

# akzente

The GIZ Magazine

## Clean energy

Good for the global climate



**‘Growth in renewables continues unabated, simply because it makes economic sense.’**

INTERVIEW:  
**PATRICIA ESPINOSA,**  
UNFCCC

TUNISIA ORGANIC FARMING SUCCESS KOSOVO PROSPECTS FOR RETURNEES  
BACKGROUND RESTORING PUBLIC ORDER

**ALL STAFF  
BENEFIT FROM OUR  
ECO CERTIFICATION.**

**GORDON DE SILVA**  
PRODUCER OF COCONUT PRODUCTS IN SRI LANKA

Gordon de Silva is a successful producer of fair trade coconut oil. His 300 employees also benefit. Since the company was founded in 2007, it has invested EUR 400,000 in education, health and social projects. GIZ is supporting de Silva. On behalf of the German Federal Ministry for Economic Cooperation and Development, it provides advice on marketing strategy and financing.

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# IT'S ALL ABOUT THE MIX

Global transition to clean energy: why using more environmentally friendly technologies pays dividends in both small and large-scale initiatives.

IN THEORY EVERYTHING IS CLEAR, the battle lines are drawn: on the one hand, there are those who deny or trivialise the impact of climate change – led by the US President, who constantly criticises and threatens to withdraw from the Paris Agreement. And on the other, there are those doing everything to save the climate – scientists, politicians, entrepreneurs and the many environmental organisations who are raising awareness among the general public and promoting a more resource-friendly approach to energy use. Between the two sides stand the United Nations and a climate agreement, which will once again be the subject of debate in November 2017, when under the presidency of Fiji over 20,000 delegates from 197 nations will come to the table at the 23rd UN Climate Change Conference in Bonn in an effort to sustainably reduce harmful greenhouse gases.

SO WHY HAVE WE DEDICATED THIS ISSUE to clean energy? Because people like energy expert Rainer Schröder are committed to the goal of enabling Chile to potentially generate 100 per cent of its energy from renewable sources in the not-too-distant future. Given the rapid developments taking place in the Latin American country, this is by no means as improbable as it sounds, as our report illustrates. Or because, despite many setbacks, Patricia Espinosa, the Executive Secretary of the UN Framework Convention on Climate

Change, is seeing ‘unprecedented support’ for the fight against climate change, as she explains in interview. There are still plenty of reasons to continue to invest in environmentally friendly technologies and energy efficiency at the international level, says Espinosa. And there are also people like Imane Lemsafi, who features in our report from Morocco. As a recently trained energy specialist, she is working to help her home country realise its ambitious plans: by 2020 the Government aims to base 42 per cent of its energy production on alternative energy sources.

IS THIS TOO FRAGMENTED? My personal view is that this combination of small and large-scale initiatives is exactly what is needed given the enormity of the challenge. Every initiative counts. And together they make a coherent whole. For the complex challenges set out by ZEIT editor Christiane Grefe in her essay can only be met by adopting such a diversified approach.



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## IN BRIEF

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### 6 Updates

Species protection in the Amazon, the peace process in South Sudan, new projects in Costa Rica and the Marshall Islands



- 
- 3 Editorial
  - 30 Through the lens
  - 48 Info: Events and publications
  - 51 Sustainability, preview

## IN FOCUS

---



### 10 Clean energy

#### 12 A paradise for renewables

Chile is increasingly tapping its potential to generate solar and wind power. Solar power is cheaper here than anywhere else.

#### 18 A rising star

We have taken the first steps in the global energy transition. Where do we go from here? What obstacles lie ahead?

#### 25 'Unprecedented support'

Interview with Patricia Espinosa, UNFCCC Executive Secretary

#### 26 In figures: Radiating appeal

Facts and figures on renewable energy

#### 29 A bright future for renewables

Realising the energy transition will require strong policies, says Fatih Birol, Executive Director of the International Energy Agency.

## BACKGROUND

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### 32 Restoring public order

Ute Klamert explains how GIZ supports stabilisation in fragile states.



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## COMMITMENT



### 34 Tunisian organic pioneers with German expertise

Training helps businesspeople to develop their enterprises and create jobs.

### 40 Training for the transition

Morocco is putting its money on renewables, but there is a shortage of skilled workers. A new training institute is bridging the gap.

### 44 Starting a new life back home

Returnees in Kosovo receive support to help them find their feet again.

## INTRODUCING



### 50 Bettina de Campos

Impressions of Cameroon, where Bettina is the Finance and Administration Manager in the GIZ Regional Office

## AUTHORS AND PHOTOGRAPHERS



**KAREN NAUNDORF (1)** reports on Chile's approach to renewable energy. She is a South America correspondent for the Welt-reporter network. She was accompanied by Chilean photographer **HUGO MUÑOZ (2)**. **CHRISTIANE GREFE (3)** is a journalist for ZEIT and an author. She analysed the global boom in renewable energy for akzente. **SARAH MERSCH (4)** has been reporting from Tunisia since 2010. She visited young Tunisian entrepreneurs working in the field of organic farming for akzente. Author **MARIE TUIL (5)** and photographer **YANA WERNICKE (6)** observed trainees and teachers at a school for energy technology in Morocco. Photographer **THOMAS IMO (7)** and **SONJA GILLERT (8)**, who is a foreign affairs editor at WeltN24, met returnees in Kosovo and gained an insight into the promising beginnings of tourism in the country's stunning mountain region.

## giz AT A GLANCE

The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH offers sustainable and effective solutions for political, economic and social change processes. GIZ is a federal enterprise that employs more than 18,000 staff members and operates in over 120 countries worldwide.

[www.giz.de/en](http://www.giz.de/en)

## IN FIGURES

33%

of all food produced worldwide is wasted or spoiled. Not when it reaches the consumer, but before it ever leaves the producer – in storage, for instance. In developing countries as much as 40 per cent of production can be lost in this way, meaning that we have to produce more food than is actually required. This is harmful to the environment and is not sustainable.

2,000,000,000

adults have no bank account and therefore no way of transferring money securely. However, this number is falling thanks to mobile solutions. In developing countries, in particular, mobile money accounts are very important. Worldwide some 2 per cent of adults use this type of account, but the figure is as high as 12 per cent in sub-Saharan Africa.

330

skilled occupations exist in Germany, with the officially recognised training provided by the dual vocational training system. This training system, which combines theory and practice, has been hugely successful for Germany. The country has the lowest youth unemployment rate in Europe. GIZ is helping many countries in their efforts to develop their own dual vocational training system.



## Protecting species

**AMAZON** A poison dart frog for EUR 70 or a parrot for EUR 300: trade in exotic animals is booming. This trade is often illegal. The Washington Convention on the protection of species (CITES) lists many animals as endangered. 12,000 protected species are native to the eight countries of the Amazon region alone. GIZ is introducing a system of e-permits there for trade in wildlife. The project was commissioned by the German Federal Ministry for Economic Cooperation and Development and the Dutch Directorate-General for International Cooperation (DGIS). GIZ previously conducted a study on wildlife trade on behalf of the UN.

[www.bit.ly/2ip85Rc](http://www.bit.ly/2ip85Rc)

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'WE AGREE ...  
TO ENHANCE INTERNATIONAL  
COOPERATION TOWARDS  
INCLUSIVE AND SUSTAINABLE  
GLOBAL GROWTH.'

G20 LEADERS' DECLARATION issued at the close of the G20 summit  
in Hamburg on 8 July 2017

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## Central America fund



communities where plantation workers live. The fund finances environmental and social projects in areas where bananas are grown. This fund is coordinated and administered by GIZ International Services and has supported a number of projects, including a measure in Naranjal in Costa Rica, where the only recreational facility for around 400 children and young people is one sports ground. In the past, rain often made it impossible to use the facility. The residents received money from the fund to drain the water from the pitch and to train football coaches. Another example is the community of Los Angeles, where, for a long time, inhabitants had to draw water from shallow wells they had dug themselves. These silted up when it rained and dried out during dry spells. With financing from the fund, the village has now been connected to the drinking water supply network.

**COSTA RICA** The banana is the world's most popular fruit. The average person consumes around 12 kilos per year, and Germans are no exception. The German REWE Group sources its bananas from Costa Rica, where they are certified in accordance with strict standards. The retail group has also established a Central America fund to support infrastructure in

[www.proplanet-label.com](http://www.proplanet-label.com)

## THREE QUESTIONS FOR



ALEXANDRE GELLERT PARIS

Brazilian environmental expert at the United Nations in Bonn. In 2010, Gellert Paris took part in a one-year GIZ capacity building programme for young managers.

### What is your job at the United Nations?

I work at the UNFCCC Secretariat, which deals with the Framework Convention on Climate Change and paved the way for the successful Paris Agreement. One of my jobs was to help Colombia and Caribbean countries to prepare for the Paris Conference.

### How did you get to where you are now?

I studied environmental management in Brazil and completed a Master's degree in energy. After working for a consulting firm for a number of years, I took part in a training programme on renewable energy organised by GIZ. It was a very intense year of seminars and internships, including one at Germany's Federal Environment Agency (UBA). It also included leadership and management training.

### What role did the training play for you?

It was a real turning point in my career. After the training, I found a job with a Swiss consulting firm. I'm sure I wouldn't have got this job if it hadn't been for the year in Germany. A short time later, I received the offer from the United Nations, where I would like to put my skills to good use at the international level.

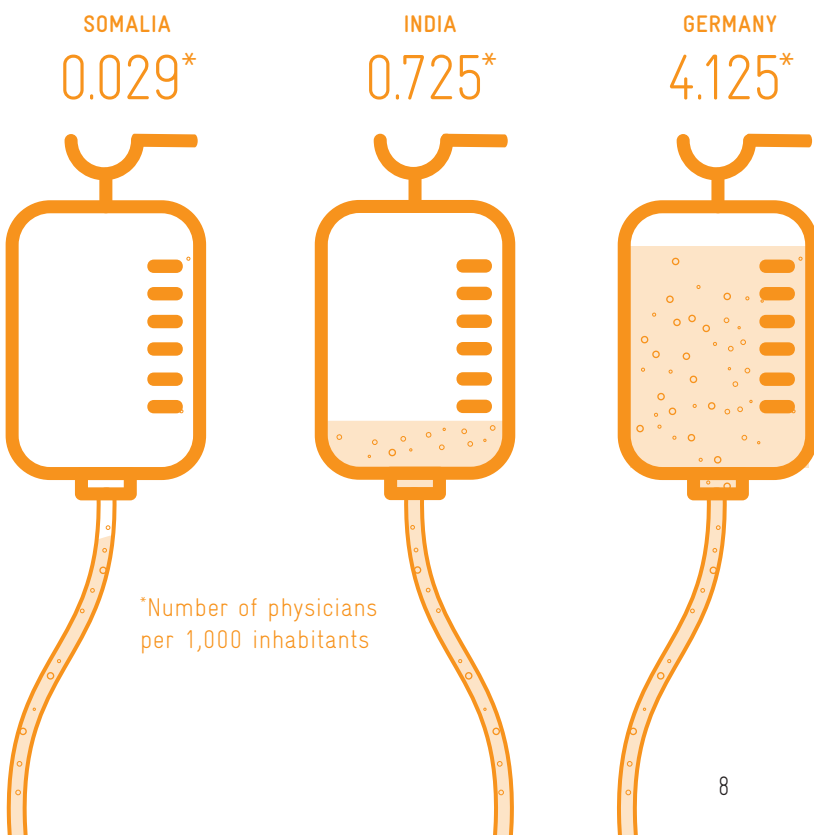
# Duo in Africa

**SUSTAINABLE** Germany and China are keen to work together more closely in Africa. German Federal Minister for Economic Cooperation and Development Gerd Müller and China's Minister of Commerce Zhong Shan have therefore opened a centre for sustainable development in Beijing. China is the biggest investor in infrastructure in Africa. From 2015 to 2017, it invested around EUR 60 billion. 'With the help of German expertise on vocational education and on environmental and energy technology, we will jointly be able to foster economic development

in African countries,' said Müller. 'Foreign investment must benefit the local people and create training opportunities and jobs for young Africans.' He added that German environmental and energy technology experience can be used to help Africa reduce harmful emissions. Müller also agreed on closer cooperation with the Chinese State Council's Development Research Center.

# Understaffed

**IN COMPARISON** It is a sad reality that more than 85 countries have fewer than one physician per 1,000 inhabitants. Poorer regions are disproportionately affected by this: Africa is home to almost a quarter of the world's population, but accounts for only around 3 per cent of the world's health care workers.

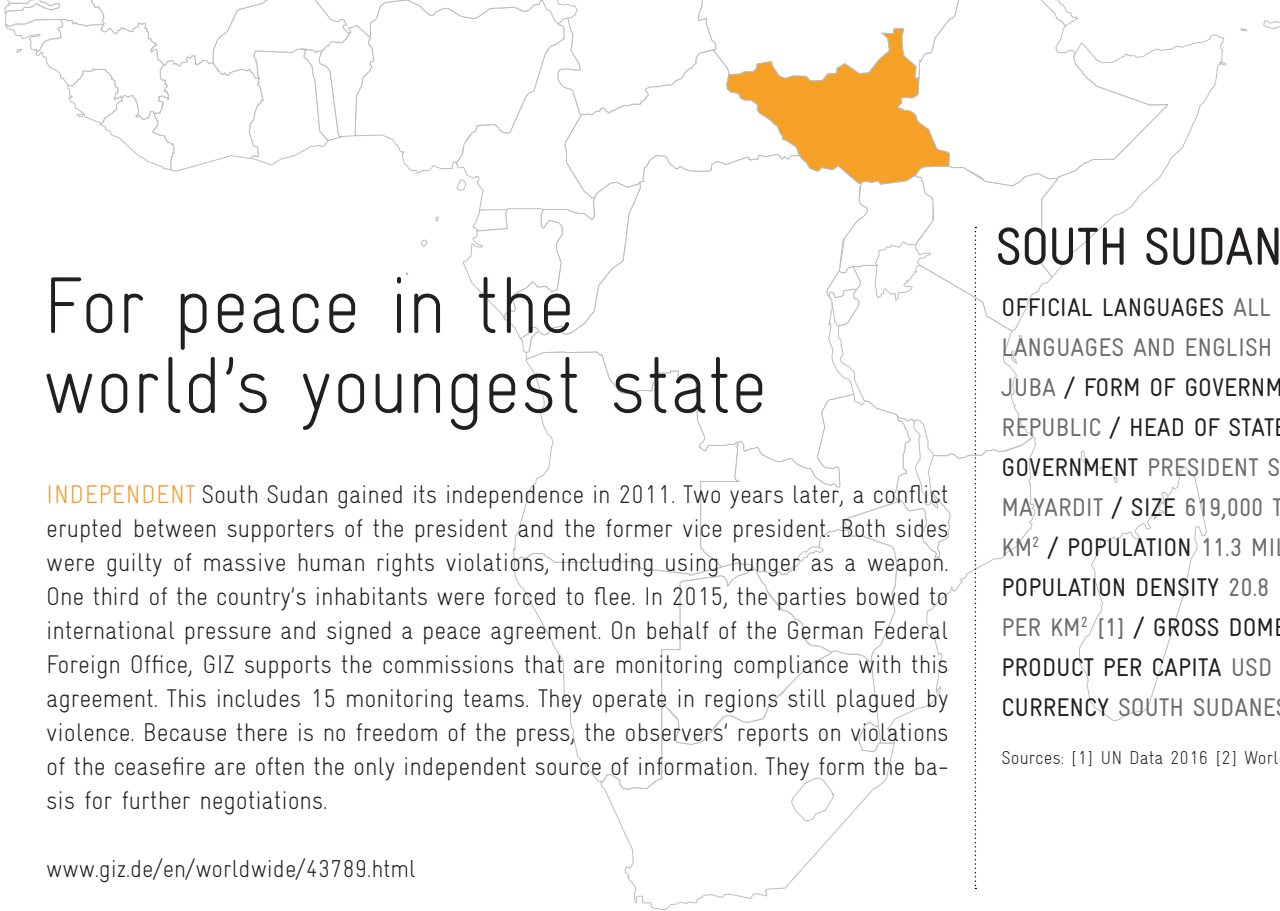


# Energy on tour

**INFORMATIVE** If you ask German politicians what topics are most frequently raised when they travel abroad, most will mention the 'Energiewende', or energy transformation – the country's move to put its energy supply on a more sustainable basis. Since the Paris Climate Agreement and the adoption of the United Nations Sustainable Development Goals, one thing is clear: now is the time for renewable energy and energy efficiency. As a pioneer of this transformation, Germany is finding that its experience is highly sought after. The German Federal Foreign Office has therefore tasked GIZ with developing a travelling exhibition exploring Germany's 'Energiewende', which has been touring the world since the beginning of 2016. Using a multimedia approach, it provides an overview of the history and key elements of the 'Energiewende'. So far, the exhibition has visited almost 40 venues in more than 15 developing countries, emerging economies and industrialised nations. [www.energiewende-global.com/en](http://www.energiewende-global.com/en)

Source: WHO 2017





# For peace in the world's youngest state

**INDEPENDENT** South Sudan gained its independence in 2011. Two years later, a conflict erupted between supporters of the president and the former vice president. Both sides were guilty of massive human rights violations, including using hunger as a weapon. One third of the country's inhabitants were forced to flee. In 2015, the parties bowed to international pressure and signed a peace agreement. On behalf of the German Federal Foreign Office, GIZ supports the commissions that are monitoring compliance with this agreement. This includes 15 monitoring teams. They operate in regions still plagued by violence. Because there is no freedom of the press, the observers' reports on violations of the ceasefire are often the only independent source of information. They form the basis for further negotiations.

[www.giz.de/en/worldwide/43789.html](http://www.giz.de/en/worldwide/43789.html)

## SOUTH SUDAN WIKI

OFFICIAL LANGUAGES ALL INDIGENOUS LANGUAGES AND ENGLISH / CAPITAL JUBA / FORM OF GOVERNMENT REPUBLIC / HEAD OF STATE AND GOVERNMENT PRESIDENT SALVA KIIR MAYARDIT / SIZE 619,000 TO 644,000 KM<sup>2</sup> / POPULATION 11.3 MILLION / POPULATION DENSITY 20.8 INHABITANTS PER KM<sup>2</sup> [1] / GROSS DOMESTIC PRODUCT PER CAPITA USD 820 [2] / CURRENCY SOUTH SUDANESE POUND

Sources: [1] UN Data 2016 [2] World Bank 2015

## NEW PROJECTS



### Better air

**COSTA RICA** The country has ambitious plans: it wants to be carbon neutral by 2021. At the same time, however, road traffic emissions are on the rise. Congestion has long been part of daily life in the country's capital San José. Air pollution from old cars is high, and residents are increasingly suffering from respiratory problems. GIZ is helping Costa Rica to find solutions to its traffic problems. Car sharing services, expansion of the public transport network and emissions standards should all help to improve air quality.



### Lower emissions

**MARSHALL ISLANDS** The many ships that sail under their flag have the third largest load capacity worldwide. They are diesel powered and emit high levels of pollutants. Working with the Marshall Island Shipping Corporation, GIZ is testing alternative propulsion systems such as sails and wind-powered rotors. One ship is being fitted out with the new technology, and staff are being trained. The project was commissioned by the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety. Support is also being provided for the International Maritime Organization.



### More exports

**GREECE** The country is now in its eighth year of crisis. As well as introducing structural reforms, the government aims to increase exports. GIZ is lending support. On behalf of the German Federal Ministry for Economic Affairs and Energy, it is creating a database for exporters that contains information on customs duties and import regulations. GIZ is also establishing an advisory centre for trading companies. Exports currently generate only 30 per cent of Greece's gross domestic product, 10 percentage points below the EU average.

PHOTOS: ORDONEZ/AFP/GETTY IMAGES (PAGE 9, LEFT), DYKSTRA NAVAL ARCHITECTS (PAGE 9, CENTRE), DAWSON/BLOMBERG/GETTY IMAGES (PAGE 9, RIGHT)

# CLEAN ENERGY

**12** A PARADISE FOR RENEWABLES  
Chile is investing in wind and solar power

**18** A RISING STAR  
A major boom in renewable energy

**22** OVERVIEW  
Examples of GIZ's work

**25** 'UNPRECEDENTED SUPPORT'  
Interview with UN representative Patricia Espinosa

**26** RADIATING APPEAL  
Intriguing facts and figures

**29** A BRIGHT FUTURE FOR RENEWABLES  
Guest article by Fatih Birol, Executive Director of  
the International Energy Agency



An aerial photograph of a vast solar farm in a valley. The solar panels are arranged in neat, parallel rows, stretching across the landscape. In the background, there are rolling green hills and a range of mountains under a clear sky. The overall scene is bright and sunny, suggesting a high solar potential area.

# A paradise for renewables

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Chile is powering ahead with transforming its energy system – with GIZ's support. This Andean country has taken just a few years to become a model for its Latin American neighbours.

TEXT KAREN NAUNDORF PHOTOS HUGO MUÑOZ

**M**auricio Auretx nimbly scales a narrow metal ladder and eases himself onto the roof of the Teletón Foundation building in the Chilean capital Santiago. ‘Isn’t this magnificent?’ he asks – and answers his own question. ‘Up here is where we produce the power we need to provide therapy in the building below.’

While the solar panels generate electricity on the roof, hundreds of children and teenagers with disabilities are receiving care and support, including physio and hydrotherapy, down at ground level. In the hallway leading to art and dance therapy, songs by Lady Gaga and Shakira are clearly audible. Today’s challenge is all about mimicry: the group leader selects one person who gets to dance for the group and the others have to copy them. A seven-year-old in baggy clothes throws himself into a hip hop routine. A girl, slightly older, can hardly dance for laughing, so the others imitate her. Having fun is part of the treatment – after all, they say laughter is the best medicine.

The Teletón Foundation is the largest organisation of its kind in Chile and is funded entirely from donations. Some of the children receiving treatment have a physical disability; others are here for rehabilitation after an accident. An array of high-tech equipment is in use, including a robotic device which helps patients to practise walking by easing the strain on their muscles. Straps are used to hold the patient in position on a treadmill. The exercise helps to embed the movements in their muscle memory.

The walking therapy is an important part of the rehabilitation process, but the machine guzzles electricity. That’s one of the reasons why Mauricio Auretx, Teletón’s Head of Infrastructure, is delighted by the cost savings being achieved – up to EUR 7,000 a year – through the use of solar power. ‘Every cent we

save on electricity goes straight back into therapy. And best of all, when we are closed at the weekend, we feed power into the grid, so we’re generating cash as well!’

Teletón’s solar energy system is one of more than a hundred installed in Chile as part of a government initiative. GIZ is supporting the scheme on behalf of the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB). ‘We want to lead by example and produce solar power on public buildings,’ explains Chile’s Energy Minister Andrés Rebolledo, pointing upwards: solar panels have already been installed on his ministry’s roof.

Chile’s energy roadmap, unveiled by the government in 2015, is already outdated as a result of the positive progress being achieved: according to the strategy, 60 per cent of national electricity generation will come from renewable sources by 2035, rising to 70 per cent by 2050. ‘We’ll certainly exceed that,’ says the Minister with satisfaction. ‘We have already reached more than 40 per cent, and what we are seeing at present is just the beginning.’

Chile has made giant strides in generating power from photovoltaics, increasing its output from 4 megawatts to an impressive 1,400 megawatts in just three years. Wind farms, too, are now producing three times more power than in 2014. This new direction in Chilean energy policy is supported by GIZ through research which has shown, for example, that many government-owned sites in the north of the country offer great potential for power generation from renewable energy sources (RES). GIZ has also encouraged intensive cooperation between the two Chilean ministries responsible for the energy and national property portfolios.

As a result, sites suitable for wind farms have been reserved and more than 200 megawatts of wind energy generation capacity installed, with an additional 300 mega- »

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70 per cent  
of national  
electricity genera-  
tion should come  
from renewable  
sources by 2050.  
We’ll certainly  
exceed that.

||

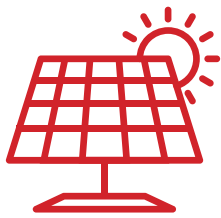


**Left:** Laughter is the best medicine: young people at the Teletón Foundation's rehabilitation centre in Santiago, Chile. Thanks to a rooftop solar installation, there is now more money available for therapy.

**Right:** Robotic devices help the young people with walking. This high-tech equipment guzzles power, but that's no problem for the Foundation, which now produces its own RES electricity.

AT A GLANCE

## CLEAN ENERGY GAINS MOMENTUM



With its renewables expansion, Chile is making a major contribution to climate change mitigation. On behalf of the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB), GIZ is supporting the transformation of energy systems in this Andean country, which has more than tripled its share of wind and solar power from five to 17 per cent since 2014. Know-how to support grid integration, training programmes, ideas for renewables use in industrial production, and research studies are all part of Germany's successful cooperation with Chile. Progress is also being made with the installation of solar power systems on public buildings: the current tally is 100, achieved in just three years.

watts under construction. Chile's Energy Ministry is hoping for further growth in the renewables sector, for example in the mining industry. 'If we can integrate renewable energy into the extraction of copper and lithium, both of which are needed to build electric vehicles, this will help move us towards a greener mobility future.'

Chile is a paradise for renewable energy producers: its northern regions offer some of the world's best natural conditions for solar power. It has ideal conditions for wind energy generation, and there are plentiful water resources across the country, as well as geothermal energy in volcanic areas. 'Chile has the potential to meet its electricity demand from renewables 100 times over,' says Rainer Schröder, an engineer working for GIZ in Chile. 'At present, only a fraction of this potential is being utilised – around 0.5 per cent.'

Despite the ideal conditions, Chile was slow off the mark in harnessing its renewable energy sources, partly due to opposition from the traditionally conservative mining industry. One of the country's main economic sectors, it regarded renewables as unreliable and preferred to rely on fossil fuels. Renewables are still in direct competition with

conventional energies: 'There are no subsidies for renewables – not even tax breaks,' Rainer Schröder explains.

So he's delighted by the latest figures: the price of solar-generated power has now dropped below three US cents per kilowatt hour – a global record low. In Germany, the price of producing a kilowatt hour of solar electricity was around 9-10 cents in 2016. Over the past three years, Chile has made such remarkable progress that it now has the potential to be a model for other countries in the region, says Schröder: 'If Chile can feed a substantial amount of RES electricity into the grid and show that this is commercially viable, why wouldn't it work in Argentina or Peru as well?'

### Keeping faith with the Paris Agreement

Chile's energy industry – which still relies heavily on coal and gas to fire its power plants – accounts for around 40 per cent of its CO<sub>2</sub> emissions, but the country is keeping faith with the Paris Agreement, aiming to cut its CO<sub>2</sub> emissions by 30 per cent by 2030. Energy Minister Rebolledo is reassuring: 'That's an unshakeable goal. And alternative energies will help us achieve it.'

Chile does not yet have an energy efficiency law on its statute books. ‘That’s one of the challenges which still need to be addressed,’ the Minister concedes. His department is keen to continue working with GIZ in future. ‘Germany has a wealth of experience with renewable energy, and that’s of great interest to us.’

But it is the national energy system coordinator – Coordinador Eléctrico Nacional – which holds the reins, and nothing can happen without its say-so. And until a few years ago, the organisation had major doubts about the prospects for renewables, as Executive Director Daniel Salazar explains: ‘Feeding more than a 5-per-cent share of RES electricity into

the national grid seemed an impossible task.’ His team’s main worry was that renewables such as wind and solar power were simply too unreliable. ‘There were so many misconceptions,’ Salazar recalls. ‘But now everyone is convinced that it can work.’

The chief custodian of the national grid, Salazar stands in front of a thick glass screen which shields the beating heart of the Chilean power supply system; an electronic control panel showing all the major power transmission lines covers the entire wall. This is where voltage fluctuations in the grid are balanced out. ‘Many of our staff have taken part in international exchange programmes, some of them with Germany,’ says Daniel Salazar. »



Also available on the akzente app:  
video clips on Chile’s energy system  
transformation.  
[akzente.giz.de/en](https://akzente.giz.de/en)



The heart of Chile's power supply: the national energy system coordinator's electronic control panel in Santiago shows all the major power transmission lines.



Angled to face the sun: because of their shape, the solar collectors installed by juice producer Jucosol are highly efficient. Seen here: one of the staff members at the site.



“  
By cutting  
emissions here,  
we’ll be helping  
to protect the  
global climate.  
”

‘From our perspective, that was very helpful.’ It took just three years to more than triple the feed-in of wind and solar power from five to 17 per cent – without overloading the grid or causing outages. And there is also scope for new technologies, such as concentrated solar power (CSP), to contribute to Chile’s low-carbon energy revolution. In Chile, it is often the private sector that takes the initiative. Juice producer Jucosol is a good example: it installed the first CSP system designed in Chile. Systems like this are extremely efficient because they are angled to face the sun. ‘The solar collectors are curved and are positioned accurately to catch the rays,’ explains Juan Pablo González from Ecer, the company which installed the system.

## Green energy for food production and mining

Jucosol’s highly efficient parabolic trough solar collectors concentrate the sunlight so that temperatures up to 100 °C are reached in the tubes. The thermal energy is used to power the evaporator that produces grape juice concentrate.

GIZ is keen to progress other innovative energy solutions in Chile. It is also supporting training and professional development for

technicians and, above all, the use of renewable energy in industrial production. Rainer Schröer is enthusiastic: ‘There are so many potential applications,’ he says. ‘Take food production – here, there’s scope for solar-powered greenhouses. Seawater desalination plants are another example. And there is major potential for hydrogen production, especially for use in the mining industry. Instead of running on diesel, the heavy

machinery could be hydrogen-powered in future.’ And in time, Chile will not be the only beneficiary of the renewables expansion. ‘By cutting emissions here, we’ll be helping to protect the global climate.’

› Contact

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## ‘My dream is to reach 100 per cent’

### What was the greatest success for you personally?

Despite strong opposition from the conventional energy sector, renewables have been able to establish a strong position – and they have done so in fair and direct competition without subsidies. I think that’s remarkable. And we have been able to win over many of the sceptics.



RAINER SCHRÖER manages GIZ’s energy programme in Chile.

### What has GIZ achieved in Chile so far?

Not only have we succeeded in promoting discussion on energy production; we have also encouraged our partners to think about smart, integrated energy use: how can they produce cheap renewable energy and use it productively? There are many options: saltwater desalination and industrial production are just two examples.

### What are the main obstacles that need to be overcome?

There’s certainly scope to speed up grid expansion. And Chile’s small-scale energy users have been very slow to come forward. They have so many other investment options available to them, such as property and shares.

### What would you like to see happen in future?

I’d like to see more innovative solutions being progressed. And of course, I would love to see 100 per cent of feed-in coming from renewables. True, we have no subsidies available – but we do have more sunshine than other countries. So I hope that one day, when I look back on my time in Chile, I will be able to say to myself: ‘It was marvellous – everything that we initiated became reality!’ Perhaps one day, we’ll be drinking low-carbon wine, eating low-carbon salmon and driving electric cars with low-carbon copper in their components.



**INDIA: BRIGHT OUTLOOK**

On behalf of the German Federal Environment Ministry (BMUB), GIZ is assisting India in developing the market for solar energy in built-up areas. Solar energy is already being produced on the roofs of Delhi's metro stations (photo) and in a cricket stadium in Bangalore. Once both systems reach full potential, India will prevent more than 70,000 tonnes of greenhouse gas emissions a year. That's equivalent to the emissions of some 35,000 cars.

# A rising star

Renewable energy is currently experiencing a major boom. That's good news for the climate. However, a series of challenges still stands in the way of a global energy transition: alongside providing additional funding and introducing appropriate legislation, industrialised countries first need to become more energy frugal, writes Christiane Grefe, journalist at DIE ZEIT.

**H**urricanes wreak unprecedented havoc and destruction across vast areas of Florida and the Caribbean. In India, Pakistan and Bangladesh, thousands die in monsoon flash floods. These natural disasters have all but diverted our attention away from the landslides that, only a few weeks ago, swallowed up entire villages in China and Sri Lanka. Dwindling water resources are fuelling famine in East Africa and extreme heat waves are threatening people's survival and scorching the earth in India. These news bulletins from the same week provide gloomy confirmation of something we repeatedly push to the back of our minds: everywhere around the globe, the forecasts issued by climate researchers are becoming reality. Nonetheless, a great many politicians still talk about global warming in the future tense. And US President Donald Trump remains steadfastly intent on achieving global 'energy dominance' by reviving coal, gas and oil extraction – while making cryptic remarks about the USA's future stance on the Paris Climate Agreement.

How then should the climate paradox, this greatest challenge mankind has ever faced, be resolved? In a nutshell, how can we drastically reduce CO<sub>2</sub> emissions while concomitantly satisfying a constant increase in demand? The people of Ghana and Haiti also want to use refrigerators, eat well and surf the internet. But more than a billion people around the world do not have access to electricity.

It would be easy to throw in the towel given the raft of countries that constantly push back their climate obligations. Environmental organisations bemoan the fact that, between 2013 and 2015, the G20's economically most powerful states continued to plough some USD 71.8 billion into subsidising fossil-based energies. Governments are faltering in their efforts to re-engineer heating, cooling and transport systems along with our fossil fuel-powered agricultural industry. Even Germany, ostensibly a paragon of green virtue, is falling short of its climate change mitigation objectives.

This is a far cry from the 'high speed action' the climate experts recently called for in Nature magazine. Discussions focus only on what is possible, criticises the environmental pioneer and former member of the German Bundestag, Michael Müller – but not on what is needed.

Sometimes, though, those things that need doing do get done, even if only a short while beforehand this may have seemed impossible. Photovoltaic, solar and geothermal systems and wind power are gaining unexpected momentum around the globe. Over the past 10 years, global investments in solar capacity have increased tenfold and the upward curve is becoming increasingly steep. Electric power is not the whole story – but as more surplus wind or solar power is used for driving and heating, the more important it will become. However, even in the face of »



**BERLIN: COURAGEOUS  
START-UPS**

Small biogas plants for farmers in India, an eco-fridge for storing vaccines in Africa – these are good ideas for sustainable energy production. And each one is the brainchild of start-up entrepreneurs from India and Germany that met up for an exchange at a 10-day 'boot camp' in Berlin. GIZ organised the meeting on behalf of the German Federal Environment Ministry (BMUB) with participation by the companies Bosch and Intellectap.

this positive development, there are still many questions that need answering – like can it win the climate and energy-driven race against time? And if the rate of expansion increases further, can we be sure that wind and solar farms will be set up not only on the basis of economic factors but intelligently, fairly and in a people-centred manner, so that they do not bulldoze other social and ecological needs?

With a 9 per cent increase over the previous year, 2016 was another record year of expansion for renewable energy. New photovoltaic systems are responsible for 47 per cent of this output, wind turbines for 34 per cent and hydropower plants for 15.5 per cent. The biggest investors here are China and the USA. But many other countries benefit from their natural environments too, like Scandinavia, which is rich in wood, biomass and windy coastlines. Thanks to its abundant water resources, Costa Rica already produces 90 per cent of its electric power from renewable sources and the Philippines harness their volcanic energy for geothermal purposes. But political will is also increasing – especially in several developing countries. According to the global policy network REN21, Bolivia is the latest champion in terms of the percentage share of gross national product it invests in renewable energy capacity, closely followed by Senegal, Jordan and Honduras.

## Overcoming blockades put in place by powerful lobby groups

Doing away with coal is integral to the fight against climate change. For industrialised countries to re-engineer energy systems that have become entrenched over the years, they need to overcome the blockades put in place by powerful lobby groups. Meanwhile developing countries and emerging economies have to make sure that this kind of ‘path dependency’ is not allowed to take hold in the first place. One piece of good news is that China is planning 100 fewer coal-fired power plants and relying instead on solar energy. The government in Delhi has also increased its aspirations with regard to sun and wind power and aims to use this to cover 57 per cent of its energy demands by 2027.

All this seems to be happening of its own accord. Indeed, the continuing low prices for oil, gas and coal are actually a hindrance to investments in a different kind of energy future. Emissions trading is having barely any effect at all and demands for drastic CO<sub>2</sub> taxes have so far fallen on deaf ears. So why is renewable energy succeeding anyway? There are many reasons – one is the rising level of environ-



‘But to truly transform our economy, to protect our security, and save our planet from the ravages of climate change, we need to ultimately make clean, renewable energy the profitable kind of energy.’

BARACK OBAMA, former US President

mental pollution in emerging economies. Coal-fired power plants emit not only CO<sub>2</sub>, but also particulate matter and sulphur dioxide, which combine with exhaust gases. If you have ever sat with an open window in the chronic traffic congestion in cities like Beijing, Manila or Dhaka and needed two hours to cover two kilometres, then you know that this air makes people ill – and some have turned rebellious. There have been protests in many places.

Perhaps the most important driving force is the increasingly affordable price of renewables-based systems. Germany truly belonged to the avant-garde here. Thanks to its pioneering Renewable Energies Act, it showed the world that sun and wind can make a significant contribution to power generation in an industrialised country, too. This created a market that primarily attracted Chinese manufacturers, leading to mass production and economies of scale that have seen the prices of solar modules drop by 20 per cent with every doubling of capacity. In many places in the world, photovoltaic systems can compete with conventional electricity-producing plants. In rural regions in the South especially, solar solutions are more cost-effective than diesel, kerosene or batteries.

## A boost from international agreements

Global contracts are another factor driving this upturn. In 2015, almost all of the world’s governments committed to the Paris Climate Agreement and thus to keep- »

# 168

By October 2017,  
168 states had ratified the  
Paris Climate Agreement.

## EXAMPLES OF GIZ'S WORK

Providing people with energy is help for self-help.

In two thirds of the 120 countries in which it operates, GIZ is involved in activities to promote clean energy. Some 900 staff are employed in 160 energy projects with a cumulative commission volume of around EUR 600 million.

GIZ is pursuing two key objectives with its work. We wish to supply people with energy, so they can irrigate their fields, cool drinks, use medical appliances or read after dark. And we want to help protect the climate and the environment. For this reason, we are assisting developing countries and emerging economies in meeting their growing energy demands from renewable sources.

The major part of our activities is dedicated to expanding grid-bound renewable energy. This means putting in place enabling conditions for the construction of wind and solar farms. GIZ therefore advises many governments on the rollout of the requisite soft and hard infrastructure, such as feed-in tariffs for 'clean' electricity. GIZ expertise is integral, for example, to India's Energy Conservation Act. Furthermore, we also promote efficient energy use by insulating buildings or by introducing energy efficiency standards.

Moreover, we are developing business models to bring electricity to places that are still off grid. One such approach is based on stand-alone systems. These are small photovoltaic plants that, depend-

ing on their size, generate power for lighting or for operating appliances such as televisions or fridge-freezers. In the second half of 2016 alone, more than 3.7 million of these systems were introduced. This is important, because around the world more than one billion people are without electricity.

We are also looking inquiringly into the future. Together with the management consulting firm, PricewaterhouseCoopers, and the German Association of Energy and Water Industries (BDEW), we conducted the 'Delphi Energy Future 2040' study in which we surveyed some 350 experts from 40 countries – most of whom believe that energy consumption will double by the year 2040. Driven by environmental disasters, the pace of transition to green energy systems will have sped up by then. What's more, a global climate policy regime will be in place with ambitious CO<sub>2</sub> targets. With consumers also seeking to purchase products made under sustainable conditions, harnessing clean energy will become a competitive advantage.

The majority of those surveyed expect Europe to have rolled out a joint energy policy by 2040. Furthermore, energy delivery will become more decentralised, offering better protection against crises and terrorism.

View the study here:  
[www.delphi-energy-future.com](http://www.delphi-energy-future.com)

## SUB-SAHARAN AFRICA

10,000

jobs have been created because craftspeople have learned to make more efficient cook-stoves from clay or metal. As a result, cook-stove producers and solar companies now generate a turnover of EUR 6.2 million. Five European governments are also involved alongside the German Federal Ministry for Economic Cooperation and Development (BMZ).

## MEXICO

100,000

tonnes of CO<sub>2</sub> emissions are prevented each year thanks to solar-powered boilers. Given that some 70 per cent of all Mexican households still have gas boilers, GIZ implemented a 'changeover' project on behalf of the German Federal Environment Ministry (BMUB) that provided for the installation of 20,000 solar appliances.

## VIET NAM

120,000

households are supplied with electricity generated by wind power. After receiving advice from GIZ, Viet Nam introduced a feed-in tariff for this form of energy. To date, this has led to the construction of three wind farms that now provide 120,000 households with power. And more are in the pipeline.

## 40 COUNTRIES

8,100

tonnes: This is the volume of ozone-depleting gases that are no longer being produced, because GIZ – operating on behalf of the German Federal Development and Environment Ministries – helped companies in 40 countries to halt their CFC production.



#### NICARAGUA: NEW BEGINNINGS

Victoria Jarqu went from being a domestic employee to an entrepreneur. When she heard that her home village of Ocote Tuma now had electricity, she returned and opened a business. GIZ had assisted the municipality in building a small hydro-power plant on behalf of the Dutch Foreign Ministry's Directorate-General for International Cooperation (DGIS). The project is part of an initiative that gives people in developing countries access to energy.

PHOTO: ESTEBAN FELIX/ARCHIVOLATINO/LAIF (PAGE 23)

ing global warming below the two-degree threshold. Indeed, as far as possible, they even wanted to limit increases to 1.5 degrees above the pre-industrial age. To date, there is little to suggest that the naysayers will incite the signatories to this agreement to abandon their targets.

Also in 2015, the United Nations (UN) adopted the 2030 Agenda with its 17 Sustainable Development Goals (SDGs). They replaced the UN's Millennium Development Goals, which had failed to consider the central role that energy also plays in the fight against poverty. This was reckless – because without electricity there is no light for studying, no place to keep food or medicines cool, no cashew nut roasting machines and no jobs. This explains SDG 7, which aims to ensure access to affordable, reliable, sustainable and modern energy for all by 2030. Corresponding groundwork is already being laid, with many states having now produced at least a rough estimate of regional potential. And the International Renewable Energy Agency (IRENA) is on hand to provide technical expertise to the governments of poorer countries in particular.

Furthermore, a growing number of well-endowed investors are showing an interest in renewable energy.

'Coal is dead,' said Jim Barry, Managing Director and global head of BlackRock Infrastructure Investment Group, in an interview in Australia of all places, the staunchest advocate among coal-producing nations. 'But anyone who's looking to take beyond a 10-year view on coal is gambling very significantly – and the smart money knows it.' For decades, BlackRock itself earned off the back of fossil fuels. But now major investors are backing a green future and expect to see innovations and secure returns from climate change mitigation. However, as the number of hydro, wind and solar power plants as well as biomass and geothermal systems goes up, the clearer the pitfalls and challenges become.

**Money:** The technologies are mature, but there is still a lot to learn, especially when power generation is to be linked with heating, cooling and transport systems. Here the experts' thinking is still too unimaginative and not joined-up enough. Private operators, especially citizens' cooperatives and medium-sized businesses, but also research institutions, need an incentive to network. In poor countries in particular, it will be a long time before this is possible without subsidies. From the Global »



'Morocco is an energy-impo- verished country, at least in the conventional sense. But

it is in the process of turning this disadvantage into an advantage by relying consistently on renewable energy.'

AZIZ RABBAH, Moroccan Minister of Energy

Climate Partnership Fund to national development resources and the World Bank, billions are available for renewable energy. But it is still not enough and not sufficiently target-oriented.

**Laws:** The key to a faster rollout is a political framework that provides an answer to the question: how do we get from 'best practice models' to their broad-scale rollout? Some 60 governments have already agreed on support measures, some of them based on Germany's Renewable Energies Act. However, its central ideas are not always transferable to poorer countries. For example, the feed-in tariff for private producers requires citizens with the money for such investments. And the recovery of initial investment costs via electricity pricing only works if enough customers can afford to pay – two things that, alongside transport services and networks, are not on hand in many developing countries. That's why Morocco, for example, is relying directly on state participation in large-scale projects such as the Noor solar plant. More and more governments are providing subsidies to private individuals and municipalities wishing to invest in solar installations.

The enormous advantages of decentralised supply, especially in rural regions, are only gradually coming to the fore. In South America, Asia and Africa, more and more people are using favourably priced solar home systems with sufficient energy to light a lamp or heat a hot-plate. Solar kiosks in villages offer farmers and craftspeo-

ple a solution for recharging their batteries or mobile phones.

Mini power grids are also getting energy to places that would be too expensive to serve through connections to the main power grid. E.ON employee Daniel Becker, for example, is using the start-up Rafiki Power – which translates directly as 'friendly' power – to build up a 'mini off-grid' market in remote parts of Tanzania. Small power plants fitted with rooftop solar panels are steadily supplying an increasing number of homes with 'friendly power'. This enables locals to use televisions, freezers and refrigerators or other electrical appliances. A smart metre measures power consumption and informs customers via SMS as soon as they need to top-up their account. In the meantime, eight plants are now supplying 10 villages and more than 900 households with clean energy. However, Daniel Becker is keen to stress that, 'Electric power alone does not lead to development.' That is why he is leveraging development funding in an attempt to build up the sales and rental market for useful appliances, from electrical woodworking planes to threshing machines.

## Energy supply is becoming more people-centred

With kick-start funding from the government, mini-networks could also be operated on a cooperative basis and so foster economic activities. Providing electricity for the production of sweet potato chips, oil products or manioc flour makes value chains grow. Energy supply becomes productive and people-centred and in some places it can even form the core of 'polycentric urbanisation'. This is the term the German Advisory Council on Global Change (WBGU) uses to describe efforts to relieve the burden on capacity-strained megacities, essentially through the innovative and infrastructure-based – economic – revival of small cities. This decentralised approach is probably the fastest route developing countries can take to leapfrog the fossil age. For industrialised and developing nations alike, everything hinges on municipalities and regions becoming key actors in the switch to decentralised power generation systems.

**Fairness:** In spite of all these opportunities, energy policy efforts have often tended to concentrate on urban centres. In the megacities of Africa and Asia, massive shopping centres are nurturing the consumerist dreams of a growing middle class while companies are settling in their industrial belts. Voters in these cities can be particularly vocal about their annoyance at yet another prolonged power cut. As a result, the day-to-day problems »

# 38

gigawatts: that's how high Africa's capacity for renewable energy is. 10 years ago it was just 25. It is increasing rapidly, but there is still much to be done. By way of comparison, capacity in Europe is around 486 GW.



# 'Unprecedented support'

Patricia Espinosa was appointed as Executive Secretary of the United Nations Framework Convention on Climate Change (UNFCCC) in May 2016. The former Minister of Foreign Affairs of Mexico has observed that developing countries are now also investing more in renewable energy, and welcomes the commitment from the international community to uphold the Paris Agreement – in spite of the sceptics.

## **Would you say climate change is beyond scientific doubt now?**

Yes. The scientific assessments conducted by the Intergovernmental Panel on Climate Change over the past 25 years are detailed and credible.

## **Some people say that climate change is accelerating. Is that true? Where and how is this noticeable?**

Researchers are certainly concerned about the record global temperatures experienced in recent years; they are also worried about the record low ice cover at certain key times of the year in the Arctic and the Antarctic. The more we pollute the atmosphere, the more we run the risk of very sudden and unpredictable shifts in the Earth's climate, which might be irreversible.

## **Under the Paris Agreement, all countries – large and small, rich and poor – are responsible for combating global warming. How seriously are they taking the treaty?**

Very seriously: the speed at which the Agreement came into force and the number of ratifications – currently 168, with more being added every month – underlines the unprecedented global support.

## **Are countries genuinely working to transform their energy systems, using more renewables etc., or is it mere rhetoric?**

Growth in renewables continues unabated, simply because it makes economic sense. Investment in renewable energy amounted

to almost USD 242 billion in 2016, adding 138.5 gigawatts to global installed capacity – up 9 per cent from 127.5 gigawatts in 2015. Investment in renewables capacity was roughly double that made in power generation from fossil fuels.

## **What about developing countries: are they investing in clean energy systems too?**

Yes, and it is not only China. Investment in renewables is increasing in many developing countries. In 2016, Jordan was an outstanding example, as was India, with the construction of the Ramanathapuram solar complex in Tamil Nadu: at 648 megawatts, it is the world's largest ever photovoltaic project.

## **The developing countries are supposed to get support from the Green Climate Fund, a financing mechanism for climate change mitigation and adaptation projects. Is this mechanism working properly now?**

I think we are seeing some positive changes, with funding for projects really getting under way. Anyone interested can follow developments for themselves on the GCF website.

## **What role do you see for development organisations like GIZ in implementing the Paris Agreement?**

They play a key role in establishing new kinds of cooperation and supporting risk-mitigating, leading-edge technologies such as renewable energies. I would say that getting green finance flowing is another important task for these organisations.



Patricia Espinosa is impressed with 'the speed at which the Agreement came into force'.

## **The USA had initially announced plans to withdraw from the Agreement, though has recently started to backpedal. What is the significance of this?**

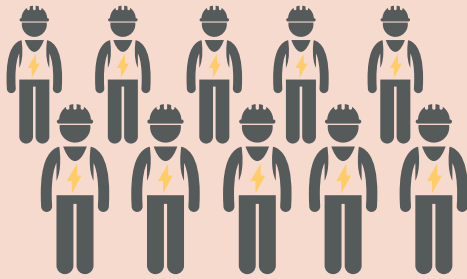
The announcement was disappointing, of course, but the global reaction to it was remarkable. Leaders from all over the world – north and south, east and west – expressed their unconditional support for the Agreement and promised that they would continue working to achieve the goals. At the same time, numerous cities and regions, backed by business and investors, are aligning themselves with the Agreement to an extent never witnessed before with any UN agreement.

# Radiating appeal

Renewable energy will be well-established by 2040, largely because environmental disasters will speed up the transformation of our energy systems. Germany will hold on to its lead in the renewable energy sector but will face strong competition from China. These are some of the key findings of the 'Delphi Energy Future 2040' study, which surveyed 350 experts worldwide. The study is a joint endeavour by GIZ, PricewaterhouseCoopers (PwC) and the German Association of Energy and Water Industries (BDEW).

## More jobs

Worldwide, more than 9.8 million people, including 3.6 million in China alone, are employed in the renewable energy sector – an increase of 40 per cent since 2012.



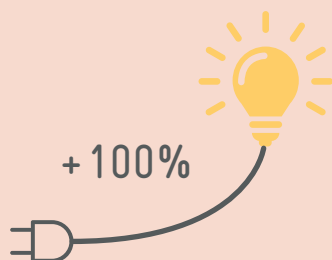
## Clear target

48 developing countries have pledged to meet 100 per cent of their energy needs from low-carbon sources by 2050.



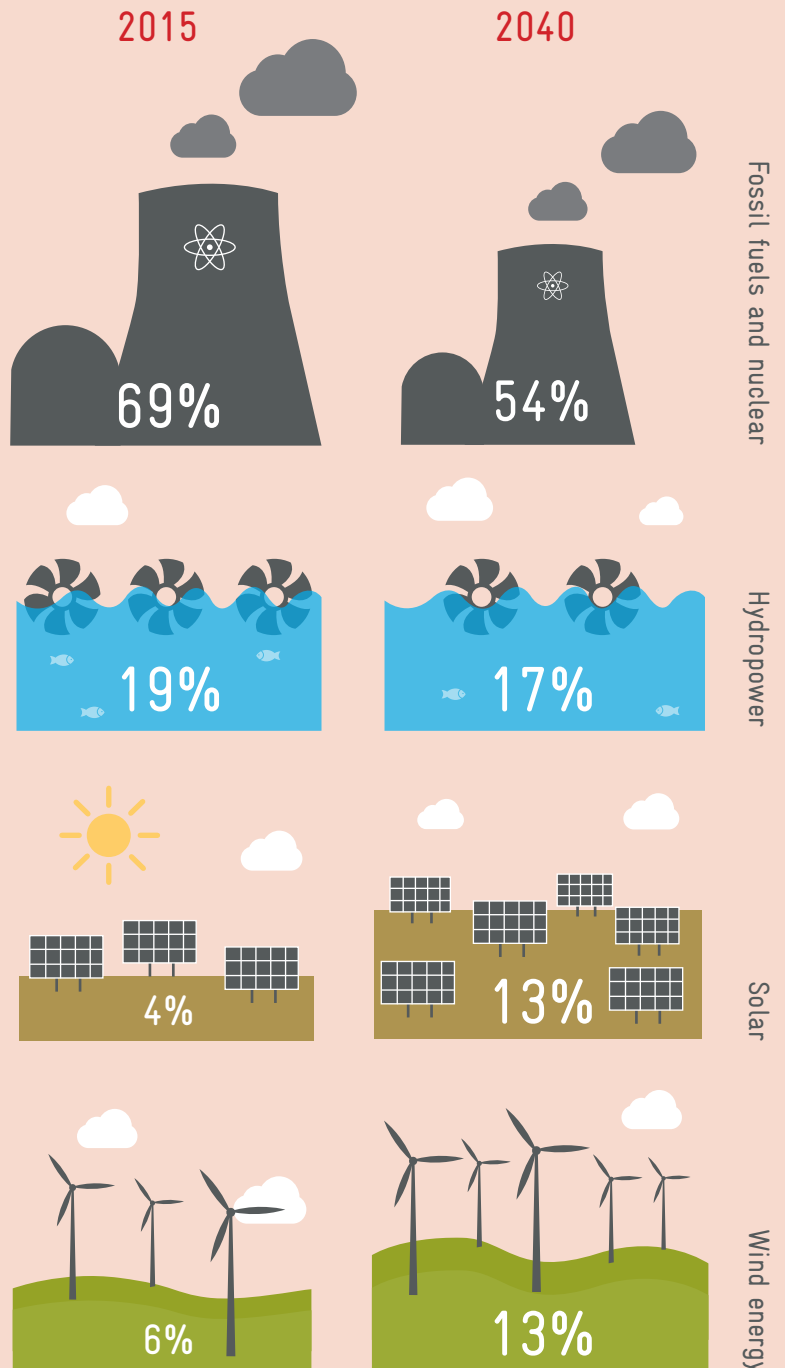
## Growing demand

Global energy demand is predicted to double by 2040 compared with 2015, according to GIZ's Delphi study – partly because around one billion people have yet to gain access to modern energy services.



## Energy mix in transition

What does today's energy mix look like – and what kind of energy mix is projected to be in place in 2040? In addition to the energy sources listed here – hydro, solar and wind power – geothermal and biomass will have a role to play in a clean energy mix, albeit to a lesser extent.



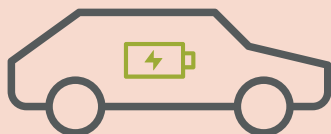
### Green dividend

A switch to low-carbon technologies would generate additional economic growth of 2.8 per cent for the G20 countries by 2050.



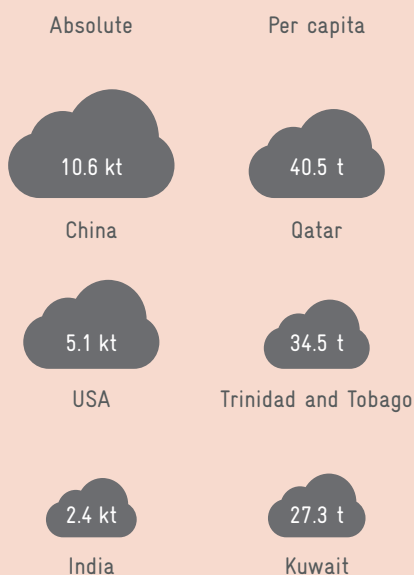
### Extended range

The Delphi study predicts that electric vehicles will have a range of around 3,000 km by 2040 – compared with a maximum of 600 km today. Running on RES electricity, they will transform mobility.



### Yawning gaps

China is the world's largest CO<sub>2</sub> producer, followed by the USA. Looking at per capita emissions, however, a very different picture emerges.



of the poor, even when these have nothing to do with power supply, are all too easily pushed into the background. Take cooking for example: some 2.7 billion people still cook their meals using wood, charcoal, manure or plant residues – in sub-Saharan Africa as many as 90 per cent of people do. But the smoke in the huts affects their lungs, women need hours to collect twigs and branches, and forests are being destroyed.

Replacing wood-burning stoves with solar or biogas ones is a complex task. Initiatives frequently come to nothing because spare parts are missing or because bread simply does not taste as good without the smoke aroma. This kind of cultural readjustment procedure takes time – consequently, it makes sense to make more efficient use of the wood that is being burned anyway. Tanzanian charcoal burners, for example, are learning how to farm trees sustainably, to seal their kilns more effectively and to construct them in a way that allows the air to circulate freely, enabling charcoal to be burned with fewer CO<sub>2</sub> emissions. The charcoal users in the village build their own clay cook stoves, thus doubling the level of effi-



Become a virtual negotiator at the climate conferences: UNFCCC's 'negotiator app' keeps users up to date with the summit meetings and even allows them to contribute their own ideas. Download it free of charge from the Google and Apple stores.



'Unless we take action on climate change, future generations will be roasted, toasted, fried and grilled.'

CHRISTINE LAGARDE, Managing Director of the International Monetary Fund

ciency. This is the kind of project that needs more support in future.

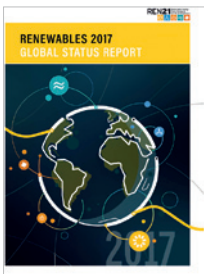
**Limits:** In spite of the need to move things along quickly, climate change mitigation must not come at the cost of other legitimate resource requirements. In the case of biomass, this was a hard-learned lesson. Fuel admixtures or the promotion of large-scale biogas plants in Europe are responsible for an abrupt hike in demand for maize, rapeseed, palm oil and sugar beet. And with it the demand for agricultural land – resulting worldwide in monocultures and the demise of small-scale farming. Sun, water and wind are not automatically sustainable »

Sources: GIZ (Delphi study), International Energy Agency (IEA), International Renewable Energy Agency (IRENA), The Independent, Renewable Energy Policy Network for the 21st Century (REN21), World Bank



**MEXICO: COOL AMBITION**

Mexico aims to halve its greenhouse gas emissions by 2050. GIZ is assisting Mexico on behalf of the German Federal Environment Ministry (BMUB). One of the measures involves replacing old fridges with new, energy-saving ones, whereby chemical, climate-noxious coolants are disposed of safely (photo).



The annual Global Status Report published by REN21 provides a good overview of the progress being made in the global energy transition. [www.ren21.net](http://www.ren21.net)

either. Large-scale plants, like the kind favoured by powerful investors, need land and compete with other types of usage. In India and Mexico, villagers have already taken a stand against wind turbines that investors wanted to put on their farmland.

Time and again, residents are forced out when large-scale dams are erected. Planners fail to recognise that shepherds or indigenous peoples use purported wasteland. Conservationists campaign for key biotopes in a bid to protect species diversity. Then again, there is political tension, like in Morocco where part of a large-scale solar project that has attracted international acclaim is located in an area of the Western Sahara earmarked by the government in Rabat – evidently without including local people in the planning process.

Such conflicts of interest show that, although renewables are essentially limitless, they are ultimately not ‘infinite’ after all. This makes it all the more important to save and use energy efficiently. Here too, developing countries could ‘leapfrog’ old practices. India was quick to bring out a corresponding law. Stringent

controls have been in place for more than 10 years for energy-intensive industries, homes and for every single electric appliance.

**Frugality:** For climate change mitigation to be implemented in a socially equitable manner and for poorer countries to be able to develop their full potential, we need to radically lower energy consumption and emissions, especially in industrialised nations. This is a conundrum for politicians: people find smart new technologies much more appealing than demands to reduce their energy consumption. In places where pro-capita consumption levels are 10 to 20 times the emissions levels of, say, a person in India or Zambia, we have to look for new ways forward and a new way of living our lives. For this reason, successes in the use of renewables should not be taken as an excuse to put off the more frugal use of energy.

[www.giz.de/energy](http://www.giz.de/energy)  
[www.giz.de/climate](http://www.giz.de/climate)



# A BRIGHT FUTURE FOR RENEWABLES

Guest article by FATIH BIROL

Over the last few years, the world has seen the rise of renewable energy as a real and competitive option for power generation. While hydropower has been around for decades, the development of variable renewables – in particular wind and solar photovoltaic – has become one of the defining features of the clean energy transition thanks to falling costs and strong policy support.

Wind and solar capacity is now ten times bigger than it was a decade ago. Every month seems to bring a new renewable milestone, whether it's a record low bid in an auction for new solar power or even a renewable source setting record generation levels. While renewables investment last year was 3 per cent lower than it was five years ago, capacity additions were actually 50 per cent higher and the expected output from this capacity was an impressive 35 per cent higher. That was all thanks to cost declines and technology improvements.

Much of this growth is taking place in the United States, Europe, India and China. In fact, China alone is expected to account for 40 per cent of all renewable power growth around the world in the next five years. Huge efforts are underway to power the largest economies in the world with utility-scale solar power and onshore wind.

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## PROFILE

FATIH BIROL has been Executive Director of the International Energy Agency since 2015, previously serving as Chief Economist.

The Turkish national has dedicated his professional life to energy issues.

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One interesting fact is that, in some parts of the world, the renewables revolution will not take place at a national scale but much closer to home. Rooftop solar, for instance, is a technology that is now starting to take hold in emerging and developing countries in areas with weak distribution grids or very limited electricity infrastructure. A public-private partnership 'Rent-a-Roof' programme in Gujarat, India, for example, is offering solar rooftop rentals to a range of commercial, industrial and residential customers, including low-income residential households.

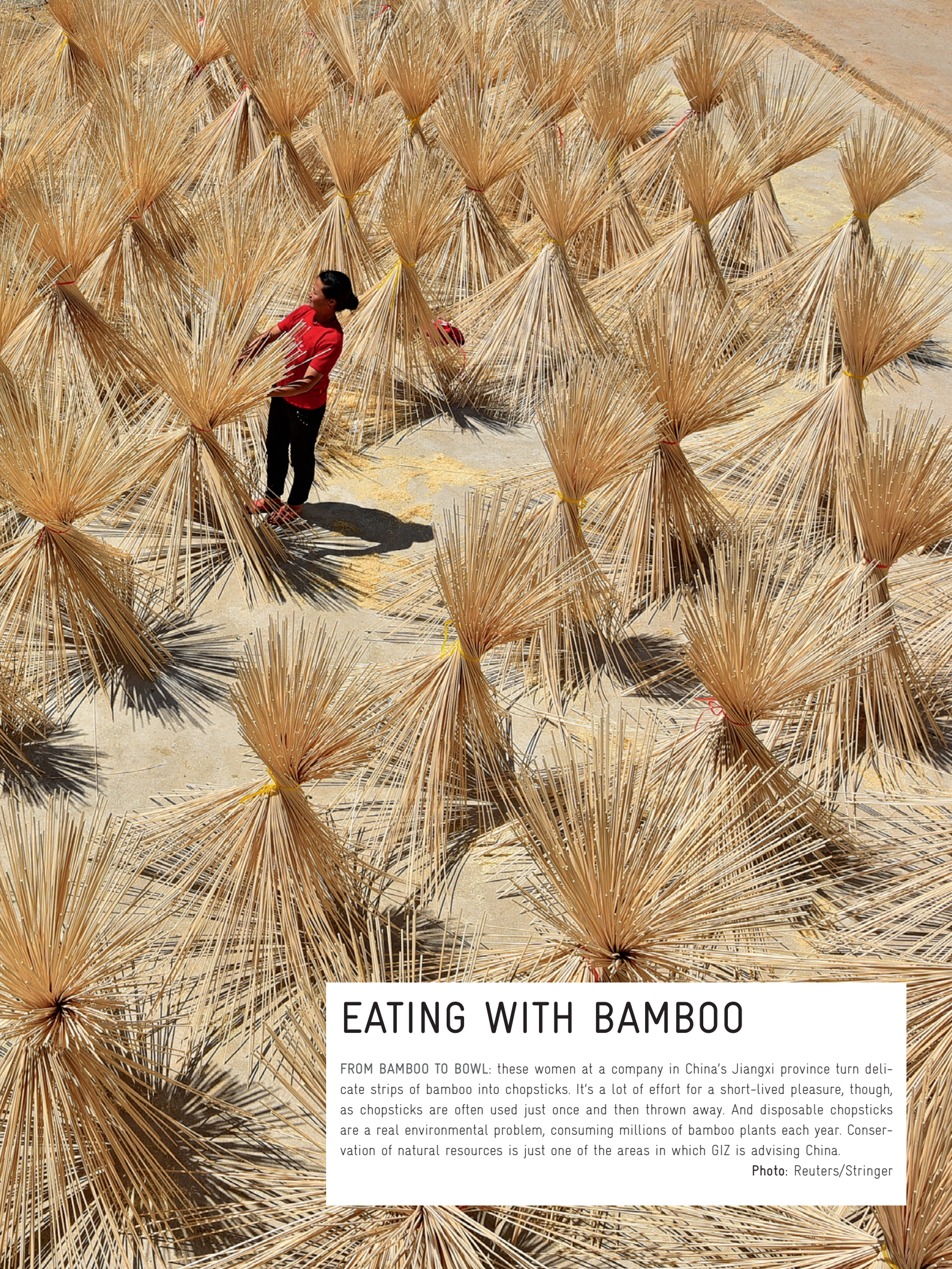
Governments across much of the developing world are increasingly embracing the use of distributed power generation as an effective means of providing access to modern energy services. Until recently, electrification had been perceived as the responsibility of

national utilities in the form of extension of transmission and distribution infrastructure. Over the past several years, however, a growing number of governments in countries such as Mali, Kenya and Indonesia have been encouraging the widespread adoption of mini-grids as a long-term solution to provide rural energy services that can complement the grid rather than compete with it.

Mali in particular has been an early adopter, and now boasts over 160 mini-grids, supported by a flexible enabling environment that allows private sector actors to pursue multiple avenues for projects, and gives them the ability to set their own commercially viable tariffs.

Despite falling costs for renewable technologies, these developments won't happen on their own. In particular, market design and structural changes to the power system are essential to ensure adequate returns for investment and to integrate higher shares of variable renewables. The future of renewables looks bright. But realising this future will require strong, predictable and smart policies from governments around the world. This is a critical step in accelerating the global energy transition – ensuring secure, affordable and sustainable energy for everyone.





## EATING WITH BAMBOO

FROM BAMBOO TO BOWL: these women at a company in China's Jiangxi province turn delicate strips of bamboo into chopsticks. It's a lot of effort for a short-lived pleasure, though, as chopsticks are often used just once and then thrown away. And disposable chopsticks are a real environmental problem, consuming millions of bamboo plants each year. Conservation of natural resources is just one of the areas in which GIZ is advising China.

Photo: Reuters/Stringer

# RESTORING PUBLIC ORDER

The aim of stabilisation measures is to create a safe and secure environment for people affected by violent conflict. Civil society, police and military stakeholders work together to achieve this.

The world is in turmoil and instability is increasing. 1.5 billion people live in fragile states or in countries marred by violence, and record numbers – 65.6 million – have fled or been displaced. In Syria alone, two thirds of the population have had to flee. These trends are reflected in our work. Half of the countries where GIZ operates are fragile states. They are unable to guarantee public or individual security, lack legitimacy in the eyes of a large percentage of their population, and struggle to deliver basic public services such as health, education and welfare.

We support fragile states in meeting their responsibilities to their population. In countries where war-like conditions prevail, we also take measures to stabilise the situation. The concept of stabilisation underpins the June 2017 German Government guidelines ‘Preventing Crises, Resolving Conflict, Building Peace’, which govern our work. Under these guidelines, stabilisation measures follow directly on from violent conflict.

The aim is to identify and strengthen political actors who can help to build a new, peaceful public order. Stabilisation is an investment in risk mitigation and conflict prevention, and helps ensure that conflicts do not flare up again immediately. Stabilisation measures combine diplomatic, development and military interventions, reflecting the increasing interlinkage of foreign, development and security policy required by Germany’s increased global responsibility.

Afghanistan, Iraq, Mali and Yemen are just some of the countries in which Ger-

many is working to stabilise the situation. We have worked in Iraq on behalf of the German Government to set up mobile clinics in areas recently liberated from the violent grasp of so-called ‘Islamic State’



UTE KLAMERT is Director General of GIZ’s Europe, Mediterranean, Central Asia Department.

terrorists. These clinics are housed in a series of linked containers. When the IS was finally driven out of Mosul, there was barely an intensive care unit that was still operational anywhere in the city. There was nowhere where children could be safely born, appendicitis treated or broken legs set. A mobile clinic offers hundreds of families safe medical care, enabling them to stay in their homes and rebuild their

confidence. Our aim is to provide services that rapidly make a difference and to create the basis for restoring state legitimacy and the rule of law.

To find the right political partners for this phase of our work, we cooperate closely with our commissioning parties to analyse the situation. We seek out individuals who are willing to commit to the common good. We talk to village communities and local councils to discover what they need. In a particular community, for example, the most urgent priority may be to set up generators, repair a grain mill or provide seed. Elsewhere, we provide equipment to get damaged schools and municipal facilities back up and running. This creates hope and something close to day-to-day normality. In northern Iraq, for example, we work on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ) to provide start-up funding for small skilled trades and crafts businesses, shops and cafés. This helps life to return to towns and villages.

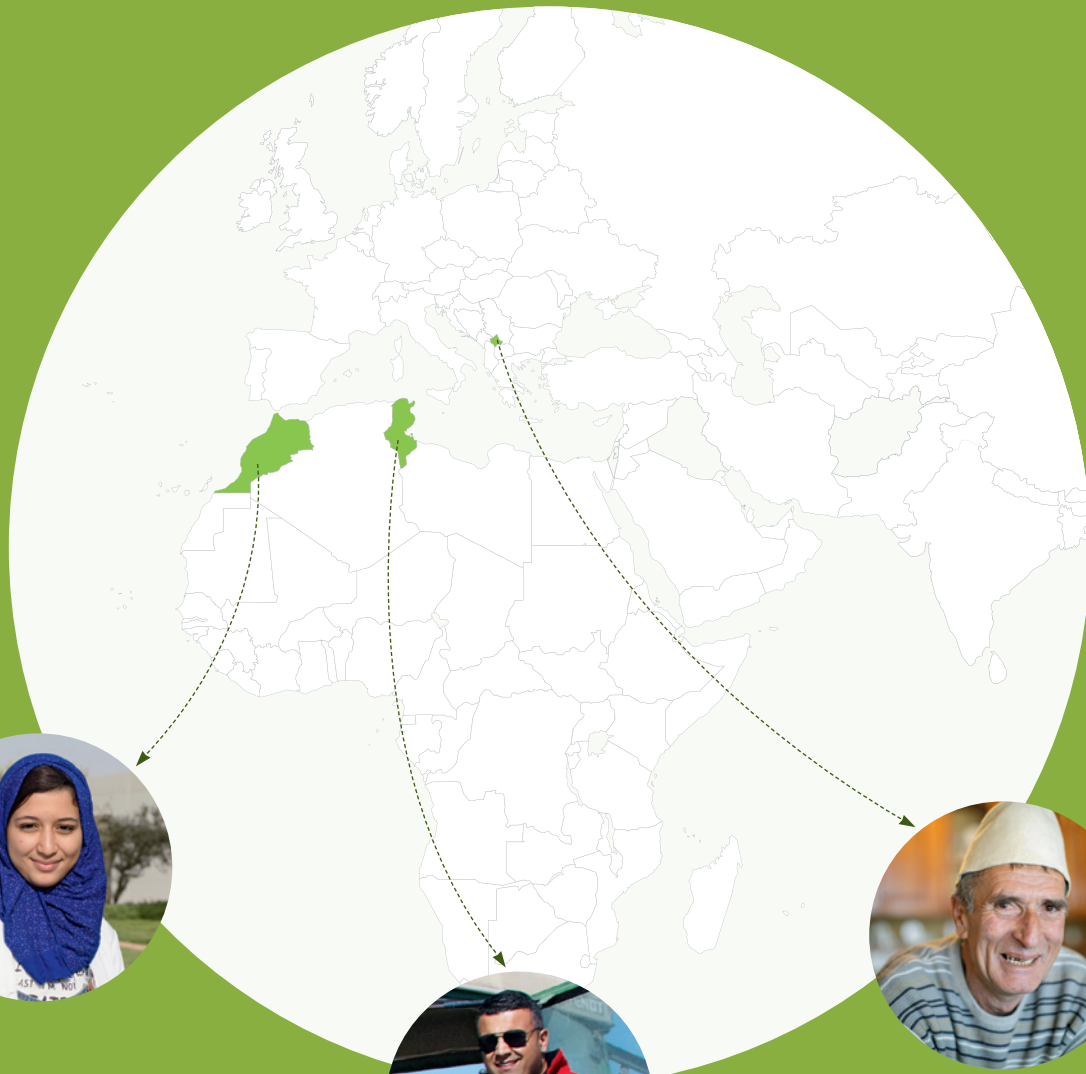
In these areas, we cooperate extremely closely with our commissioning parties, state and non-governmental partners, and colleagues. For GIZ, supporting populations in the aftermath of violence and war is a vital and demanding but exceptionally rewarding role.

Click here to download the ‘Preventing Crises, Resolving Conflict, Building Peace’ guidelines (in German only): [www.bmz.de/de/zentrales\\_downloadarchiv/Presse/Leitlinien\\_Krisenpraevention.pdf](http://www.bmz.de/de/zentrales_downloadarchiv/Presse/Leitlinien_Krisenpraevention.pdf)



# COMMITMENT

Where GIZ is active, how it approaches new challenges and what its projects achieve: three current examples from Morocco, Tunisia and Kosovo.



## TRAINING FOR THE TRANSITION

**MOROCCO** How Imane Lemsafi and other young Moroccans are improving their own prospects – and the future of their country. **Page 40**

## ORGANIC PIONEERS WITH GERMAN EXPERTISE

**TUNISIA** How Leith Tlemcani and other young entrepreneurs are breaking new ground with expertise acquired in Germany. **Page 34**

## STARTING A NEW LIFE BACK HOME

**KOSOVO** How guesthouse owner Mustafë Nikçi is helping to turn his country into a new destination for hiking tourism. **Page 44**



# TUNISIAN ORGANIC PIONEERS WITH GERMAN EXPERTISE

Young entrepreneurs in Tunisia are breaking new ground and becoming environmental trailblazers. The German Federal Ministry for Economic Affairs and Energy's Fit for Partnership with Germany Manager Training Programme provides the expertise they need, and the contacts in Germany.

TEXT SARAH MERSCH PHOTOS ILYES GAIDI

A line of bent figures moves slowly across the horizon, wearing brightly coloured headscarves and straw hats to protect them from the sun. Even in the early morning, the heat in the fields is intense. 'Eighty per cent of the work here is weeding,' says Leith Tlemcani. 'And since that has to be done by hand, we do it early in the morning.' By 10 o'clock it's already too hot out in the fields in summer. Tlemcani's company Herbiotech farms more than 150 hectares in a plain near the city of Kairouan, around two hours' drive south of Tunis. The company specialises in organic farming. Which is why two thirds of his 100 staff are busy in the fields, pulling up the weeds that proliferate between the parsley, dill and mint.

'Many farmers in the region have turned to organic farming out of financial necessity,' Tlemcani explains. Few can afford fertilisers and weed killers. Most try to eke out a living with very little land. Tlemcani's foreman is a simple farmer from the region. 'He knows this soil better than any foreign expert.'

But large-scale organic farming – with German, Japanese and American certification, as is the case with Herbiotech – is still the exception in Tunisia. Within a short period of time the company has established itself as the country's leading producer of dried herbs. Since the Tunisian market for organic products is still very much in its infancy, almost all the herbs are shipped for export. 'In Tunisia we have the advantage that we grow all year round and can deliver fresh produce even in the depths of a German winter,' the Tunisian manager explains. Around half of his herbs will end up on German dining tables. One of Tlemcani's buyers, for example, is the medium-sized organic business Lebensbaum from Lower Saxony.

German customers, German organic labels and German machinery – the entrepreneur Leith Tlemcani has massively expanded his contacts in Germany. He adopted the German organic farming model

from the outset. Since 2015, when the 36-year-old with a PhD in biology took part in the Manager Training Programme initiated by the German Federal Ministry for Economic Affairs and Energy (BMWi), his business links with Germany have grown ever stronger.

GIZ is coordinating the programme on behalf of the ministry. Tlemcani is one of almost 100 Tunisian managers from a wide range of industries to have benefited from GIZ-led preparations for initiating business with German companies and entering into cooperation arrangements. The programme has already assisted more than 11,000 managers in 19 countries.

## German Government committed to closer cooperation

German companies have traditionally invested strongly in Tunisia. Currently about 250 German companies operate in the country, providing jobs for around 55,000 Tunisians. Germany is Tunisia's third largest trading partner, with bilateral trade in 2016 worth just over EUR 3 billion. The German Government is committed to stepping up this cooperation. This was also highlighted by Chancellor Angela Merkel's visit to

Help with the harvest: young entrepreneur Leith Tlemcani beside a vintage German tractor.

P. 36 top: Green investment. In central Tunisia, dill is grown for export to Germany.

Bottom: A Herbiotech employee operates the drying machine, which also prepares olive leaves for use in herbal teas.

P. 37 top: Nizar Jallouli is proud of the awards he has received for his environmentally friendly printing house, Nouha Eco Print.

Bottom: The environmentally friendly printing house relies on German certification for inks and paper. International customers set great store by green production.



PHOTO: HERBIOTECH (PAGE 36, TOP)

Tunisia in March 2017. Now that the North African country has achieved the political transition from dictatorship to a democracy with a modern constitution, the focus is on overcoming the economic challenges.

## Gathering ideas at trade fairs in Germany

Leith Tlemcani is already contributing to the success of German-Tunisian trade. During the manager training course in Germany, he explains, he was able to establish initial contacts with several large customers. Before the course, he recounts, he was a scientist through and through. ‘The programme allowed me to acquire the managerial knowledge I needed and develop a clear strategy for my company.’ Since then he has strengthened his contacts with Germany. Tlemcani regularly attends trade fairs in the country and his company website has even been translated into German. After all, most of his customers are in Germany.

Tlemcani also bought his machinery in Germany. ‘Our harvesting machinery is always a source of amusement,’ he says with a laugh. He gestures towards the vehicle which rolled off the production line in 1961. The tractor’s engine is at the rear to give the driver a clear view of the crops to be harvested. ‘People often stand and stare in amazement, wondering what we actually do here.’ A new machine would have cost at least 120,000 dinars (or over EUR 41,000) – a lot of money for the fledgling company. The vintage tractor cost only a third of that, and Tlemcani also sourced his other machinery in Germany at an affordable price.

As soon as the herbs have been harvested, they are packed and taken to the factory in Bouarada, a two-hour drive from the fields. Here, southwest of Tunis, Tlemcani originally set up his company in 2013. Tlemcani and his partner Mehdi Elouaer started out producing olive oil and essential oils, before deciding to focus on dried herbs in 2014. ‘To begin with we had neither market data nor experience. We thought everything would be much easier,’ Tlemcani

admits. Knowledge acquired during the manager training course came in useful. Herbiotech built a new production hall and invested in machinery to sift and pack the herbs. Production began in 2015.

## Vital orientation during a period of upheaval

For Nizar Jallouli, too, the Manager Training Programme came at a time of professional upheaval in 2015 – in other words at exactly the right time. The computer scientist had set up a printing business in 2000 with a view to printing children’s books published by his father more cheaply. ‘I was young, I had no experience. The banks had

no confidence in me and the other printing houses did everything they could to make life as difficult as possible for me,’ says the 41-year-old in retrospect.

So in 2008 he decided to go abroad. When he returned to visit his home in the port of Sfax in 2014, a ‘For sale’ sign hung above his former print works. ‘That almost broke my heart – so I gambled.’ He persuaded his father to give him a chance.

This time Jallouli was determined to probe a niche market: green printing. From plant-based print inks to waste disposal and paper imported from a German business partner certificated with the Blue Angel eco label, everything would be as environmentally sound as possible.





Also available on the website and akzente app: a video showing everyday working life at Nouha Eco Print. [akzente.giz.de/en](https://akzente.giz.de/en)

**Top:** From apprentice to skilled printer: 29-year-old Houssein Forgi is proud to have taken on responsibility at Nouha Eco Print. He now trains young colleagues.

And so the once virtually bankrupt printing house Nouha Print became Nouha Eco Print – the African continent’s only environmentally friendly printing works, says Jallouli with pride.

Most of his customers today are subsidiaries of foreign companies in Tunisia, including the German-Tunisian Chamber of Industry and Commerce and German companies with manufacturing operations in Tunisia. ‘It is easier for them to print brochures here directly than to ship them from Europe.’ Jallouli took a risk for his first contract: although he only needed 100 kilograms of paper, the minimum quantity he could order was 18 tonnes. He imported the paper anyway – and his first ever customer is still one of his biggest today. Not everyone was enthusiastic, however: his Tunisian customers still preferred perfect white, chlorine-bleached paper, Jallouli says with some regret. So alongside his environmentally friendly approach, he continues to work using conventional printing methods. ‘The manager course also taught me to think

outside the box and refine my strategy,’ says the entrepreneur. His workforce has doubled since the printing house switched to green production. Today it employs over 30 young people. That has colossal significance for a country with 15 per cent unemployment. In some parts of Tunisia almost one in three young people are unemployed. And many of those affected have left for Europe because they see no prospects at home.

The print shop is alive to the sound of machinery beeping and whirring. ‘We’ve retained some experienced colleagues, otherwise we appointed young, well-trained staff,’ Jallouli explains. Houssein Forgi is a prime example: he began working at the printing house as an apprentice in 2007. Today the 29-year-old is responsible for printing. ‘I’m proud of how everything has developed here,’ he says. ‘We’re much better organised and more efficient than before.’ Nowadays the young man also passes on what he has learned to new colleagues. As Jallouli listens attentively to his printer, he is forced to smile: ‘One of the things I learned in Germany was to delegate responsibility.’ Today the boss ensures his staff are more closely involved in the production process.

## Few staff over the age of 20

Herbiotech is also committed to recruiting young staff. Few of those operating the machines are older than 20. Most of the young men and women come from a village near the factory. Herbiotech located to Bouarada because there were tax breaks for companies which voluntarily moved to structurally weak inland regions.

Hamza Dridi is one of three engineers who supervise production. ‘I’m responsible for the entire cycle: from planning what is planted and when, to clearing products for export.’ The man in green overalls is one of Tlemcani’s former students and was part of his team from the outset. Depending on demand, the machines run for 16 to 24 hours each day. They can process up to two

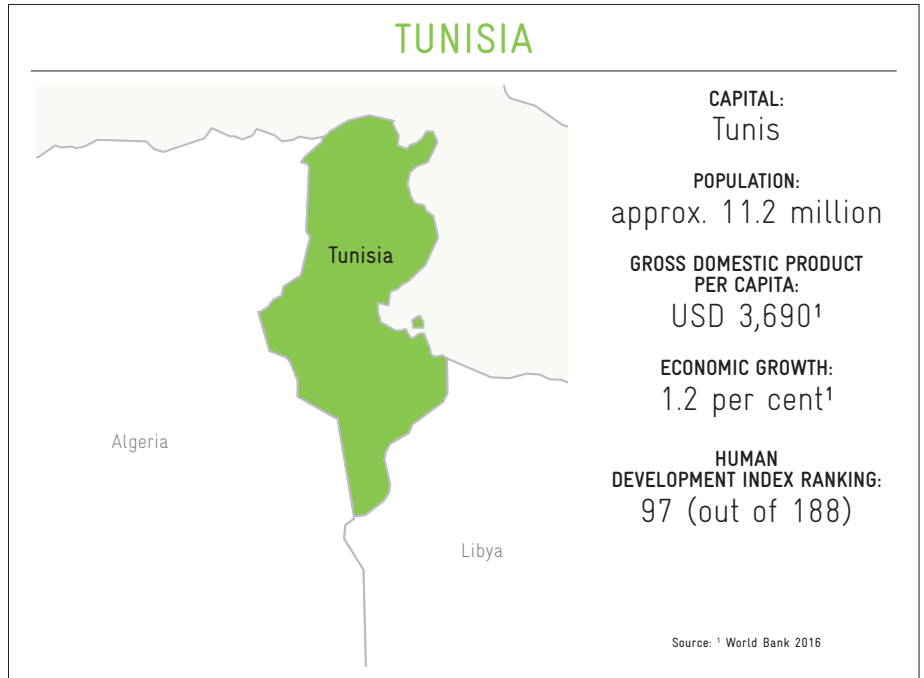
tonnes of olive leaves, used in herbal teas, and 700 kilos of aromatic herbs every day. ‘We could double production, but we simply don’t have enough herbs,’ says Dridi.

### German customers come to see the herbs in the fields

Although there is no lack of demand, the entrepreneur wishes the Tunisian authorities showed more understanding for his company. ‘We spend 60 per cent of our time dealing with stuff that has nothing to do with us,’ says Tlemcani, as he takes the telephone off the hook in irritation. The customs authority has just refused to accept an invoice because his goods were declared in pounds not kilograms. Herbiotech’s requests often fall on deaf ears at the banks. ‘They don’t understand that you have to let land lie fallow from time to time for the soil to recover.’

While many customers come all the way from Germany to visit the company, not one Tunisian bank employee has so far made the two-hour journey from Tunis, Tlemcani explains with a shrug. ‘Our customers always tell us they have never seen such rapid development in this area. That tells us we’re doing something right.’ His priority is now to find a second growing area as quickly as possible, preferably in the country’s cooler northern climes. ‘Then we can also grow basil, coriander, lemon balm and thyme – it’s too hot for that here.’

Nizar Jallouli also has plans for his printing house: his aim is to double the workforce, build a 700 square-metre production hall with solar panels on the roof, and increase turnover from one million dinars to five million by 2018. And at the same time he hopes to persuade his Tunisian customers that grey paper can be synonymous with high quality.



## NETWORK-BUILDING WITH GERMANY

### PROJECT:

MANAGER TRAINING PROGRAMME –  
FIT FOR PARTNERSHIP WITH GERMANY

### COMMISSIONED BY:

GERMAN FEDERAL MINISTRY FOR ECONOMIC AFFAIRS AND ENERGY

### TERM:

LAUNCHED IN TUNISIA IN 2014, ONGOING GLOBALLY SINCE 1998

The young democracy in Tunisia is seen as a beacon of hope for the Arab world. Having achieved political transition, the North African country now faces the task of boosting its economy and improving living conditions for its people. The Manager Training Programme is promoted by GIZ on behalf of the German Federal Ministry for Economic Affairs and Energy to enable small and medium-sized enterprises to forge links with German partners and broaden their knowledge of the market sector. Since 2014, 97 Tunisian managers have taken part in the training course in Germany, generating lasting contacts. Many enterprises now operate more efficiently, have established business partners in Germany and are creating new jobs in Tunisia. Since 1998, more than 11,000 managers from 19 countries have completed the programme. Another 900 join them every year. Thousands of German private companies are involved in the programme, most of them medium-sized enterprises.

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# TRAINING FOR THE TRANSITION

Morocco aims to significantly increase the share of renewable energy used to generate its electricity by 2020. But the country has a shortage of experts. A new institute is providing the training.

TEXT MARIE TUIL PHOTOS YANA WERNICKE

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Five more rungs and she'll have reached the top. Suddenly Imane Lemsafi finds herself standing at a dizzying height on a small circular platform with a gaping hole at its centre. She takes an audible gasp, peers into the dark abyss – and laughs. This is the 17-year-old's first time up here on the training tower for wind power technology. Time for a selfie with all her work gear on: climbing harness, huge carabiners, helmet.

Lemsafi is one of the first intake of 67 trainees at the Institute for Vocational Training in Renewable Energies and Energy Efficiency, set up in late 2015 in Oujda in Morocco. Having taken the step to train as a specialist in energy sources of the future, Lemsafi is also taking a giant leap forward for her own future. According to a study published by the World Bank, almost half of all young people in Morocco have neither a traineeship nor a job.

Five organisations support the institute: three state energy authorities and two industrial associations. The vocational school is also part of the German Climate Technology Initiative, which aims to drive forward the shift to more sustainable forms of energy outside Germany as well. The initiative is financed by the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB) and the German Federal Ministry for Economic Cooperation and Development (BMZ).

The initiative supports sustainable energy companies in Morocco by providing networks and advisory services. It also promotes applied research and offers specialised training. On behalf of the two German ministries and in cooperation with

Practice makes perfect – places at the Institute for Renewable Energies and Energy Efficiency are very much in demand and career prospects for graduates are excellent.



'Although the concept of renewable energy is still new in Morocco, I think it has a very promising future. My family is very proud that I'm going to work in this area.'

IMANE LEMSAFI, a graduate of the institute

the Moroccan Energy Ministry, GIZ advised on establishing the institute, supported development of specialised curricula and provided in-service teacher training and some equipment for the workshop.

The tower on which Lemsafi is now standing resembles a wind turbine with the top sliced off. It is there for one purpose only: to be climbed. For on such a tiny platform, buffeted by gusting winds, the knees of even the most fearless climbers can turn to jelly. The point is to give trainees a chance to see how they feel at such heights before deciding on a career in wind energy. And it seems this young woman has no

problem standing 14 metres above ground in buffeting winds. She smiles broadly on returning to earth: 'It's such a feeling of freedom up there,' she says. Although she had always thought it, now she knows for sure: 'I love adventure.'

Lemsafi is one of six children; her eldest brother is studying physics. 'Like my brother, I dabbled in physics at university for a while. But I didn't really enjoy it. I prefer smaller classes – and uni was too theoretical for me.' Too many students, overstretched lecturers, out-of-date teaching materials: studying is mostly theoretical in Morocco, with little if any practical training. The new institute aims to deliver the opposite.

The campus is like a perfect microcosm: a place with uninterrupted sunshine and a constant wind, a paradise for renewable energy. Instead of drying out the sparse vegetation and lifting away the barren topsoil, sun and wind here are seen as forces for good. The three-hectare site is covered in greenery – water is not in short supply. A solar-powered pump draws water to the surface from 153 metres below ground. The succulent plants, including cacti, store it like camels. Their fleshy leaves proliferate along the paths between the cafeteria and the training workshops.

## Over half the students are women

In the light and airy workshop, the photovoltaics class is carrying out experiments on different solar panels. The class is made up of 13 girls and two boys – although there is no quota for girls. In general, the school has slightly more girls than boys, but this particular group attracts a higher proportion of girls. They are all training to become skilled technical experts.

The floor under their feet is yellow – for photovoltaics. Blue is for solar energy, red for wind power and green for energy efficiency. Covering an area the size of a football pitch, the workshop building is colour-coded. There is also a training area for biomass.



Ouarzazate. In the long term, the country even hopes to export its green power. Lemsafi is also confident about this transition to clean energy. 'Although the concept of renewable energy is still new in Morocco, it has a very promising future. My family is very proud that I'm going to work in this area.'

## Desperately seeking teachers

In order to train enough skilled workers, two partner institutes of the vocational school are being established in Tangiers and Ouarzazate. Demand is growing, as the figures for applicants demonstrate: in summer 2015, there were barely three applicants for every training place; just a year later, 140 applicants were competing for each place. It is now generally known that the institute enjoys international backing and that its facilities are excellent. A growing number of candidates bring their application in person, hoping to increase their chances of being taken this way. But any attempt to bypass the system is doomed to failure; the selection procedure is fair and transparent. Candidates are short-listed on the basis of their school leaving grades. Then there are interviews and written tests.

Although students are now queuing to study at the new institutes, it is still very difficult to find suitable teachers. Since Moroccan university graduates generally have little practical know-how, the vocational training institute in Oujda is having to train the next generation of teachers itself. GIZ therefore regularly invites practical experts to share their knowledge, allowing teachers to acquire the pedagogical and technical skills they need.

## Small class sizes and direct discussion

Advanced training is a three-stage process: once the would-be Moroccan teachers have acquired the basics, they assist their trainers in the classroom. Later they swap places,



Also available on the website and akzente app: a video clip showing school life in Oujda. [akzente.giz.de/en](http://akzente.giz.de/en)

**Top:** Laboratory atmosphere: in the workshop the photovoltaics class is experimenting with solar panels using lamps for sunlight.

**Bottom:** A head for heights: Imane Lemsafi fearlessly climbs the training tower for wind power (left). A campus full of practical applications, here in the form of solar modules (right).

Although the laboratory for biomass in the second hall is still under construction, a curriculum and three biogas plants are already in place. The curriculum was developed by GIZ in close cooperation with experts from the Moroccan and European renewables sector – with the objective of providing exactly the workforce the country needs.

For a long time Morocco was entirely dependent on the import of fossil fuels and is only now discovering its enormous potential in the field of renewable energy. The Government's aim is to generate 42 per cent of the country's energy from renewables by 2020, with 28 per cent of electricity to be produced by solar power plants and wind farms. The world's largest solar park is currently being built with the support of the KfW Development Bank near the town of

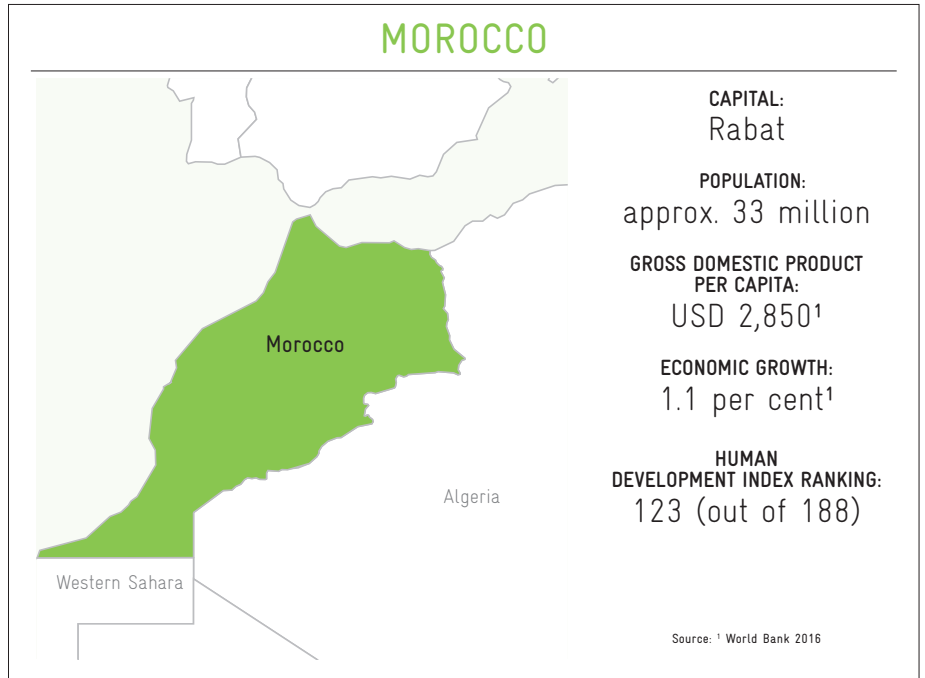
and finally the new teachers take classes alone. So far, eight teachers have been trained in Oujda.

Small class sizes and direct contact during practical exercises make for a good teacher-pupil relationship. As Lemsafi explains: 'We recently prepared a surprise for our class teacher's birthday. Two other teachers helped with the planning. It was Ramadan, so we brought him a cake and sang a song during the traditional evening meal.'

## All graduates with prospects of a job

Good social chemistry makes for a productive learning environment. The students regularly conduct practical exercises. One group studying solar energy, for example, has the task of optimising the solar modules on the roof of the school building by the end of their first year of training. These modules provide hot water for students living on the campus. Although they function adequately, there is scope for efficiency gains. So the students are working in four groups to develop plans, the best of which will be implemented. 'Our objective here is to train people capable of designing, building and monitoring small to medium-sized plants on their own,' says John Fimpel of GIZ. The focus, he emphasises, is on practical application.

One year on, July 2017, and 58 of the 67 students have successfully completed their training. Imane Lemsafi is one of them. The focus on practical work has paid off – all the graduates have a job in prospect, many of them with installation companies geared to solar energy and photovoltaics.



## FUTURE WITH NEW ENERGY

### PROJECT:

GERMAN CLIMATE TECHNOLOGY INITIATIVE (DKTI I)

### COMMISSIONED BY:

GERMAN FEDERAL MINISTRY FOR THE ENVIRONMENT, NATURE CONSERVATION, BUILDING AND NUCLEAR SAFETY; GERMAN FEDERAL MINISTRY FOR ECONOMIC COOPERATION AND DEVELOPMENT

### LEAD EXECUTING AGENCY:

MOROCCAN MINISTRY FOR ENERGY, MINES AND SUSTAINABLE DEVELOPMENT

### TERM:

2013 TO 2018

Morocco needs experts for its transition to clean energy – so sustainable energy provision is a sector offering good career prospects. With youth unemployment running at over 20 per cent, that makes it attractive to young Moroccans. From the first intake of specialised technician students, 58 qualified young experts – over half of them women – successfully completed the training course at the IFMEREE vocational training centre in Oujda in summer 2017. Demand for training is high, with around 140 applicants for each place. Further vocational training centres have been planned in Morocco.

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[www.giz.de/en/worldwide/30600.html](http://www.giz.de/en/worldwide/30600.html)

# STARTING A NEW LIFE BACK HOME

When Kosovars return from Germany, a centre is available to provide support with reintegration. Assistance is offered not just in the capital Priština. GIZ is promoting hiking tourism in the country's mountainous regions to help young people see a future in rural areas.

TEXT SONJA GILLERT

PHOTOS THOMAS IMO

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**W**ith a bundle of brochures in his hands and eyes on the lookout for large chequered holdalls, Naim Basha can often be found waiting at the baggage carousel in Priština airport. ‘Ura’, the Albanian word for ‘bridge’, is printed on Basha’s information leaflets. They address people who left Kosovo in the hope of being granted asylum and starting a better life in Germany. For most it is an illusory hope: after careful case-by-case assessment, few people from Kosovo are granted protection status on the grounds of asylum, particularly since it is seen as a safe country of origin. Some of them have abandoned everything to achieve their dream and invested all their savings in the journey. The holdalls, which they are given prior to repatriation – voluntary or otherwise – after their application for asylum has been dismissed, often hold all their worldly possessions.

Psychologist Basha works for the Ura reintegration project. As part of a team of social workers and job placement officers, he provides guidance on starting a new life back home. Those returning voluntarily to Kosovo in 2015 and 2016 numbered 13,524 in total. During these two years, Basha and his colleagues counselled 9,763 returnees. In the first half of 2017, a total of 1,323 returnees joined them. GIZ is implementing the project on behalf of the German Federal Office for Migration and Refugees, which has been organising reintegration projects in Kosovo for 10 years.

The challenges facing returnees are enormous, since finding work in Kosovo is extremely difficult. The unemployment rate in the country was almost 28 per cent in the third quarter of 2016, and rose as high as 50 per cent among young people. In addition, around one third of the population lives in poverty. Vestiges of the war are visible in

many buildings – many are just shells. Weak structures proliferate and corruption in the country is rife. Returnees, most of whom have spent many years in Germany, no longer have a network of friends and acquaintances who could help them find a job. And yet there are sectors in Kosovo – including call centres and IT – which offer good opportunities, particularly for returnees. Moreover, with 43.5 per cent of Kosovars aged under 25, the population is one of the youngest in Europe. That too harbours potential.

### Listening to what people need

In his counselling office, Basha and his colleagues help returnees to develop prospects. In the first instance, that means listening closely to what people need, what they can do and above all what they want. Their aim is to find tailored solutions to individual needs. Counsellors tell of a single mother, who after the death of her husband fled to Germany with her two sons. Her request for asylum was turned down. On her return, the centre helped the widow to find a flat and buy clothing and materials for school. The woman was also under considerable psychological strain, Basha recounts.

The centre for returnees also has a job placement service. Korab Lekaj, who sits at the desk next to Basha, is in charge of job placement. He knows from first-hand experience what it feels like to make a new start back home. During the war in Kosovo, Lekaj lived in Switzerland for five years. Since 2007 he has provided information to other returnees about opportunities on Kosovo’s labour market – as well as on training courses and work placements. ‘Sadly, their level of training is often inadequate,’ says Lekaj. But many of the returning men and women have a major advantage: an additional language. ‘There are currently excellent opportunities on the labour market for German-speaking returnees,’ he says in German. Call centres have specifically relocated to Kosovo because many inhabitants speak several languages. There are no figures as yet showing how many

of those seeking counselling from Ura have actually found work there.

The IT sector in Kosovo is also expanding. Blerina Berisha works for a start-up in Priština. The 22-year-old computer expert sits in a bright, modern office with a small kitchen and a view out over the city. A poster on the wall exhorts, ‘Get shit done’. This is where the staff of eight, all in their twenties, spend their day programming apps. ‘Kosovo is a popular destination for outsourcing app development,’ says Berisha. The app they are currently working on is for the Austrian Automobile, Motorcycle and Touring Club (ÖAMTC). Berisha is thinking about applying for postgraduate studies in Germany. She has plans. ‘There’s an app I would love to create myself, but it’s still in the early stages.’ She has already found out about requirements for studying in Germany at the German Information Point for Migration, Vocational Training and Careers Advice (DIMAK) in Priština.

The information point provides clarity on legal ways to move to Germany, as well as warning about the risks of illegal entry. At the same time, it offers information about employment and training opportunities in Kosovo. So the service is also open to returnees. It is a counselling service provided by the Centre for International Migration and Development (CIM), a joint initiative of GIZ and the German Federal Employment Agency’s International Placement Services. The information point was created on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ).

### Rural isolation meets cutting-edge digital technology

Blerina Berisha’s boss, Bujar Muliqi, has been running the Priština office of OpenResearch, the Austrian app developer, for two-and-a-half years. He is optimistic as far as his country’s IT sector is concerned. ‘Kosovo will never be Silicon Valley, but it has potential,’ he says. One of his staff members has already left the company to set up his own business.

Potential in Priština: young computer experts like 22-year-old Blerina Berisha usually have no trouble finding a job in one of the many start-ups in Kosovo’s capital.



**Top left:** Paradise for hikers: the mountains on the border of Kosovo, Montenegro and Albania. **Top right:** Providing advice at the return counselling centre. Experts like Korab Lekaj provide assistance with reintegration in Kosovo.

**Bottom left:** Mustafë Nikçi is an enthusiastic host. **Bottom right:** Hikers can spend a comfortable night at his guesthouse Ariu. More online at: [www.kosovaturism.com](http://www.kosovaturism.com).

Although call centres and the IT industry offer new opportunities in Priština, most of the 1.8 million people in Kosovo live some distance from the capital. Two-and-a-half hours' drive from Priština is the remote village of Reka e Allagës. After heading west along the main trunk road, the route becomes narrower and snakes round steep cliffs before turning off along a bumpy forest track. The children of Mustafë and Fetije Nikçi stay with their grandparents in the valley, while their parents remain on their farm up in the mountains, part of a nature reserve that borders Montenegro and Albania.

'There's no internet here or any of the other things young people need,' says Mustafë Nikçi. He and his wife live in a large wooden house surrounded by forest and meadows overlooking snow-capped mountains. The setting is reminiscent of the Swiss Alps – and Mustafë Nikçi knows what they look like. The 54-year-old, his weather-beaten face hidden beneath a traditional felt hat, worked for a while in forest management in Switzerland during the 1990s.

From his terrace he gazes into the distance, as a strong wind rustles through the trees. 'Everything was destroyed here

after the war.' At one time there were 100 houses. Many are now no more than ruins, and only 30 families still live in the village. Nikçi rebuilt the burned-out shell of the family house, and added a guesthouse, which he rents out to hikers. With freshly laundered duvets on the bunk beds and warmly coloured rugs covering the wooden floor, the place is simple but welcoming. Up here in the mountains, Nikçi and his wife have developed a mini paradise for walkers.

## Hiking tourism in the Peaks of the Balkans

GIZ has been waymarking routes and creating maps in this three-border region since 2010 – 192 kilometres of hiking trails are now in use. Since then the Peaks of the Balkans trail has been drawing tourists and hiking guides from Germany and elsewhere to the Nikçi's guesthouse. On behalf of the German Federal Ministry for Economic Cooperation and Development, GIZ has been helping the family business to tailor and expand its services to hikers – so that younger people living in the mountain region might also have prospects of a better future.

Over 700 tourists stayed here in 2016, says Mustafë Nikçi. He and his wife often offer lunches for guests staying elsewhere in the village. Paprika soup with roulades, homemade yoghurt, fresh bread and hand-made cheese, as well as traditional flia, a labour-intensive pie of pancakes and cream cheese – the spread covers every square inch of tablecloth. And, of course, no meal would be complete without home-distilled raki.

Throughout the summer months the farm is visited mainly by Germans. Accommodation with full board costs EUR 25. Nikçi's children take care of all the reservations made online. Even they can't do entirely without IT.

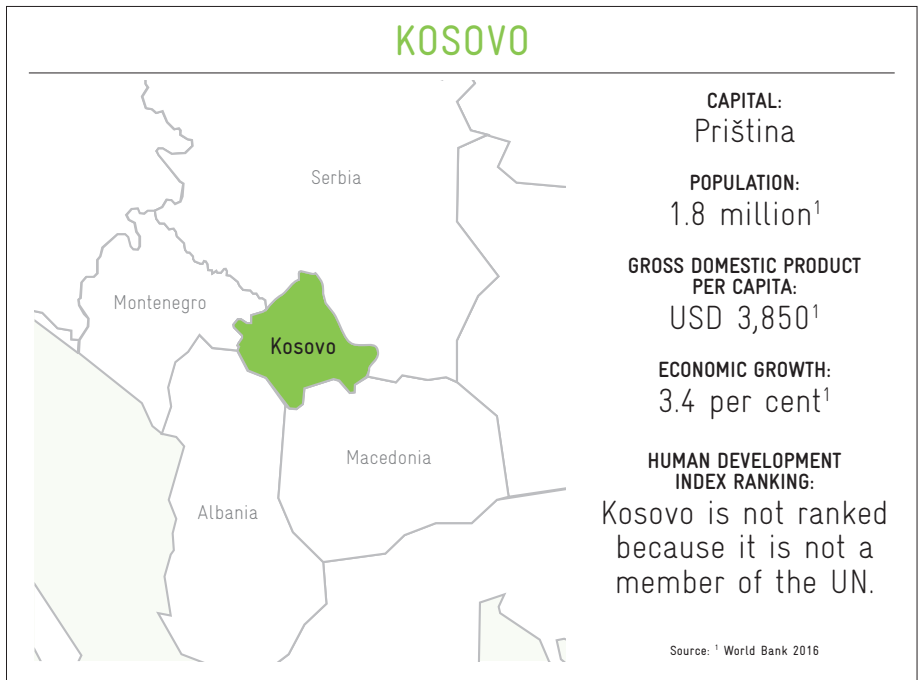
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## NEW PROSPECTS

### PROJECT:

URA REINTEGRATION PROJECT

### COMMISSIONED BY:

GERMAN FEDERAL OFFICE FOR MIGRATION AND REFUGEES

### LEAD EXECUTING AGENCY:

MINISTRY OF INTERNAL AFFAIRS OF THE REPUBLIC OF KOSOVO

### TERM:

ONGOING SINCE 2016

Staff of the Ura – The Bridge project supported no fewer than 5,435 returnees in 2016 (and 1,323 in the first half of 2017). In addition to social counselling, the centre provides assistance with job placement and psychological guidance. In some cases, returnees can also be given financial support. The aim of the project is to create prospects for people in their former homeland. The counselling services, which have been available since 2009, are open to everyone. Demand for counselling has risen enormously as a result of the surge in returnees in 2015 and 2016 – in 2015 over 33,000 Kosovans applied for asylum in Germany. In 2016 the number was just under 5,000. Since the acceptance rate is very low, most are forced to return home. The project reflects the approach of the German Government to steer migration at inter-ministerial level and establish close ties with development cooperation.

[www.giz.de/en/worldwide/298.html](http://www.giz.de/en/worldwide/298.html)

# EDITOR'S PICKS



## IN MOVEMENT

ART Performance as a moving, living work of art is a major element of contemporary art. Art historian RoseLee Goldberg says, 'Live performances move people and change their attitudes.' Goldberg set up the biennial Performa – which showcases exclusively live performances – in New York City in 2004. One of the focuses for Performa 2017 is artistic dialogue between Africa and the West. Performers include South Africa's Zanele Muholi. The photo depicts her self-portrait, 'Sebenzile, Parktown, 2016'.

New York City, 1 to 19 November 2017  
[www.performa-arts.org](http://www.performa-arts.org)

## IN THE OPEN AIR

MUSIC Clockenflap in Hong Kong is one of the leading music events in the region. The festival was launched in 2008 and, in 2016, attracted some 70,000 local and international visitors to Hong Kong harbour to enjoy open-air performances by internationally known artists. The exciting line-up for 2017 includes the British band Massive Attack and Chinese rappers Higher Brothers. Grammy Award winners Tinariwen (photo), from the Sahel region, will also be performing. Their music is a fusion of the Tuareg tradition with other musical forms, including jazz and rock.

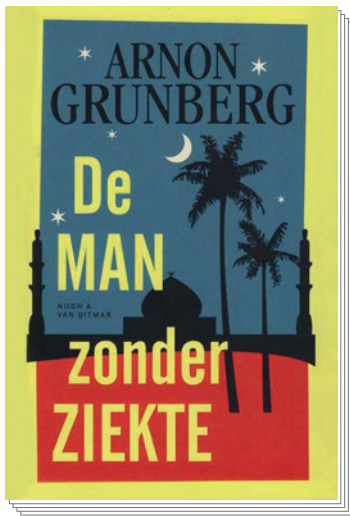


Hong Kong, 17 to 19 November 2017  
[www.clockenflap.com](http://www.clockenflap.com)



# RECOMMENDED READS

Sabine Tonscheidt is Director of Corporate Communications at GIZ and recommends Arnon Grunberg. Author Ilja Trojanow is a member of the jury for Litprom's list of the best new novels from Africa, Asia and Latin America. He recommends Cixin Liu.



## DE MAN ZONDER ZIEKTE (THE MAN WHO WAS NEVER ILL)

**NOVEL** How far can a man sink after a massive attack on his dignity? A long way, it seems. Samarendra, a Swiss architect of Indian origin, is in Baghdad to build an opera house. He falls into the hands of abductors and is tortured. But no sooner has he been released than he sets off again to oversee the next unconventional project in yet another cultural environment. Is he idealistic or just naïve? Whichever, he once again finds himself in the wrong place at the wrong time. Adopting the format of a political crime thriller, the author skilfully illustrates how the broken protagonist capitulates rather than taking action. This is a disturbing and thought-provoking novel.

*Sabine Tonscheidt*

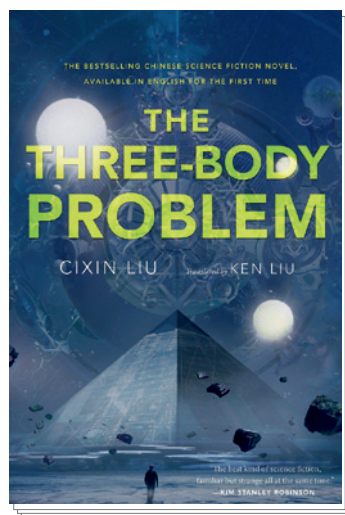
Arnon Grunberg, Netherlands  
Published in Dutch and German (translated by Rainer Kersten), Nijgh & Van Ditmar, 202 pages/Kiepenheuer und Witsch, 240 pages

## THE THREE-BODY PROBLEM

**NOVEL** This sci-fi novel combines an exuberant story-telling ability with some dazzling intellectual acrobatics. It opens during China's Cultural Revolution, but the plot soon cuts adrift from historical reality, old certainties crumble, and mystery gains the upper hand. It lures you in and then hooks you like a fiendish computer game.

*Ilja Trojanow*

Cixin Liu, China  
Translated by Ken Liu  
Head of Zeus, 416 pages



## GIZ PUBLICATIONS



### FUTURE ENERGY SCENARIOS FOR AFRICAN CITIES

Available in English,  
Silvia Escudero, Roger  
Savage, Vassiliki Kravva and Edward Steeds

Experts predict that by 2050, towns and cities in Africa will be home to 1.26 billion people, up from 400 million in 2010. This study illustrates the impact of such population growth on energy consumption and harmful emissions. It is an important contribution to the debate on future energy policy.



### THE ROLE OF SOCIAL SECURITY IN FOOD SECURITY

Available in German,  
Barbara Rohregger

As well as healthy food, people need access to medical services, clean water and education. They also need employment to give them an appropriate income and enable them to provide for their family. This publication offers practical examples of these issues and presents the international debate.



### TRANSLATING VISION INTO REALITY: HOW CAN WE MAKE EQUAL OPPORTUNITIES AND INCLUSION WORK?

Available in German

Education for all, regardless of origin, wealth or disability, can boost social cohesion and prosperity. This publication explains this development policy goal and provides practical tips on such issues as barrier-free schools and promoting early years education.

GIZ publications can be downloaded or ordered free of charge from [www.giz.de/publications](http://www.giz.de/publications).



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From: Bettina de Campos  
To: all akzente readers  
53%

### Greetings from an administrative expert

Today at 12:08

Hello, everyone.

Today, I started my day with a glass of freshly squeezed juice. I do that every day, in fact: Yaoundé has superb avocados, pineapples and papayas, to mention just three local fruits. The Cameroonian capital is close to the equator, so the vegetation is lush and green. I've been working here in the GIZ Regional Office since October 2016. Our team of 42 is responsible for Cameroon, the Central African Republic, Chad, and Gabon. I'm the Finance and Administration Manager, and my team and I look after things such as procurement of goods and services for projects and contracts and salaries for our national personnel. I'm also responsible for ensuring compliance with rules and budgets in all areas.

I've worked for GIZ since 2001. My doctorate is in African studies, and with six years' experience of development cooperation under my belt, I already knew West Africa well. What I didn't know much about was finance and administration. However, I was lucky enough to start in a relatively small office in Niger, where I was able to learn from scratch. And I've developed a lot of skills through in-house training. I see the training opportunities as one of GIZ's major strengths. After Niger, I worked in India and then in Senegal, doing the job I do now. What I like most about my job is the variety, and leading and developing my team.

I took the job in Cameroon because my husband was offered a job here at around the same time. It's worked out really well for us, as our children are now 25 and 27 and have left home. I didn't find it difficult to make new contacts in Yaoundé: I'm one of nature's communicators. I also love yoga, and I've found plenty of yoga groups here in Cameroon. They bring me into contact with lots of very different people from areas outside my working environment.

Best wishes from Yaoundé,  
Bettina de Campos

GIZ is always looking for experts for its projects. Interested? Why not visit our 'Jobs and careers' page: [www.giz.de/careers](http://www.giz.de/careers).



# SUSTAINABILITY

A look back at a project and its results

PROJECT:  
INTENSIFYING FOOD  
PRODUCTION IN RWANDA

COMMISSIONED BY:  
GERMAN FEDERAL MINISTRY FOR  
ECONOMIC COOPERATION AND DEVELOPMENT

TERM:  
1985 TO 1994

**THEN:** Rwanda – the ‘land of a thousand hills’ – is very densely populated. The country faces food shortages because 90 per cent of farmers have only very small plots of land (less than 1 hectare) and farm on a subsistence basis. They grow mostly potatoes, maize, sweet potatoes, beans and peas, and also earn low incomes on tea plantations. The slopes on which their fields are sited are actually too steep for agriculture and are damaged by erosion. Soil fertility is declining.

**NOW:** GIZ developed the concept of ‘self-sustaining agriculture’. Farmers learn how to terrace the slopes to prevent rain washing the soil away. Using hand tools, they level the ground to allow rainwater to penetrate, and plant grasses, bushes and trees grown in nurseries on the embankments. The roots stabilise the terraces, while the plants themselves are used as fodder, fertiliser and construction material. The project oversaw the terracing of a minimum of 200 hectares in each of the then 11 districts in Rwanda – an area equivalent to around 100 football pitches in each district. The Rwandan genocide brought the project to an end in 1994. The then national coordinator had studied for his PhD in Germany and later became Rwanda’s Minister of Agriculture. In this role, he continued terracing under a government financing programme. Terrace agriculture is currently feeding several million people.

[www.giz.de/rwanda](http://www.giz.de/rwanda)

## AKZENTE

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akzente has received several awards for its high-quality journalism and design. In 2017, it won the FOX Award in Gold and the FOX Visual Award in Silver.



## PREVIEW

akzente issue 1/18

**DIGITALISATION** Increasing technical connectivity impacts every area of life: work, leisure, communication, health. It makes many things simpler and generates new opportunities in developing countries. But digitalisation also throws up a number of questions: how do we go about

protecting personal data? Can we safeguard digital participation at a time when many people do not even have access to electricity? And how do we promote digital skills on a global scale? Answers to these and other questions will be provided in akzente 1/18.





Tackling challenges with energy: renewables are experiencing a major boom, but there's still much to do in the global energy transition.

[akzente.giz.de/en](https://akzente.giz.de/en)

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