmann, Financial accountant, accounting and controlling

Scientific advisory board for atmosfair standards

Christoph Bals, Political director of the north-south organization Germanwatch

Norbert Gorißen, Head of subdivision KI II 7 at the German Federal Ministry for the Environment

Dr. Silke Karcher, Head of unit IK II 5 at the German Ministry for the Environment

Klaus Milke, Chairman of the Foundation Zukunftsfähigkeit

Management

Michaela Thurau, Head of business development

Philipp Neff, Dipl.-Ing. industrial engineering | CTO

Dr. Kerstin Burghaus, CDM Team Manager

Dr. Hansjörg Zeller, CDM Team Manager

Team - CDM Project management

Janine Adler, CDM Project management

Hinrich Bornebusch, CDM expert

Izebe Egwalkhide, Nigeria Country Manager

Florian Eickhold, CDM expert

Bernhard Ellmann, Educational projects

Nele Erdmann, CDM Project management

Andrea Geldner, Data monitoring and quality management

Denis Machnik, CDM Project management

Dr. Katrin Mikolajewski, CDM Project management

Kevin Möller, CDM Project management

Allan Mubiru, Rwanda Country Manager

Zoltán Müller-Karpe, CDM Project management

Toyin Oshaniwa, Nigeria Country Manager

Annika Richter, CDM Project management

Dr. Ute Werner, CDM Project management

Florian Wissel, CDM Project management

Customer Support & Product Development

Sarah Benarey, Business Development & Consulting

Cathleen Herrich, Key account manager travel and event carbon reporting

Karolin Hornfischer, Customer care

Julia Zhu, Business Development

Edwin Zijderveld, Business Development & carbon reporting

Other team members

Ludger Bals, Business travel management expert

Alix Deschamps, Software Developer

Maik Höhne, Carbon reporting for cruise ships

Dr. Henning Kothe, Specialist for internal medicine & pneumology

Lina Tabea Maguhn, Social Media

Fabian Maschler, Software Developer

Tobias Posselt, HR & Office Management

Lukas Roth, Carbon reporting and Sales

Lars Schäfer, Tourism and climate change mitigation

Thorsten Schmid, IT manager

Olaf Schreiber, IT coordinator & project management

Oliver Sommer, Carbon reporting

Johanna Tunn, Business Development

Christoph Weber, External affairs

Dr. Ernst Wehreter, Expert in Biomass conversion and Photovoltaics

Volunteers

Christoph Gabel, CDM project management

Dr. Maria Wünsche, Business Development

Magdalena Nehls, Business Development

Press review

theguardian

19.07.2019

How your flight emits as much CO₂ as many people do in a year

According to figures from German nonprofit organisation atmosfair, flying from London to New York and back generates about 986kg of CO₂ per passenger. There are 56 countries where the average person emits less carbon dioxide in a whole year – from Burundi in Africa to Paraguay in South America. But even a relatively short return trip from London to Rome carries a carbon footprint of 234kg of CO₂ per passenger.

Frankfurter Allgemeine

19.05.2019

Die grüne Null muss stehen

Etwas mehr als 20 Anbieter für die Kompensation von CO₂-Emissionen gibt es in Deutschland, Atmosfair ist nach Spendeneinnahmen der größte. Ein höherer einstelliger Millionenbetrag fließt der Organisation mittlerweile jährlich zu, indem Verbraucher oder wie jetzt eben verstärkt Betriebe ihren CO₂-Fußabdruck kompensieren lassen; bei Reiseveranstaltern reicht dafür mittlerweile ein Mausclick. Doch man wolle nicht mit jedem Unternehmen zusammenarbeiten, bekommt man bei Atmosfair zu hören. „Kompensation für Autohersteller, die ihre fossile Flotte ohne weitergehende Maßnahmen klimaneutral labeln wollen, lehnen wir ab – und solche Anfragen gibt es“, sagt Geschäftsführer Brockhagen. „Denn sonst wäre die Kompensation nur Ausputzer und Lebensverlängerer für Auslauftechnologien.“ Man habe sich dem Leitsatz „vermeiden, reduzieren, kompensieren“ verschrieben und nehme nur Geld, wenn schriftlich eine CO₂-Reduktionsstrategie vereinbart wurde – wohlwissend, dass das nicht jeder in der Branche so sieht.

taz.die tageszeitung

21.08.2019

Das Märchen von der klimaneutralen Fliegerei

Eine aktuelle Studie des Deutschen Zentrums für Luft- und Raumfahrttechnik (DLR) schlägt jetzt Alarm: Bis 2050, so die Abschätzung, könne sich die Erwärmung der Atmosphäre, die durch Kondensstreifen verursacht wird, verdreifachen. Die DLR-ForscherInnen gehen davon aus, dass dann viermal so viel geflogen wird wie heute – und der Effekt aufs Klima etwa dreimal so groß wie derzeit ist.

Die Auswirkungen der Kondensstreifen auf die Erderwärmung ignoriert die Flugindustrie schon seit Langem. Der Anteil des weitweiten Flugverkehrs an den CO₂-Emissionen mache nur 2,8 Prozent aus, erklärt der BDL in seiner Klimaschutz-Erklärung. Doch weil sich in den Abgasen der Flieger auch Aerosole, Stickoxide und Wasserdampf befinden, die zur Erderwärmung beitragen, multiplizieren Wissenschaftler, das Umweltbundesamt und die Kompensationsplattform atmosfair diesen Wert mit dem Faktor 3: Demnach liegt der Anteil der Flieger an der Erderwärmung schon bei etwa 8 Prozent, mehr als Indien zur Erderhitzung beiträgt

Süddeutsche Zeitung

11.11.2019

“Everyone is responsible for their flight to Mallorca”

SZ: Ist Fliegen und gleichzeitig Kompensieren nicht trotzdem Doppelmoral?

Dietrich Brockhagen: Ja, wenn es zur Dauerausrede wird. Ich bin aber bei Moral vorsichtig. Wenn man Menschen zuhört, kann man viel nachvollziehen. Es fällt mir schwer, eine Krankenschwester aus dem Ruhrgebiet zu kritisieren, die bei 2500 Euro Brutto zwei Wochen im Jahr mit der Familie nach Mallorca fliegt. Klimafragen diskutiere ich lieber auf der Grundlage von Technik- und Vermeidungsoptionen. SZ: Sie wollen den fliegenden Vegetarier nicht gegen den radfahrenden Schnitzelfan antreten lassen. Ist es sinnvoll, beim Einzelnen anzusetzen? Was sagen Sie jemandem, der argumentiert, Kompensation bringe nichts, solange in China 180 Flughäfen gebaut werden?

Dietrich Brockhagen: Dass das Quatsch ist.

SZ: Quatsch, den man oft hört.

Vox

13.01.2019

Air Travel is surging - bad news for the climate

But it's also a clear sign of how difficult it is to decarbonize the airline industry, for which surprisingly few low-carbon technologies or fuels have been developed so far. That being said, there are steps airlines can take to modestly reduce their impact on the environment. On that front, a recent report from the German nonprofit atmosfair shows that US-based airlines have fared poorly compared to air carriers in other countries, failing to take climate change as seriously as some of their competitors abroad.

“Car drivers are used to easy and absolute climate efficiency indicators: grams of CO₂ per kilometer or gallons per mile” according to a December report from atmosfair. “This is not the case for aircraft. Every plane has to take off and climb out to a minimum altitude, regardless of how far it goes after that.”



This is only a small extract of a wide range of German and international press releases. A complete review of all publications can be found in the press review available to download on the atmosfair webpage.

https://www.atmosfair.de/wp-content/uploads/pressespiegel_2019_final_compressed.pdf



Igor Levitt

“I am not advocating to put a stop to flying, which just seems completely implausible. But I was myself able to significantly reduce my flying habits, without having to bring much effort. Sometimes flying is inescapable, and in this case, it should be done responsibly: offsetting with atmosfair is a good way to support climate projects all over the world and offers sustainable development where it is most needed.”

Igor Levitt's piano works combine "charming sounds, driven intellect and technical brilliance" (the New Yorker). His woke and critical eye helps him contextualise his work to society's current state. As one of the world's leading pianists he was named "Instrumentalist of the Year 2018" by the Royal Philharmonic Society, and received the 5th international Beethoven Award for his political engagement in 2019. During the 2020 Corona pandemic, he performed a series of 52 "home concerts" over Twitter.

think • go climate conscious

