

A large, diverse group of young people, mostly teenagers and young adults, are gathered around a giant panda mascot. They are all smiling and clapping, creating a joyful and celebratory atmosphere. The background shows a building with ornate, dark metalwork and stone arches. The panda mascot is white with black ears, eye patches, and limbs, and is standing upright, waving with its right paw.

# BeChange!

How young people are transforming society



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# Preface



*Bettina Münch-Epple*  
*Head of Education*

Everyone is talking about change. To live within the limitations of our planet, we need to change our society, our economy, and even ourselves. When it comes to public debate on change, the focus is often on young people. The weight of all our hopes and expectations rests on their shoulders. After all, it is young people who will have to live in this ‘uncertain’ future, a future we cannot yet predict. But what qualities will these young people need to have in order to bring about change, both in themselves and in their social environment? Questions like these prompted us to collate our experiences of young people’s participation in change processes, and then share these with interested members of the public in the form of a reference guide.



*Ivonne Drößler*  
*Education Consultant*

We in WWF Germany’s education team are quite convinced that sound, practical and holistic forms of learning can motivate young people to get involved in climate protection, the conservation of biodiversity and the promotion of sustainable lifestyles. We firmly believe that young people integrate their experiences into their everyday lives, convincing others of the need for change and creating a mindset of sustainability that will last a lifetime.

Working with partners in the science industry, as well as STEM networks and associations, we have developed and tested a number of different approaches over the past 10 years. Our experiences form the central focus of this guide. In the hope of inspiring others with stories of positive action, we report on WWF activities and on the experience and motivation that young people have gained from WWF’s educational programmes.



*Jennifer Maria Krah*  
*Education Consultant*

In 2015, the United Nations added Education on Sustainable Development (ESD) as one of the goals of its 2030 Agenda for Sustainable Development. People must acquire the necessary knowledge and skills – skills such as future-oriented, interdisciplinary thinking, autonomous action and social participation – that are needed to ‘understand the effects of their own actions on the world and make responsible decisions’.<sup>1</sup>

Young people's participation in developing a sustainable society, whether in relation to climate protection, agricultural change or the phasing out of fossil fuels, has rightly become a central focus of public attention in recent years. Important studies have examined the perspectives of young people, and found that the sustainability goals and individual environmental action are extremely important to them. According to the 17th Shell Youth Study, young people show increasing willingness to act in an environmentally responsible way.<sup>2</sup> This willingness is shared by two in every three young people who took part in the study in 2015. This means that the proportion of environmentally responsible young people is increasing steadily. Greenpeace's *Nachhaltigkeitsbarometer* study (Sustainability Barometer), last published in 2015, found that a clear majority of young people supported principles such as environmental protection, social issues and future-oriented business activities.<sup>3</sup> When it comes to issues such as the switch to renewable energy, it is young people, rather than older people, who are calling for more systematic reform.<sup>4</sup> A representative national poll carried out on behalf of the German Federal Environmental Agency in 2016 in relation to environmental awareness in Germany showed that current efforts are still insufficient and not based on social consensus.<sup>5</sup>

The key elements needed to bring about or enforce change have long been integrated into the educational work that WWF engages in with young people. We make it possible for young people to develop the skills required for a sustainable lifestyle and then test out these skills in their own social environment. We strive to reinforce their self-efficacy and help them to share ideas and network with like-minded individuals. Step by step, and in collaboration with other key players, we are building an active young generation for whom sustainable development is a matter of course.

We would like to thank the German Federal Environmental Foundation for their support in producing this guide as part of the 2°Changemaker project. We hope that it will inspire others to get involved, offer their support and, ultimately, emulate these young people.





Showing the way forward:

## How the 2°Campus Schülerakademie (Student Academy) has shaped our lives

*In 2012, Anja Popp and Simon Lange took part in WWF Germany's first Student Academy, 2°Campus. Here they share their experiences and explain what motivated them.*

Anja Popp (22)



I came across the Student Academy on the *WWF Jugend* (WWF Youth) website. I had always been interested in animals and the environment, and I wanted to finally get involved myself. When I saw the ad for the 2°Campus, I didn't hesitate for long and applied straight away. And I'm not exaggerating when I say that this academy has changed my life. For the first time, I became aware of the enormous consequences that climate change is going to have. The images we saw of melting glaciers and flooded areas in Bangladesh were overwhelming.

Those weeks at the Student Academy were very intense. We learned so many new things, met so many fascinating people, and went on so many interesting trips; from a presentation by climate researcher Mojib Latif, to visits to the Potsdam Institute for Climate Impact Research and the German Meteorological Office, to a tour of the ancient, undisturbed forests on the island of Vilm. I saw a whole new world opening up before me.

I chose a working group focused on nutrition, and with four other young women I researched changes in land use. As we were working together with the Institute for Agricultural and Horticultural Sciences at the Humboldt University in Berlin, I also became familiar with study programmes and research areas that I knew absolutely nothing about before.

And we had no shortage of fun either. For example, we presented the results of our research in the form of films. Getting to know other young people who were interested in the same issues as myself was something I found especially rewarding, and gave me the inspiration I needed to go on and make my own changes. Even today, I count some of the people I met at the Student Academy among my closest friends.

Choosing what to study wasn't easy. All I knew was that I wanted to do something 'meaningful', something that would contribute to a sustainable future. In the end, I decided to make my contribution to the future of our planet through words rather than numbers by enrolling to study law in Heidelberg in 2014. I was actively involved in environmental protection issues at university as well. Within the various third-level groups, we campaigned to make university and student life in Baden-Württemberg 'greener', more sustainable, and more socially equitable. For example, we campaigned for the introduction of a deposit system for cups in the student cafeterias (as a replacement for disposable coffee cups). We also pushed for the elimination of fresh fibre paper in the institutes and organized film showings and discussion groups.

On a personal level, I changed my diet from vegetarian to vegan, and I'm still working hard to ensure that what I consume is as environmentally sustainable as possible. I also intend to remain car-free.

## Simon Lange (21)



Autumn 2017: The 2°Campus is celebrating its sixth anniversary, and I'm recording a video message from the other side of the world. It's actually thanks to the 2°Campus network that I'm joining in the celebrations from Fiji, 23,000 kilometres away. In terms of climate change, this South Pacific archipelago is one of the most deeply impacted regions on Earth. Here, the fate that lies behind the figures and graphs, behind the 2°C goal, is something I can see with my own eyes: drinking water shortages, ruined houses, and, on the beaches, the foundations of homes that were lived in just years ago.

I am here as part of the *Klimadelegation* (Climate Delegation), a group of young people who are campaigning for greater climate protection and for the voices of young people to be heard in international climate politics. We regularly take part in United Nations International Climate Change Conferences. In 2017, Fiji held the presidency of the UN Climate Change Conference in Bonn. This provided the occasion for an exchange between the young people of Fiji and Germany.

I heard about the call for applications for the Climate Delegation through WWF's 2°Campus alumni network. I had taken part in the first 2°Campus Student Academy in 2012. Although I'm now studying engineering at a technical university, I'm trying to stay politically involved. That's why I'm campaigning for climate protection.

In 2017, in an effort to enable more young people to get involved in climate politics, we organized the Conference of Youth in Bonn in collaboration with the Climate Delegation and with significant support from WWF. This conference is similar to the United Nations Climate Change Conferences. However, its aim is to give young people from all over the world the knowledge they need to take action themselves. In 2017, I also held a WWF Youth workshop on international climate policy with Kristin Reißig from WWF. All of these activities draw on the WWF's 2°Campus alumni network.

I am very grateful for the countless opportunities that participating in the WWF Student Academy has opened up for me, and my wish is that many more participants experience these opportunities in the future too. There are already many young people who are motivated to campaign for climate protection. Projects such as 2°Campus and 2°Changemaker teach these young people how to ensure that their voices are heard by the decision makers.

Fiji does not have much time. However, there is still hope that more and more young people will get involved in climate politics, whether at a local or international level. Together, we can save Fiji and stop climate change. I'm firmly convinced of that.

# WWF's contribution to Education for Sustainable Development: Learning through experience

*WWF is actively involved in helping people to preserve the natural environment. It provides information on topics such as 'climate protection' and 'preserving biodiversity'; and teaches skills that can lead to the development and testing of suitable new solutions. WWF's education strategy and related objectives are presented below.*

Half of all young people aged between 14 and 24 are involved in voluntary work<sup>6</sup>. One of the organizations they volunteer with is WWF Germany, where their work focuses on the preservation of nature and the environment. Working for environmental organizations and initiatives that are continually looking for solutions while preserving the natural environment and the Earth's biodiversity now complements the traditional voluntary work done locally, for example in community organizations, fire services or sports clubs, for the purposes of sustainable development.



»We support a  
love of nature.«

Young people are also stakeholders in civil society. This was the message conveyed by the special analysis commissioned by the Bertelsmann Stiftung (Bertelsmann Foundation) using the data obtained from the third survey on volunteering initiated by the Federal Ministry for Family Affairs, Senior Citizens, Women and Youth. According to the study, this is a very significant finding: volunteering provides young people with important skills that they would not acquire in their everyday lives. Voluntary work requires participants to deal with other people and with authorities; it calls for willingness, creativity and resilience; it fosters organizational and research skills; it teaches expertise and autonomous learning; and it links these diverse skills together.<sup>7</sup>

## Education for Sustainable Development (ESD)

The German National Action Plan on ESD links this concept with an ability to think and act sustainably. The preface to the plan states: 'We need creative ideas, visions and the courage to shape them (...).' The National Action Plan thus links skills like future-oriented thinking, interdisciplinary knowledge, independent action and participation to social decision-making processes.

Out-of-school learning environments are very important in this regard. Examples of such environments are WWF's educational projects, as well as voluntary activities conducted by WWF Youth or more general activities. Out-of-school learning environments are faced with specific issues that in reality go beyond traditional institutional learning. Compared to learning in school, during training or at work, non-formal or informal learning is characterised by greater levels of freedom, which allow those involved to experiment, gain experience and develop skills.



## Gestaltungskompetenz as a learning objective

For many years now, the notion of *Gestaltungskompetenz* has been a key element in the discussion around Education for Sustainable Development. The concept is closely linked to the work of Gerhard de Haan and the first national programme on Education for Sustainable Development that was launched in schools in Germany at the turn of the millennium. *Gestaltungskompetenz* can be defined as the ability to apply knowledge about sustainable development and to identify problems and trends that run contrary to sustainable development.<sup>9</sup>




»We reinforce values  
for the common good.«

Education for Sustainable Development (ESD) enables people 'to actively participate in the analysis and evaluation of non-sustainable development processes, to be guided by sustainability criteria in their own lives and to initiate sustainable development processes with others at a local and global level.'<sup>10</sup> The building blocks of *Gestaltungskompetenz* include, for example, the ability to be able to pro-actively analyze and assess trends, and acquire interdisciplinary knowledge and act accordingly. Equally important is the ability to recognize risks, threats and uncertainties and to take into consideration trade-offs when weighing up action strategies.

## Challenges facing the educational work done by WWF Germany

In 2015, the United Nations agreed on 17 Sustainable Development Goals (SDGs). The purpose of these goals is to ensure sustainable development at an economic, social and environmental level. Target 4.7 states: By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development. WWF Germany's educational work has an established organizational framework to support committed young people in this respect.

A closer look at the educational work done by WWF reveals the specific features of the work, which are the result of the UN's sustainability goals and our own understanding of what is required: WWF Germany's educational work focuses on the issues of 'climate protection', 'loss of biodiversity' and, in particular, 'sustainability'. Although the term 'sustainable development' has been established in many policy areas since the United Nations Conference on Environment and Development in Rio de Janeiro in 1992, the underlying issue – more than 25 years later – is still not sufficiently anchored in the consciousness of the population at large. In many cases, the threatening messages – confirmed by the relevant scientific authorities – regarding the foreseeable consequences of climate change and the huge loss of biodiversity throughout the world still seem to be too abstract or are blatantly questioned and doubted. WWF Germany sees its educational role as building a bridge between the existing knowledge and the necessary action. Young people play an important role in this work.



»We create 'spaces  
of experience' where  
self-worth and  
self-efficacy can grow.«

## WWF explores new territory:

# Focus on pioneers of change

*Many young people are aware that the pressing environmental issues can only be resolved if they themselves take the initiative and encourage others to get involved. They have a diverse range of motives and reasons for participating in WWF's educational projects. Based on the objectives of WWF's educational work, we would like to introduce you to some typical participants in our projects.*

Young, active people contribute to change in a number of ways. For example, when they raise awareness of the current pressing issues affecting our society in their schools, training centres and families; when they get involved and set an example in their day-to-day lives of how sustainable development can be achieved. WWF Germany's educational programmes empower young people to promote social innovations, create new incentives, initiate momentum for sustainable development and make an active contribution to change.

As part of its educational work, WWF Germany wants to work with young people to explore new ways of doing things. To do this, WWF launches projects that do more than just share knowledge. Instead, these projects aim to motivate young people to incorporate climate protection, the protection of biodiversity and sustainable development into their own lives, irrespective of whatever personal or professional paths they may follow. They are encouraged to develop their own projects and to actively advocate for the protection of the environment and the conservation of nature. Ultimately, it is also WWF's aim to build peer networks and attract opinion leaders to reinforce community spirit, promote the exchange of ideas among young people and increase their sphere of influence.

### Pioneers of change

The participants in WWF's educational projects are as diverse as the challenges facing sustainable development. Experience from individual projects shows that young people want to engage in very different ways. At the same time, we can see that they have certain things in common. In the following section, we describe four fictitious but typical young people to outline the concept of our educational projects. These profiles incorporate the results of evaluations of our own projects and of social science research on the views, values and interests of young people. On the following pages, we present four such characters whom we encounter in our work.







## TYPE A

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### Nature-loving researcher

» I grew up  
with nature. «

My parents love nature too. The whole family regularly watched animal programmes on TV together. I then joined *Naturschutzjugend* (Youth Association for the Protection of Nature). I wanted to learn more about wildlife conservation and also quite simply to be involved locally with a youth group.

I was interested in biology from a young age. Together with some friends, I took part in the *Jugend forscht* competition (a German youth science competition that seeks to inspire young people to become involved in the STEM areas). From the very beginning, I enjoyed research work.

I like to delve into a subject until I have found a solution.

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## TYPE B

### Environmentally aware activist

» I grew up in  
an environmentally  
aware household. «

We separate our rubbish correctly, we save electricity, we try to eat organic and locally produced food.

For years I have been annoyed that my school isn't equally environmentally conscious. I enjoy searching for constructive solutions and approaching people or even companies to find them. There are certainly a lot of different opportunities in this area.

I could definitely make a difference with some research, persuasion and persistence.



## TYPE C

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### Civil society activist

» I always wanted  
to study law. «

That surprises most people, as they know me as someone who is interested in social and environmental projects. I'm involved in voluntary work; I think it's important that young people engage with social issues.

I don't see any contradiction between law and climate protection. My big dream one day is to work for an international organization or to get involved in politics and in this way to advocate for the conservation of nature and the protection of the environment.

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TYPE D

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Intrepid motivator

» I don't really know  
yet what I want to do  
when I'm older. «

There are lots of things that I enjoy: I like school and I like spending lots of time with my friends. Learning is easy for me.

I enjoy languages just as much as I enjoy mathematics and science.

But I would also like to make a difference – a positive one.

I am good at motivating other people and generating enthusiasm in them for various issues.

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Change requires action:

## WWF promotes the 2°Changemaker programme when implementing its own projects

*In general, Changemakers are people or organizations who work to find innovative solutions. Focused on the major social and environmental problems, these people work on pioneering ideas in their community and creating momentum for sustainable development.*

WWF's 2°Changemaker project was launched in 2016. Its objective is to encourage young people to develop ideas for their own projects on the conservation of nature and protection of the environment, and to actually implement them. In doing so, they are actively supported by WWF mentors and by other experts working in science and in business or industry. The main purpose of the projects, however, is to identify innovative solutions for sustainable development within their own areas of interest; independently implement these solutions; and, consequently, attract partners to implement the project ideas.

» It is an incredible gift to be able to spend time with people who really want to change something. The ideas conceived and developed in WWF Youth give us reason to hope for our future.

Marcel Gluschak, WWF Youth. Community Manager

To date, 22 WWF 2°Changemaker projects have been initiated. Their feasibility has been verified and, to a large extent, they have been implemented or progress has been made in their implementation. These projects have also resulted in the publication of a range of documents through WWF's public relations work.

WWF's 2°Changemaker project is aimed at young people aged between 17 and 25. Projects typically run for six months. However, even after the first phase of the project has been completed, many Changemakers continue to work on solutions that they have come up with themselves that are also suitable for implementation on a nationwide basis. They may be implemented as good examples by other stakeholders in their existing form or in a similar form.

### Characteristics of the 2°Changemaker project

So far, the issues covered by the 2°Changemaker projects have been closely linked to issues addressed by WWF's 2°Campus Student Academy. The Student Academy has frequently provided the inspiration for the development of initial ideas for sustainability projects, which the academy graduates wish to concretely implement in their own community. In line with the principle of the Changemaker concept, the project ideas are often based on previous personal experience, interests and hobbies, but also on contacts the students have made in school, through their studies or in their leisure time.

»We have an exciting vision and, most importantly, we are really enjoying implementing it - giving up would be unthinkable.«

The result is very individual learning experiences that make the young people pioneers of change.

## A wealth of prior experience and knowledge

The participants bring with them a diverse mix of experiences and a range of knowledge relating to 'sustainable development'. Many of them realize the necessity of social transformation. They know, mainly as a result of what they have learned at the WWF Student Academy, the changes that need to be initiated in Germany to limit global warming to 2°C. However, additional experience, for example in project management and in dealing with change processes, is needed to participate in a Changemaker project. These skills can be obtained in five-day seminars organized by WWF. At the seminars, the scientific basis for climate change is summarized. Mainly, however, they provide an opportunity for participants to develop project ideas under the guidance of WWF experts.

»It was particularly important to us to simply have space and freedom and not to be under pressure to do something in a particular way.«

## Guidance for Changemakers

The diversity of experience and skills is, on the one hand, one of the challenges of 2°Change-maker projects; on the other hand, this diversity is also one of their distinguishing features. The projects tie in directly with the real-world experience of the young people and suit their personal aptitudes and skills. The result is sustainability projects that are innovative in terms of content or approach and are pursued with the necessary motivation.

The participants' project ideas cannot always be put into practice over the six months that the project is scheduled to run. A considerable amount of support must often be provided by WWF and the experts from research institutions or companies, who provide concrete assistance with the details.

## Recognition for the participants

The individual projects and solutions are extremely authentic. This credibility means that the young Changemakers are perceived by their community as innovative and exemplary, as Changemakers in fact. Supported by WWF, they make contacts and learn how to maintain these contacts through continuous cooperation. They therefore impress both their peer groups and the experts.

» It was profoundly inspiring to experience the creativity and autonomy of the Changemakers when actually implementing their project ideas. All in all, it's a fantastic concept! «  
Kerstin Weber, WWF Project Manager, Sustainable Nutrition

At the same time, they learn how to research, analyze and, for the purposes of climate protection, translate project-related knowledge into innovations. Working closely with like-minded individuals motivates and supports them even at difficult stages of the project and above all provides them with ideas on how to overcome various organizational or logistical obstacles and cope with typical 'motivational troughs'. It seems to be precisely this mix that motivates WWF Changemakers to dedicate themselves to climate protection in the longer term.

See  [www.2-grad-changemaker.de](http://www.2-grad-changemaker.de) for personal testimonials and additional information.



## WWF 2°Changemaker programme:

### Change calls for initiative

*Change calls not only for initiative on the part of individual young Changemakers, it also needs allies, who embrace the ideas and become active themselves. For this reason, WWF Youth provides a specially designed platform where young people can share ideas and experiences, network, plan their own campaigns and upload articles and publications. In addition to the good ideas presented by the Changemakers profiled here, who represent only a selection of all our Changemakers, WWF Youth is also the right place for anyone interested in remaining active. The projects presented on the following pages are just waiting to be continued and embraced by other young people, groups or institutions. Let's get started!*

#### Eco loos

Eva (21)



Even as an agricultural biology student, Eva had never heard of an eco-friendly toilet and initially had to bring herself to use the related vocabulary. Realizing that waterless composting toilets have nothing to do with foul-smelling privies that pollute the groundwater, Eva's curiosity grew. Motivated by the Changemaker seminar, she set about researching different eco-toilet models. Then, in cooperation with a previously toilet-less community garden, she tackled the construction of such a 'clean' toilet.

With lots of support and help in the community garden, the construction worked out well, even if complications occasionally arose due to scheduling issues. Ideally, Eva would have liked to have a type of construction campaign

day. But she is nevertheless happy that the community garden is now enhanced by an almost natural 'smallest room' – and she was even able to choose the colour!

## Change sides. A win for sustainability!

### Max (19)



According to the *Deutscher Turner-Bund's* (German Gymnastics Association) website, moderate exercise causes the body to lose approximately half to a litre of fluid each hour. If the exercise is more intensive, it could even be more than three litres. The body cannot store water, so the water bottle is a vital accessory – as important as the shuttlecock is to a game of badminton.

But, as badminton players Tanja and Max realized when playing their favourite sport, thanks to what they learned from the 2°Changemaker project, the bottle is much too frequently made from plastic. And most plastic bottles are disposable; due to their CO<sub>2</sub> emissions and their consumption of energy and raw materials, they are

therefore marked as 'poor' in school report terms. WWF Germany is not the only organization warning of the consequences of plastic in our oceans. Plastic is responsible for the deaths of tens of thousands of animals every year.

### Tanja (21)

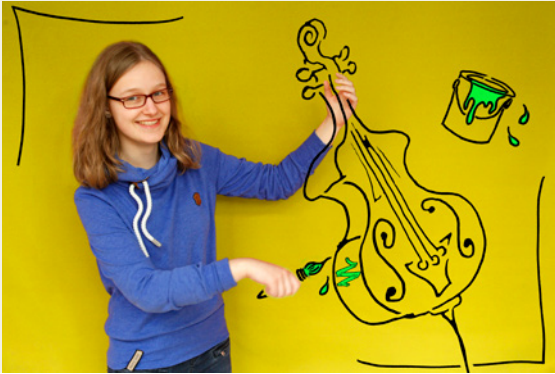


Time to change sides to become sustainable: Tanja and Max are implementing their idea and are having reusable water bottles produced for the players in their club. Each bottle will bear its owner's name and the club's logo. The project will first be implemented in their own club so that the stainless steel bottle is established as a symbol of considered, sustainable consumer behaviour. The stainless steel material will then be examined so it can be optimized. The ultimate aim is to reduce plastic consumption also outside their own club: at team competitions and other events, the high-quality stainless steel bottles also appealed to other sections of the club.

Tanja and Max believe that imitation is the sincerest form of flattery: across Germany, there are more than 90,000 sports clubs with almost 24 million members.

## Cello goes green

Lara (20)



From the time she started her Changemaker project, Lara was focused on how it could be applied in practice. Her fundamental objective was to develop an environmentally sustainable varnish for cellos and other stringed instruments – and also to convince luthiers to use it. After speaking to experts and researching the literature, she discovered that varnishes used on musical instruments are only needed in very small quantities and that they actually have a positive environmental track record. That was good to hear, but a setback for Lara's thirst for action. In searching for an alternative project, she continued to focus on her passion for music and for the material used to make her instrument, the cello: wood. In Germany, in music schools alone, an estimated 500,000 students

play instruments that are made of wood or partly made of wood. Many of these instruments are sourced by the music schools and are lent to the students for a certain period of time. When conducting her research, Lara discovered that many instruments are made of tropical wood, which in some cases is acquired through deforestation. Ebony and Pernambuco wood are particularly problematic as their stock is threatened by illegal trade and slash and burn methods.

Lara's approach to the project focused on initiatives that buy large quantities of instruments. One such initiative was the Jekits programme, a publicly funded project in the German state of North Rhine-Westphalia, which enables primary school pupils to participate in music lessons and sources instruments for the music schools. According to Lara's research, the law stipulates that the wood used in musical instruments must be sourced from sustainable forests. However, due to fragmented responsibilities in the purchasing process, it has not yet been possible to check whether this rule is being observed. She hopes that both the people who are responsible for the bulk buying of instruments and individual music students will in future pay attention to the certification and consciously use instruments that have been produced using sustainable practices.

A meeting with a network partner, the *Landesverband der Musikschulen* (regional association of music schools), in North Rhine-Westphalia has already taken place to discuss how national usage of sustainable wood for making instruments can be progressed throughout the country.



## Solar drone

### Leo (19) with Daniel (20) & Patrick (19)



Leo and his team are building a solar-operated drone. Drones are unmanned aerial vehicles; some fly autonomously, others are controlled remotely by people. Many people will be familiar with the use of drones for aerial photography, for example. Other people think of drones as equipment to be used for military purposes. However, the project that Leo, Daniel and Patrick are working on illustrates that drones can be used to protect animals and the environment. To do this, the drones need to satisfy specific requirements. WWF already uses drones in a number of areas: to record environmental data or changes, for example in areas that can be difficult to access, such as the mangrove forests in Tanzania, which are populated by crocodiles; to monitor forests and orangutans in Malaysia; and to observe coral reefs in Mozambique. More research is currently

being conducted on drones that can be operated by solar energy.

Using this drive technology, the first drones could remain in the air for more than three days. This favours a wide range of applications aimed at protecting the environment and climate. For example, drones can be used to detect and track poachers. Leo, Daniel and Patrick have been working on their solar-operated drone since 2016. They are thus among the pioneers working in this area. A distinguishing feature of their project is that they link the characteristics of their aerial vehicle closely to WWF's requirements. For example, WWF needs drones that can be easily transported to remote locations and assembled there. The drones should also be able to navigate via GPS.

It's worth mentioning that three young researchers have joined forces here, united and motivated by one collective endeavour. With approximately 500 working hours, the project is one of the most complex 2°Changemaker initiatives. It is a very demanding project that requires an ability to work as a team but also to take the initiative and be able to organize a project. It is therefore not just the technical knowledge that makes the solar-operated drone a good example of a Changemaker project.

## 2°ChangeDays

### Cosima (22)



Cosima basically wanted to organize a meeting of the WWF 2°Campus Student Academy alumni to build stronger links between former participants of the academy. In reality, she was responsible for launching the 2°ChangeDays initiative, essentially a small environmental festival for interested young people aged between 16 and 25. The festival works in cooperation with WWF Youth. This idea, was driven by her desire to inspire even more young people to engage in transformative ideas. For her, inner change goes hand in hand with change in the world.

Cosima worked with four team members to finance the event, find a suitable location and design a

programme for roughly 100 young people. Despite the support provided by WWF and its help in co-financing the festival, Cosima discovered how challenging organizing such an event can be. The ChangeDays initiative should therefore also include an opportunity to reflect on her project so that other festivals can benefit from her experience.

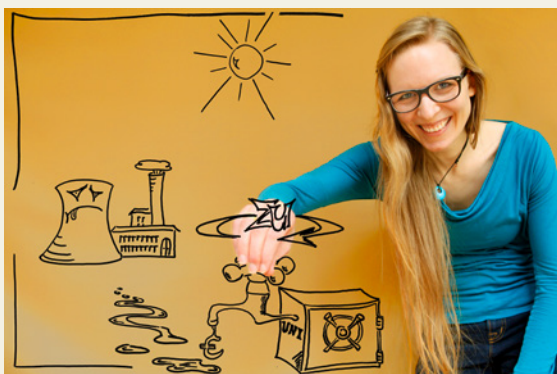
The idea for the project stemmed from Cosima's memories of her first visit to an environmental youth conference at the age of 16. She remembers being overwhelmed by the atmosphere, the people she got to know and the many new things that she learned. 'That is what sparked the change and triggered my involvement'. Cosima hopes that she can evoke the same feeling among participants at the ChangeDays festival.

Six months after the festival, Cosima has met with other network partners to discuss the future of ChangeDays. Her vision is to establish a festival for young people that accelerates change and brings people together.

See  [www.wwf-jugend.de/pages/change-days](http://www.wwf-jugend.de/pages/change-days) for further information.

## UniChange. No cash for coal

### Lisa (23)



Lisa is interested in cash flows – after all, she studied politics, business, society and economics. She therefore constantly needs to explain what 'divestment' means: it entails promoting the move away from fossil fuels by removing investment assets from companies involved in extracting fossil fuels, i.e. disinvesting. Many municipalities, churches and other institutions invest, directly or indirectly, in companies that operate in a way that is environmentally unfriendly or ethically questionable. Lisa therefore decided to start a divestment campaign at her university. Almost 900 institutions around the world are already withdrawing investments from the coal, oil and gas sectors; 16% of these are educational institutions. In the campaign at her university, Lisa used the information material provided

by the globally active Fossil Free movement. She also relied on the input of previous activists at her university.

Although Lisa's university has been unwilling up to now to provide her with the necessary financial data, she has managed to compile a significant amount of knowledge based on the information she has collected and the new networks she has created. As part of her Change-maker experience she was even able to publish a guide to divestment campaigns for interested students. She is currently working on transferring the project to other universities.

## Getting creative with plastic. Making the change to zero waste

### Eva-Maria (26)



Plastic products pose a threat to humans and the environment in many ways. In 2015, 322 million tons of plastic were produced throughout the world. Of the 78 million tons of plastic packaging used throughout the world each year, 32 percent of it ends up unchecked in the environment, for example in our seas and oceans, where millions of marine animals die every year. Between 2005 and 2015, plastic packaging waste in the EU increased by 12 percent; in Germany it increased by as much as 29 percent. Germany generates more than 37 kg of plastic packaging waste per person each year.

Eva-Maria has made it her mission to draw attention to this issue through good ideas and campaigns. Visitors to a well-known Düsseldorf

street festival were made aware of how to avoid plastic in a creative plastic-free campaign. A simple and fundamental idea that is key to practical environmental protection came into play here: if everyone gets involved, the effect is considerable.

Eva-Maria went one step further with her project: 'I wanted to show that plastic – should it make its way into the home – does not necessarily need to end up in the rubbish bin immediately but can also be upcycled.' With upcycling, waste products or (seemingly) useless materials are creatively transformed into products that are as good as new and can be re-used. Eva-Maria developed simple examples for her stand that could easily be put together at home by the 10,000 visitors to the street festival. Planters, plant pots and board games were among the suggestions.

In implementing this project, Eva-Maria relied not only on her creativity and good project planning, she also benefited from a number of very different stakeholders who supported and helped her. She now has a solid concept and the material that she needs to repeat the campaign.

This project also demonstrated that schools are very interested in addressing the issue of plastic consumption and upcycling. Eva-Maria therefore developed an upcycling campaign for schools and has already run it with 40 children and young people at a comprehensive school in Düsseldorf. A similar campaign – this time for a primary school – is at the planning stage. Eva-Maria is also designing a guide that will provide schools and other institutions with the tools and knowledge that they need to conduct campaigns independently.

Eva-Maria wants to inspire enthusiasm for this issue among as many people as possible and show them that anyone who is open to something new and can get involved creatively can help to shape a plastic-free world.

See [www.2-grad-changemaker.de](http://www.2-grad-changemaker.de) to read these and other reports on Changemaker projects. Details on a variety of exciting campaigns, programmes and additional information for young people are available on [www.wwf-jugend.de](http://www.wwf-jugend.de).



## WWF 2°Campus Student Academy:

# A place for young people to take on climate protection research

*WWF launched the 2°Campus Student Academy in 2012. Today, the academy is an integral part of the WWF educational programme, and its success has played an important role in laying the foundations for future WWF educational projects.*

The WWF 2°Campus Student Academy places the spotlight on climate change, the greatest global challenge of our time. Its syllabus content is guided by the policy goal laid down by the international community in the Paris Agreement – to limit global warming to a temperature increase of less than 1.5°C above pre-industrial levels.

The 2°Campus Student Academy was launched by WWF in 2012. If we are to stay within the 2°C limit, we must apply innovative problem-solving techniques not only to research and development and our actions as a community, but also to our actions as individuals, so that we can integrate our current knowledge of climate protection into our daily lives, and even establish new climate protection initiatives.

»Really good. The academy gives you the versatility, motivation and inspiration needed for future action.«

Every year, 20 young people between the ages of 15 and 19 take part in the WWF 2°Campus Student Academy. They are all united by a common desire to tackle the scientific and technical issues associated with climate change and climate protection, as well as a willingness to advocate for climate protection in the future. Under the guidance and instruction of the academy's mentors, these young people learn scientific techniques, hold discussions with renowned scientists on an equal footing, carry out research in the partner universities' specially chosen scientific facilities and actively work on the solutions of tomorrow.

## How the WWF 2°Campus Student Academy works

What makes the WWF 2°Campus Student Academy unique is the way WWF supports and works intensively with the participants in three blocks for a period of more than six months. During the first block, in spring, scientists from renowned research institutes such as the Potsdam Institute for Climate Impact Research and the Alfred Wegener Institute come to teach students the basics. Together with WWF's own experts, these scientists share the results of their latest research, and take the time to talk with the young people about how the future might look and what actions need to be taken. However, this first block doesn't just focus on the basics. The students are also given the chance to develop research questions of their own under the guidance of mentors from partner third-level institutes in Eberswalde, Münster and Wuppertal. There is also a strong focus on exchanging ideas with like-minded people, learning about places where climate protection measures are already being put into practice, mastering the techniques of debating and writing, spending time out in nature, and finally, making a three-month commitment to put climate protection into practice on a day-to-day basis.

During the second block, over the summer months, the participants research their own questions at the partner institutes under real scientific conditions, again with the assistance of the institutes' scientific mentors. The young researchers work on issues in four different areas: energy, transport, construction and nutrition. They collect data and evaluate it using scientific methods. They also engage with a wide range of topics – from

## How the WWF 2°Campus works

1

Scientific basis for climate change from various perspectives

- **Causes and consequences** of climate change
- **Climate protection measures** at political, economic and individual level
- **Commitment** – what can I do?

2

Working in 4 research fields: energy, transport, nutrition & living

- Researching independently
- Experimenting in **universities**
- Trying out **presentation techniques**
- Experiencing other **practical examples**

3

Public presentation of results and awarding of certificate

- **Publicly** presenting own research results
- Getting to know the WWF **alumni programme**
- Receiving final **certificate**

researching the optimization of solar cells or electric cars, to designing eco-friendly housing for more energy-efficient, inter-connected living solutions. In conjunction with their lab work, the students learn about other practical examples in which problem-solving techniques aimed at creating low-carbon economies and lifestyles are put to the test. In the second half of the summer block, they summarize and share their results with the rest of the world in a format that is both scientific and creative and involves elements of film, theatre and radio. The two-week programme is completed by experiences in nature and a variety of field trips.

The third and final block runs through the autumn and focuses on methods of disseminating the results of the students' scientific research. At a public closing ceremony, the participants have the opportunity to present their research results and the new methods they have learned, as well as to converse with experts and share their – often very personal – 'key experiences'. At the end of the WWF Student Academy, the participants reflect on their future career within the field of climate protection and consider ways in which they can get involved in climate action in the future, both in their day-to-day lives and as part of the 2°Campus alumni network.

»I had always been interested in climate protection. The Student Academy helped me to share this interest with the rest of the world.«

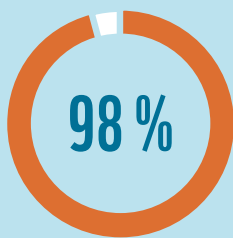
## The WWF Student Academy: Information, Motivation and a call to action

With the 2°Campus Student Academy, WWF Germany has created a diverse, highly scientific learning environment for young researchers. In terms of technical quality, the scientific mentors from the partner universities stress that participants are taught complex information equivalent to the first year level of a three-year bachelor programme. Ultimately, the academy prizes the students' motivation and commitment to the sustainability revolution even more than their intellectual engagement with issues such as climate change and climate protection.

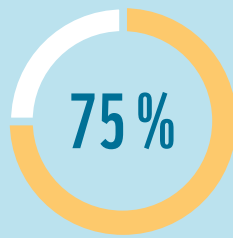
»I hope that many other young people get the wonderful opportunity to take part in 2°Campus.«

The students themselves are also very enthusiastic about the WWF 2°Campus Student Academy. In their personal accounts, they highlight more than just the scientific opportunities they were given and the technical skills they obtained. Two out of every three participants confirm that they gained the self-confidence they needed to tackle new subjects. Three out of four alumni plan to take into account what they have learned when choosing their further education options, and also intend to bring environmental awareness to every aspect of their daily lives. Today, virtually all alumni are motivating others to do more for climate protection.

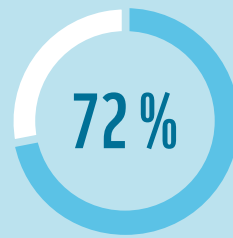
## Alumni of the 2°Campus Student Academy



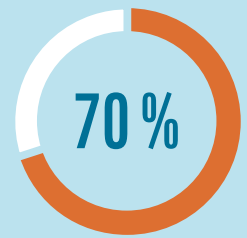
motivate others to do more for climate protection



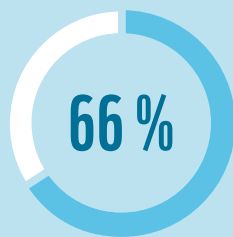
plan to incorporate what they have learned at the Student Academy into their future studies



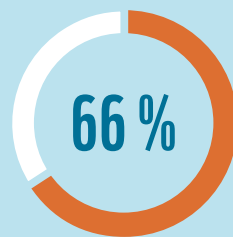
are environmentally aware in their day-to-day lives



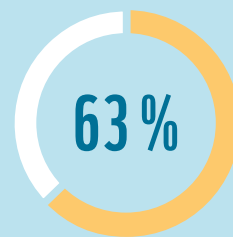
are still friends with other participants



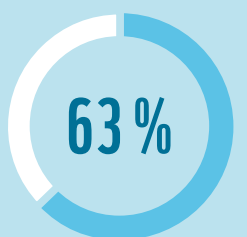
feel more confident about dealing with new issues



have performed specific climate protection activities



can competently evaluate climate-related media coverage




can assert their own position against climate change sceptics





### **‘If I don’t, then who will?’**

The participants describe the academy as a formative experience, so it’s not surprising that many WWF 2°Campus Student Academy students remain friends after they graduate. On leaving the academy, many young WWF researchers go on to become actively involved in WWF Youth or in organizing their own initiatives and activities in their role as WWF Changemakers.

See  [www.2-grad-campus.de](http://www.2-grad-campus.de) for personal testimonials and further information.

#### **WWF Germany’s sponsors and partners for the 2°Campus student academy**

- Media partners: *Schulkurier*, new energy and *Spektrum der Wissenschaft*
- STEM networks: zdi, Mint EC and *Komm, mach MINT*
- Third-level partner institutes: University of Wuppertal, University of Applied Sciences for Sustainable Development Eberswalde and the University of Münster
- Sponsors: HEINZ-GLAS, *Gewinnspareverein der Sparda-Bank Ostbayern e. V.* and the Hans Hermann Voss Foundation (Robert Bosch Foundation 2012–2017)

## Online learning with WWF:

# More opportunities through new learning methods

*Increasing numbers of people of all ages are turning to online learning. WWF therefore targets not only young people but everyone who genuinely wants to tackle climate change and its consequences. For this reason, it also develops programmes that combine online learning with traditional classroom learning.*

Digital technology, media and content are an issue for all age groups and in all areas of society. They enable us to access knowledge and information at any time, anywhere. Wikipedia has long replaced the new editions of previous lexical reference works. Furthermore, online videos, blogs and podcasts address a multitude of topical issues and supplement the range of reference books and school books available – even replacing them in some cases.

Strictly speaking, online learning refers to digital learning using standalone didactic learning material. Online courses are available throughout the world on the Internet; some are even free and available in several languages. E-learning options can be combined with classroom teaching. Experts refer to this as blended or integrated learning. WWF provides such a blended learning course on the regional consequences of climate change in adult education centres, for example.

These online-based learning environments provide learners with the opportunity to not only acquire knowledge but also engage with other learners, to learn from one another and network with each other. On the following pages, two approaches are presented that make it easier to reach a large number of participants and to address new target groups via different channels.

## WWF Germany's range of online courses

Together with the *Deutsches Klima-Konsortium* (German Climate Consortium) and the *Robert Bosch Stiftung* (Robert Bosch Foundation), WWF Germany has been offering a Massive Open Online Course (MOOC) on the subject of climate change and its consequences since 2015. Several renowned climate researchers explain the latest scientific findings and the contents of the course in short video clips. The course has already been accessed by more than 10,000 learners. It has been so successful that it is now also available in English. Anyone who wants to know how climate change can be halted, what the causes of human-made global warming are and how the climate system works, can educate themselves here online. Learning progress can be assessed by answering test questions. The learner is issued with a certificate once they successfully complete the course. This is recognized by a number of universities as proof of qualification. In addition, open badges (digital indicators of learning) are awarded for outstanding effort in an online course. The online offering provides students, schoolchildren and other young people with direct access to the latest scientific facts on climate change. Autodidacts, non-specialists and generally anyone who is interested in the subject can use the digital learning option for professional or personal development.

## Satisfied participants

WWF Germany has had the MOOC scientifically evaluated by an independent third party. The evaluation showed that the online course was met with a positive response and is equally used by men and women. The majority of users (approx. 55 percent) were in employment at the time they participated in the online course. One-third were attending school or university. The range of occupations and subjects was diverse. A total of 87 percent of participants were satisfied or very satisfied with the online range of courses. The experts' video presentations, the focus on key issues, the references and additional material were particularly popular. Learners also appreciated being able to learn at a time of their own choosing and repeat learning units as often as they wished.

The MOOC's interdisciplinary approach also won high praise. However, some deficits were also pointed out. Working people and interested individuals in particular missed the personal experience of traditional classroom teaching.

These results show how well WWF Germany, as a recognized environmental foundation with many years of experience in the area of climate protection, has succeeded in presenting its expertise in nature conservation and climate protection in digital courses. Based on its reputation, it attracts a large number of participants, creates trust in the quality of the content and thus motivates people to get involved.

## Reaching young people via YouTube

The use of digital media is often associated with the desire to reach those young people who are increasingly likely to get their information about important issues from the Internet – YouTube, for example, probably the most famous video portal – rather than from the print media, radio or television. The latest figures released by the 2017 JIM study on the media and leisure habits of 12 to 19-year-olds show that 88 percent of young people in this age group use YouTube several times a week, 63 percent even use it daily.<sup>11</sup> This platform is also favoured by those young people who previously had little or no interest in nature conservation and climate protection.

WWF Germany is therefore constantly seeking new pathways and partnerships to promote dialogue between science and young target groups via YouTube. To this end, WWF is cooperating in a new project with the multi-award-winning media initiative MESH Collective/UFA LAB. This initiative puts the science community and relevant organizations in touch with YouTube influencers. YouTube influencers are people who are famous for posting videos on YouTube. They are very well known, particularly among young people, and their videos are often subscribed to by more than 100,000, and in some cases even 400,000, followers. YouTubers understand how to prepare and then communicate complex content to the relevant target group. In short, they speak young people's language.

In this new WWF project, nine video clips will be created by successful YouTubers and published on their channels between 2018 and 2019. The connecting link for the clips is Earth Overshoot Day, the day each year by which the global population has used more natural resources than nature can renew in that entire year. This day falls on an earlier date each year; in 2018, for example, it fell on 1 August. By talking to young people, scientists and YouTubers, new narratives are developed for pressing issues, such as plastic in the seas and oceans or the decline in biodiversity as a result of climate change.

### WWF Germany's digital learning programme

- MOOC on climate change and its consequences: [www.wwf.de/mooc](http://www.wwf.de/mooc)
- Short version of the online course in English:  
<https://open.sap.com/courses/wwf1-tl>
- VHS klimafit <https://www.wwf.de/aktiv-werden/bildungsarbeit-lehrerservice/klima/vhs-kurs-klimafit/>

### WWF Germany's sponsors and partners in digital education

- Robert Bosch Stiftung
- Klaus Tschira Stiftung
- Deutsches Klima-Konsortium
- German Federal Foreign Office
- Helmholtz-Verbund REKLIM!



## Criteria that determine successful change:

# How to Become Change

*What motivates young people to get involved? How do educational formats need to be designed so that they actively support in social transformation? Feedback from the WWF youth programmes has shown that the following aspects are a contributory factor in the success of educational work with young people.*

- ▶ **By combining the three approaches of informing, motivating and calling to action**, the participants are met at different levels.
  - **Informing** means that the participants are in a position to understand complex contexts and categorize facts.
  - **Motivating** means directing the focus to the interests and autonomy of the participants. This is based on WWF's aim, which is to work with young people, involve them and encourage them.
  - **Calling to action** means that non-formal and informal 'spaces of experience' are created for participants and everyone is asked to make use of their gifts and talents and are inspired to take action.
- ▶ The educational programmes, which run over several months, and the **constant support** provided by WWF create engagement and commitment over an extended period. This support is provided over the course of the Changemaker programme in the form of regular conference calls and intensive project supervision. WWF experts also support the young people as part of a sponsorship system. In the Student Academy, participants have access to WWF's scientific mentors as well as alumni and tutors for their research and communication work.
- ▶ The **time frame** of the programmes of around six months and the presentation of results during the closing events increase the young people's motivation to achieve excellent research and project results.
- ▶ **The young people feel that they are taken seriously.** They work as equals with the scientists and partners from business or industry, which also helps to increase motivation and enjoyment.

► **When theory is combined with practice, climate protection becomes a reality.** We deliver scientific lectures in the Student Academy. We also visit locations and initiatives where sustainability and climate protection are authentically lived, e.g. the Unverpackt (zero waste) store in Berlin. The Changemaker programme provides insights into change theory and creates space for creativity. It encourages participants to identify their own strengths and interests, realistically plan their own projects and share ideas and experiences with alumni.

► The participants **try out climate protection in their day-to-day lives over several months** and in this way experience their self-efficacy. There's no right or wrong way. The playful approach also allows for failure.

► **Learning with like-minded individuals creates a feeling of belonging.** The young people meet other people who are enthusiastic about similar issues, like the conservation of nature and environmental protection, sustainability and MINT subjects. Using a peer-to-peer approach, young people learn from one another and feel that they are equal learning partners.

► **Previous experience** and the **previous high levels of motivation** encourage the participants, both during and following the educational programmes, to shape societal change in practice.

► The participants **get to know role models** and find out what is possible with personal commitment. These include people working in research, business or industry, alumni and even other participants who play an important role as role models for sustainable lifestyles..

► The participants **experience appreciation** and receive direct feedback on their activities. As a result they feel acknowledged.

► The participants **experience a connection with nature** and, through this, a connection with themselves, with the group and with the meaningfulness of their efforts to protect the climate. WWF realizes that establishing a connection with nature will need to be increasingly prioritized in the educational programmes. The time that we spend with the participants in the open air helps to emotionally ground the intellectual effort and enables the participants to understand in a multidimensional way what they are campaigning for and why.

See  <https://www.wwf.de/aktiv-werden/bildungsarbeit-lehrerservice/> for further information and materials relating to our educational work.

## Wanted: Pioneers of change: Could this be you?

*People have different motivations for tackling the causes and consequences of climate change. And there are many different ways of incorporating a commitment to climate protection in schools and training institutions and of integrating it into everyday life. This is revealed in our little quiz.*

### Do you like to be involved in something outside of school?

- A:** If I can pursue my hobbies/interests at the same time
- B:** If I can do something with my friends at the same time
- C:** If I can do something to help protect the environment and the conserve nature at the same time
- D:** If I can learn something new at the same time

### How would your family and friends describe you?

- A:** Sometimes outspoken, other times more reserved
- B:** Reserved
- C:** Very outspoken
- D:** Rather outspoken

### Which of the following things are most important to you in life?

- A:** Nature, home, helpfulness
- B:** Comfort, security, conscientiousness
- C:** Sustainability, solidarity, social commitment
- D:** Openness, diversity

### What do you like doing in your spare time?

- A:** Activities with conservation groups, the church or biology club
- B:** Team sports, IT club
- C:** Voluntary work at school or in the community, youth exchanges
- D:** Meeting friends, travelling, going to the cinema



### How responsible are you?

- A: Extremely
- B: Very
- C: Average
- D: Not very

### Do you know already what you would like to do when you leave school or university?

- A: Something like biology or environmental science
- B: Something in the technical or medical field
- C: Something in the social or humanities area or in administration
- D: Not sure yet, maybe journalism or teaching

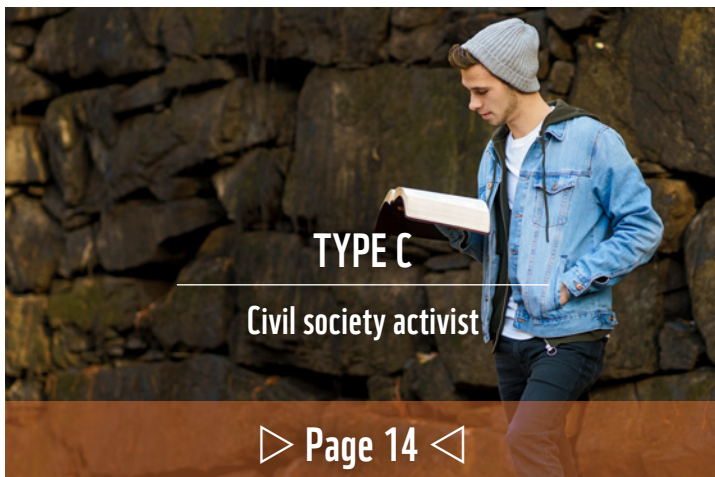
### If you got involved in sustainability, the conservation of nature and environmental protection, what kind of people would like you like to get to know?

- A: People with whom I could conduct research
- B: The most important thing for me is to do something worthwhile but I would also like to get to know people
- C: Like-minded individuals with whom I can organize something
- D: Lots of nice people with whom I can have fun

### What climate protection and environment-related activities could interest you?

- A: Research, preferably in a lab
- B: Technology, consequences of climate change
- C: Voluntary service, political involvement
- D: Fair trade, healthy nutrition

**Count up the letters in your answers. You will find the solution in the section entitled 'Focus on pioneers of change' on pages 12 to 15.**





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## Remarks

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- 9 See Haan, Gerhard de (2008):  
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- 10 *Ibid.*, with reference to the Transfer 21 programme, an initiative of the Federal Government and the German Länder, which established Education for Sustainable Development in schools between 2004 and 2006. See also [www.transfer-21.de](http://www.transfer-21.de).
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