RAISING AWARENESS FOR CLIMATE CHANGE

During the UN Climate Change Conference (COP21), the colossal facade of the French National Library will be transformed into a projection screen for a live video feed of penguins that French filmmaker Luc Jacquet will transmit daily from Antarctica. “We’re going to screen it at the Bibliothèque François Mitterrand in Paris to raise awareness on both penguins and the emergency situation in Antarctica”, says Jacquet in his ECO/COP interview. Raising awareness for climate change is one of the primary goals of Film4Climate, a program initiated by the World Bank’s Connect4Climate. “We chose to focus on film because it has great powers of persuasion”, stresses Lucia Grenna, Program Manager at Connect4Climate.

Since its launch at the beginning of 2015, Film4Climate has participated in many industry gatherings and film festivals, where it forged a broad range of partnerships, including one with the French network Ecoprod, founded in 2008 by Catherine Puiseux, CSR Director, TF1 Director. Ecoprod and Film4Climate are hosting before COP21 kicks off. The Film4Climate-Action will take place, and environmentalist/executor Stellé Jewell-Kemker will screen a thirty-minute segment from her debut feature film, Jeewi-Kemker began shooting the film when she was fifteen years old.

Another highlight is the Sustana Awards, which recognize sustainable production solutions throughout the world. Innovative projects from nine different countries were reviewed by an international Awards Committee, chaired by Arnold Schwarzenegger. The Hollywood actor, politician, and environmentalist is convinced that the media has a powerful role to play in the fight against climate change. “Through film, television, and all media outlets, we must continue to deliver the message that solutions are out there and they are happening now”, points out Schwarzenegger. “I believe films in particular can really inspire and make people want to take action”.

Olivier René-Vollon espouses the view that sustainable production must become standard operating procedure. “Now the carbon calculator exists. It is easy to use. It is free. Anybody can use it”. Meanwhile, however, there are different carbon calculators in different countries. “I think it’s inevitable that we will eventually have a universal, standard protocol”, says Grenna.

This issue will be addressed at the Audio-Visual Conference on Sustainable Productions in Paris on November 25, which Ecoprod and Film4Climate are hosting before COP21 kicks off. The Film4Climate-Action will take place there, and environmentalist/executor Stellé Jewell-Kemker will screen a thirty-minute segment from her debut feature film, An Inconvenient Youth, which tracks the rise of the global youth climate movement. Jewell-Kemker began shooting the film when she was fifteen years old.

The Film/Media Industry can make a difference by limiting its environmental impact and minimizing waste destined for landfills. The carbon footprint of the audio-visual sector is responsible for discharging about nine percent of the total carbon dioxide into the atmosphere every year. According to a study performed by the European Broadcast Union (EBU), 2% of all worldwide carbon emissions come from information and communication technology. In France, the audio-visual sector is responsible for discharging approximately one million tons of carbon dioxide into the atmosphere every year. About a quarter of this is attributable to filmmaking. For industry experts, Olivier René-Vollon and TF1 Director Catherine Puiseux, this was reason enough to create Ecoprod. Consti-

duted as a network of film-funding agencies, broadcasters, and environmental agencies, the organization provides the Film TV industry with the tools to minimize the ecological footprint production leaves behind.

To provide industry professionals with guidance for sustainable production methods, Ecoprod developed Green Production Guidelines, which was inspired by the Producers Guild of America’s Unified Best Practice Guide.

The basic principles of a sustainable production include: conserving fuel and energy; avoiding toxins and pollutants; saving water; and minimizing waste destined for landfills. The implementation of these green measures on a Film/TV production starts with the producer making a commitment, and it requires planning at the earliest stages of production. The green goals need to be defined in a sustainability plan, and these goals must be communicated to the various department heads.

The Film/Media Industry can make a difference. Sustainable initiatives are springing up all over the world. Either a line producer or an Eco Supervisor can take the responsibility to help the cast and crew adopt sustainable practices.

The Best Practice Guide devotes individual chapters to each department: Production Office; Transportation; Hotel & Catering; Transportation of Equipment; Studios & Sets; Green Production Guidelines; Lighting; Equipment Rental; Wardrobe and Make-Up; and Post-Production.

The Theory of Everything: Each action has an environmental impact

Each production department has to consider specific requirements, which include electronic communications in the production office, and carpooling, the use of electric cars, LED lights in the studio, and rechargeable batteries in the sound department; all the way up to including sustainably-produced costumes, catering services that rely on local food, reusable silver and dishes, as well as waste separation and access to grid power on set. The environmental impact of each action: transportation, electricity usage, hotels, etc., can be measured by a carbon calculator. This Excel Tool calculates a figure based on both cost considerations and carbon emissions. The carbon calculator can define the scope of sustainability efforts, so it plays an important role in production decisions. The next step: car rental agencies, LED lighting and solar generator suppliers, and organic-food catering services need to be retained. Low-impact vendors and products made with green materials can be found in green handbooks or on on-line databases maintained by several organizations: PGA Green (US), Ecoprod (France), the e-Mission Project at Flanders Audiovisual Fund (Belgium); and the Hamburg Film Commission (Germany).
School, a new generation of filmmakers is adopting best practices, some of whom will eventually wind up being Eco Supervisors.

The green virus also works its way into German film studios. At Studio Hamburg, several TV series have already gone green. As a pioneer in restructuring workflows in a climate-friendly way, Studio Hamburg produced its first live TV show sustainably. At Bavaria Film Studios in Munich, renewable energy is being generated by hydroelectricity and geothermal teleheating, which makes it one of the first climate-neutral film/TV studios in the world. From 2011 to 2014, the corporate carbon footprint was reduced by almost 97.5%. Prime-time shows in the studio complex enjoy the benefit of an ecological air-conditioning system. A central cooling system takes care of the computer servers, while also delivering cold running water as well as free cooling in the winter.

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The PGA Green Guidelines are setting the standard

Best Practices are also being adopted in Italy. The Film Commissions in Sardegna, Trentino, and Torino-Piemonte are planning to set their standards for sustainable film production in conjunction with the Transnational energy provider Edison, which launched the Edison Green Movie protocol. In Trentino, there are already eco-certificates for restaurants, cafes, and event planners.

In Scandinavia, Film Vast is collaborating with the Chalmers University of Technology in order to develop a computer modeling system as well as a methodology for calculating the environmental impact of film production. The calculation methods are based on Life-cycle assessment and it will enable recommendations to be made to individual members of the cast and crew.

In Great Britain, Film/TV production companies are following A Plan-Do-Check-Act cycle that lies at the heart of BS 8909, which defines sustainable best practices. It provides a comprehensive standard for sustainability management in the UK film industry. BS 8909 was developed in 2011 when the BBC created a carbon calculator called Albert, which now has more than 800 users in the UK, among them over fifty TV production companies. The Pay-TV broadcaster Sky even demands a carbon footprint from productions they commission to outside contractors. According to the British Academy of Film and Television Arts (BAFTA), each hour of on-screen content is responsible for an average of 5.8 tons of carbon dioxide (CO2) emissions, which is equivalent to the emissions made by one UK citizen at work over the course of an entire year. The most significant carbon emissions are generated by travel (38%), followed by the production office (30%). The BS 8909 helped productions such as Les Misérables, Anna Karenina, and The Theory of Everything switch to more sustainable working methods.

Think global, act local

Meanwhile, green film production is taking place all around the world. In Australia, Green Shoot Pacific, a sustainability consultant, follows a management system approach outlined in the International Standard ISO 20121 – Sustainable Event Management Systems. Among the most prestigious productions they greened was The Great Gatsby with Leonardo DiCaprio, which was shot by Baz Luhrmann in Australia. Although most crew members were personally engaged in environmental initiatives in their private lives, these actions had not been formally carried over to the workplace. Green Shoot Pacific’s departmental briefings and training seminars, and one-on-one communication ensured that many departments made significant changes in the way they thought about purchasing decisions, waste management, and environmental sustainability in general. The best practices for green production work globally, but when they are applied locally, it is essential to have a knowledge of production facilities with appropriate sustainability policies, as well as local sustainable suppliers. Relying on local knowledge also means making a commitment to engage local experts for green production. Follow the motto: Think global, act local!
A NEW WAY OF THINKING

Olivier-René Veillon, Founding Member of Ecoprod and Chief Executive Officer of Ile-de-France Film Commission, on the need for a carbon-free production process, sustainable solutions and COP21.

What approach is Ecoprod taking to make the Film / TV industry more sustainable?

Ecoprod is imagining a new production process. The idea is not to minimize the carbon footprint of cinema and television productions, but to imagine a new carbon-free production process. First, we make the producers conscious of what they are doing by requiring them to calculate their carbon footprint. This resulted from work we did in developing several tools, including Carbon Clap, a carbon calculator. It’s the only way to make producers conscious of their production’s impact on the environment. They are able to calculate the carbon impact in the initial stages of production. Producers sometimes simply think that their productions don’t have any impact on the environment, and this is a problem. Therefore, it’s crucial that they measure the carbon footprint they make.

What are the biggest obstacles facing Ecoprod?

In Europe, and especially in France, film and television production is highly diversified, which presents difficulties. We have more than 2,000 producers in the Île-de-France region alone. Ninety percent of French production, as well as a great deal of international production, takes place in Paris and the surrounding regions because of the attractiveness of the city and its surroundings. We have to convince them to be conscious as well as to respect heritage sites like Versailles, where they frequently want to shoot. We are promoting carbon-free production. That’s the direction we’re taking with cinema and audiovisual production. That’s why we’re involved as a Film Commission. Our concept is local. We’re responsible for this region.

What are the essential steps taken in this process?

First, we’ve been making producers conscious of what they’re doing. At the same time, we’ve been working with all the companies that are involved in the production process. We find carbon-free solutions.

We created the Ecoprod Charter for all companies involved in the film & television production process. Studios as well as service companies participate by acting sustainably. And to take it a step further, we offer innovative, absolutely carbon-free solutions. We’ve been working closely with the CNC (Centre national du cinéma), which has a fund dedicated to technical innovation in the production process. We are going to present innovations that offer carbon-free solutions at our Conference in Paris on November 25.

How many productions have already used the carbon calculator? And how many companies?

About 200 companies have used or are using the carbon calculator. We enjoy the complete cooperation of the associations representing set decorators and line producers. Most of the technicians involved are participating actively. But we’re facing some reluctance from producers, who are focused on the economics of their productions. They haven’t yet realized that new production methods may be more economical, if the producer, of course, accepts another vision of production.

What has already been accomplished?

We have substantially reduced the number of generators used on shoots at major locations in Paris. We partnered with the French energy provider ERDF and the City of Paris to equip major locations where productions frequently shoot with power from the electrical grid. In Paris, we have about 80 locations that are used on a permanent basis: the Eiffel Tower, the Arc de Triomphe; and the banks of the Seine. We have equipped these locations with electric power so crews don’t have to use generators, which have a strong negative impact on the environment.

Besides energy, transportation is a huge carbon generator. How do you deal with this issue?

Old trucks, which usually have diesel-powered engines, leave a heavy carbon footprint. So, we are offering electricity-based alternatives to help companies find other solutions.

The CNC is doing a lot to support innovative approaches to give the companies the opportunity to outfit their fleets with electric trucks, which is absolutely necessary. TSF and Tansipalke are the two major rental companies in the Île-de-France region. They are both signatories to the Ecoprod Charter. They realized that they had a great opportunity to provide better service and to introduce a new way of thinking to future productions.

Is it still necessary to raise awareness about environmental issues?

Absolutely, and that’s why we’re going to introduce projects that have benefited from the support of the CNC and which offer operational solutions for production companies at our Audiovisual Conference on November 25. We have the tools. We have the financing.

Now, for the companies, it’s simply a matter of strategy and administration. After the presentations on November 25, we’re going to follow up with the Île-de-France Location Expo in Paris in February. Ecoprod is going to network all the companies that are signatories of Ecoprod Charter with the professionals who are promoting their solutions for film television production. Everybody who’s anybody in media production is going to be there.

What benefits does sustainable production offer?

The key benefit is the reduction of a production’s carbon footprint. More and more producers, especially American studios, are going to be asking for a production’s carbon footprint, and they’re going to calculate it.

Meanwhile, we’re lobbying all the cinema financing programs in France in order to make it a requirement that producers submit not only a production budget but a carbon print of the production, as well as, if the application process for subsidies. It has to become standard procedure for producers. This is not the case now because the first step was to get them the tools to be able to address these questions. Now, the carbon calculator exists. It is easy to use. It is free. Anybody can use it. We need to get our partners on board, the CNC as well as the regions, but especially the Île-de-France Region, which will be headed by a new president at the beginning of next year. Film subsidies must require a sustainable approach. Now we’re ready to take the next step because we have the tools, we have the solutions, and we have the companies that are able to deliver the services. So, there won’t be any excuses.

This isn’t going to cause the producer any trouble, and it’s not going to create any difficulties because calculating the carbon footprint of a production is easy. And it has to be a criterion to evaluate the producer as well as the production. A good producer has to deliver accurate information on the production’s carbon impact and, of course, reduce it.

Is it a question of political will to go green or is it a question of practical implementation?

I think it both. We need to have the practical solutions in order to provide the political will. And we need to think about what’s possible. Of course, the political will is always important, especially in our business, which in France is heavily regulated. We need a strong political will. I think this is the right time, since France hosting COP21.

What kind of impact does COP21 have?

It’s a fantastic opportunity to accelerate the process. It’s a great honor as well as a great responsibility to host the event. Then this region is going to have to show important successes like film and audiovisual producers are possible to do today, and contrast it with what they are actually doing today. It’s important to look at the question in this context.
The French film funding institution Centre National du Cinéma (CNC) launched a new initiative in 2014 to support sustainable solutions which is gradually gaining recognition in the French film TV industry. The green grants are part of CNC’s program, which has a yearly budget of €46m to support TV and feature-film service providers. “In 2014, we supported one project with a €24,000 grant. This year, we’ve already green-lighted three projects with grants totaling €45,500,” reports Baptiste Heynemann, Head of Technic and Innovation at CNC. “Depending on the size of the company, we support anywhere from 40% to 65% of the cost of investing in environ-

mental protection. In addition, the CNC pays up to 70% of the expenses incurred in commissioning environmental studies, including energy audits.

Among the companies investing in sustainable solutions is the French film equipment rental house and studio group TBF, where Woody Allen rented the equipment for films such as Midnight in Paris and Magic in the Moonlight. While the CNC supported TBF’s investments in LED lights, most of the green grants were awarded for Investments in Green IT.

The Paris-based animation studio Supernormandie, which is moving to a larger facility and shifting its focus from advertising to TV production, wants to take a new approach to production that favors sustainability. Key to the transition is a render farm that consumes less electricity and gas. “The render farm is located in radiators, which are using the thermal discharge of the host’s needs for heat and HPC workload constraints,” says Qarnot, powered by the thermal discharge of the animated film Cosmos L’Audomarois. The movie’s 3-D renderings, performed on Qarnot’s heaters, represented one year of free heating for about twenty households.

This smart green processing solution was developed as an alternative to energy-consum ing data centers where more than a third of the electricity is used to cool processing units. “The energy impact of this solution, when compared to its current set-up with data centers and conventional heaters, results in a carbon footprint that is 75% smaller,” states Paul Barbot, Founder & CEO of Qarnot Computing. CNC also provided Green IT investment support to the Parisian post-production house MacDuff Pro Images, which created the visual effects for Il était une foret by Luc Jacquet, among others. Another signatory of the Ecoprod Charter is the audio-visual company Datacare, which developed a vehicle with a completely autonomous platform dedicated to data processing for productions on location. Equipped with a solar panel and embedded batteries, the truck is powered by renewable energy. Thanks to its own internet connection, the mobile working station facilitates data exchange with post-production studios, labs, and broadcasters. “It reduces the number of physical deliveries to laboratories, editing rooms, and production offices,” emphasizes Quadi Guiraud, France’s CEO of important cars. Furthermore, the integration of a data storage solution in a vehicle will substantially reduce the number of hard drives used during a production.

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The adventurous insects don’t even know to jump right into the new platform village grocery store with his ladybug friend. Hélène Giraud, the queen of the black ants is suffering from low blood sugar. Mandibule, one of her worker ants, is a brave little fellow who wants to save her life by buzzing off to the village grocery store with his ladybug friend.

The flowing streams and natural greenery were filmed with available light whenever possible. The guitars simply used reflectors instead of lights. A solar-powered campervan, serving as production hub, supplied a low-voltage power generator. The attention paid to catering remains hard to surpass. The Minuscule crew had their meals at a local farm which specialized in organic food.

The use of Ecoprod’s Carbon Clap provided the producer with a running calculation of the production’s environmental impact. By reducing carbon emissions from 380 tons of carbon to only 51, Minuscule is a prominent example of sustainable production. The production of the Minuscule, les mandibules du bout du monde sequel takes place primarily in the Île-de-France region, where the project received €336,000 in production support.

How did you find partners?
I went to the Fédération des Producteurs de la Région de la Vannerie, the French association for fiber producers, to be sure that the production is carbon-neutral. Our tools and production methods work best with episodic TV fiction. Ecoprod is developing a new Carbon Clap, with more financial data to estimate the cost of the carbon footprint so that producers can assess the environmental impact of any item they produce. Now, the question is how to get the audio-visual industry to adopt sustainable production methods more quickly.

How did your green mission start?
In 2006, I performed a carbon evaluation for the TF1 Group. It was the first time that the Bilan Carbon® was used in the media industry. The results were used to set criteria for commissioned productions, because 80% of TF1’s programming is produced by outside production companies. Compared to that, other efforts, such as cutting energy usage in buildings, IT systems, and transportation, are areas that don’t generate such a large carbon footprint although we do make our best effort to reduce it, too. Producers were not aware of the environmental impact they were making. I wanted to develop a tool so that they could evaluate their carbon footprint.

How many producers are using the Carbon Clap?
About twenty productions test or use Carbon Clap each month, which results in about 100 to 150 evaluations per year. We have about 7,000 production companies in France, which is due to the large number of independent producers. We also developed the Ecoprod Production Guide to provide sustainable suggestions and instructions for each production department. The idea is that crew members adopt these best practices and, in turn, pass them on to other productions. In 2014, Ecoprod launched the Charter as well as a certification label for its suppliers. About fifty companies have already signed on to the Charter.

How did you develop those tools?
We tested the tools first with R.U.S. The series Jésus in 2012 was then produced carbon-neutral. Our tools and production methods work best with episodic TV fiction. Ecoprod is developing a new Carbon Clap, with more financial data to estimate the cost of the carbon footprint so that producers can assess the environmental impact of any item they produce. Now, the question is how to get the audio-visual industry to adopt sustainable production methods more quickly.

How could producers use the Carbon Clap?
TF1 has issued a policy for responsible purchasing that promotes fair trade and “green” products. The company buys cars with CO₂ emissions of less than 170 g/km, and has installed charging stations that use electric vehicles instead of boats. With initiatives like the Sustainable Development Week, the TF1 Group encourages its employees to contribute to sustainable development. Ecofacts reviews and assesses the CSR policies of the Group’s largest suppliers.

Claudine Puiseux, Ecoprod founder and CSR Director, TF1 Group, launched the first carbon audit of the audio-visual industry in France. In collaboration with Olivier-René Veillon, she founded Ecoprod, which provides tools for sustainable productions.

TF1 TAKES GREEN STEPS

Thanks to the efforts made by Corporate Social Responsibility (CSR) Director Claudine Puiseux, the TF1 Group started carbon auditing based on the Bilan Carbon®, which is now standard procedure. The company’s continuous improvement plan goes beyond legal requirements to manage energy consumption, raw materials, and waste. Environmental issues have been factored into engineering projects at the design stage, whether it be on location, in the studio, or for IT systems. The installation of LED studio lighting made it possible to cut on-set power consumption by 10%. The installation of a low-voltage power generator. Burnt out studio lights are recycled through the Recyclage program.

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THE GREATEST CHALLENGE OF OUR GENERATION

After making March of the Penguins, Academy Award-winning Writer/Director Luc Jacquet returned to Antarctica to shoot Ice and the Sky.

In Ice and the Sky, we learn that Claude Lorius was drawn to return to the Antarctic just as you were. Why is Antarctica so fascinating?

Living in the Antarctic gives you the feeling that you have to survive on your own. It really is the aesthetic point of view, the landscape and high geographic formations. It speaks to me very deeply. Perhaps also because the light changes all the time and because it is pure, since everything is while until the light changes just a bit, and the landscape hovers around you. It is absolutely incredible.

I also love it because it’s a challenge, much like trying to understand who you are in the middle of a storm. It is interesting. It presents the true scale of human vulnerability before nature. I also love the relationships that the people who live in Antarctica create. You have to have solidarity and you have to take care of those people around you.

Everyone who goes down there is drawn by the same fascination. Maybe this is the reason why people who have gone to Antarctica behidn other people who have been there. We share so many experiences.

Do you see any parallels between Claude Lorius’ life and yours?

Yes, there are many parallels. Even though Claude has got forty years on me, I first went to Antarctica for the same reason that he did. While I was a university student, I happened to read an ad looking for someone to live in Antarctica for a year. Like Claude, I found my vocation there by chance. For him, it was science; for me, it was filming. Most people go to Antarctica for the sake of adventure. But after the initial Antarctic experience, both Claude and I changed our plans and decided to do something different.

How did that change your life?

When you’re in Antarctica, you get the feeling that you are hovering above the planet Earth, and you get a powerful sense of empathy for the planet because you are so far away from society. When you do return to society, you feel compelled to take care of the planet. People who have lived in a space station get the same feeling. It’s called “the overview effect”.

As Claude Lorius explains in your film, a single air bubble can tell us everything about temperature, climate, and the impact of carbon emissions. So, has civilisation also left its mark on Antarctica?

To find evidence there of human environmental impact means that we no longer have any choice. We are living on a raft, so we have to take into consideration the fact that everything has an impact somewhere else in the world. For me, this was the real revelation inspired by Claude’s work. He said that if we burn something somewhere, it’s going to have an impact somewhere. And no one, either rich or poor, is going to be spared. People have to take responsibility for their actions.

Photo: Sarah Del Ben

French Writer/Director Luc Jacquet

CONNECT2CLIMATE
The scientific discoveries that Claude Lorius published in the mid-1980s could have made a difference, but his warnings went unheeded. Do you expect major policy changes at COP21?

Claude is optimistic because no one talked about global warming thirty years ago; today, everyone is aware of it. But this is not enough, despite the fact that there are many people in civil society who are committed to taking action. Of course, things are not going fast enough to reply successfully to the challenge of global warming. We have to create a new level of engagement. We need people who represent mankind instead of the presidents of certain individual nations. We have to go to the level of engagement. We need people who represent mankind instead of the presidents of certain individual nations. We have to go to the top to make decisions for all humankind, but this policy plateau doesn’t exist yet.

Photograph: Eskwad Wild Touch / Marc Perrey

WHAT IMPACT CAN FILMS HAVE?

Everyone is aware of what is happening around us, so now the problem is to connect people to this issue. I think it’s better to connect people to the issue emotionally. A well-photographed story about an extraordinary man is better than repeating the fact that carbon dioxide levels in the atmosphere are rising. I’m trying to find a new way to connect people emotionally.

WHAT APPROACH IS YOUR NON-PROFIT ORGANIZATION WILD TOUCH TAKING?

We are conducting a lot of educational programs because, as part of a network of scientists, teachers, artists and filmmakers, we are able to find a common language to help young people and educators understand what we’re talking about when we talk about global warming. Marion Cotillard did the voice-over for the Ice and the Sky educational program because it was important for her and because she wanted to do something for the planet. We also produced educational programs on forests. The next topic will be biodiversity.

Are you planning anything for COP21 in Paris?

I will be in Antarctica where we’ll be shooting a film with a crew of ten people. During COP21, we’re going to transmit live video of penguins from Antarctica every day. We’re going to screen it at the Bibliothèque Française Mitterrand in Paris to raise awareness on both penguins and the emergency situation in Antarctica.

Is ice and the Sky a call to action?

This is a political film. I am fed up with seeing the planet deteriorate while people do nothing. The older I get, the louder I want to shout it out. We have all the means to solve the problem. We have the energy, the power, all the gadgets and machines, but we are still unable to solve the problem. I think this is the greatest challenge our generation faces.

Progress and Policy Changes at COP21

At the UNFCCC 21st Conference of the Parties (COP21) in Paris, where global leaders are expected to adopt a binding resolution on the long-term reduction of greenhouse gas emissions, Film4Climate will give citizens throughout the world a voice by presenting the industry’s best practices and by showing short films on climate change created by filmmakers from all over the world. For example, the Film4Climate Action video challenge on November 29 is inviting people to tell a three-minute story on how we can prevent the perils of climate change.

Sustainable solutions from around the world will also be presented at the Sustainia Awards during COP21. In cooperation with Connect4Climate and the UN Global Compact, ten projects and technological innovations will be presented, all of which have qualified as finalists. Among the projects is an online application that uses high-resolution mapping and weather data to reveal the solar potential of every rooftop in any given community.

Concluding the Silver Screen

Another project offers communities the chance to collect plastic waste for a Plastic Bank, where it can be recycled and repurposed. In return, the company is offering access to 3D printers to participants so they can create products for themselves. Further sustainable solutions include an energy-positive house, streets designed for walking and biking, as well as green bonds issued by the City of Johannesburg, South Africa, which will finance projects to mitigate climate change, and it also includes a bio-gas to energy project. Innovative projects from nine different countries were reviewed by an international Awards Committee chaired by Arnold Schwarzenegger. The Sustainia Community Award will go to the project that receives the most online votes.

Another key issue is climate change awareness. Film4Climate already counts on the extraordinary support of renowned Directors such as Bernardo Bertolucci, Atom Egoyan, Marc Forster, Fernando Meirelles, Mira Nair, Walter Salles, Wim Wenders, and Alfonso Cuarón. The older I get, the louder I want to shout it out. We have all the means to solve the problem. We have the energy, the power, all the gadgets and machines, but we are still unable to solve the problem. I think this is the greatest challenge our generation faces.

Progress and Policy Changes at COP21

At the UNFCCC 21st Conference of the Parties (COP21) in Paris, where global leaders are expected to adopt a binding resolution on the long-term reduction of greenhouse gas emissions, Film4Climate will give citizens throughout the world a voice by presenting the industry’s best practices and by showing short films on climate change created by filmmakers from all over the world. For example, the Film4Climate Action video challenge on November 29 is inviting people to tell a three-minute story on how we can prevent the perils of climate change.

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Alfonso Cuarón. Many of the directors served as jury members for the Action4Climate Documentary Competition, whose jury was chaired by Bernardo Bertolucci. “We were amazed by the originality of the stories and the genuine concern shown by these young filmmakers about the effects of climate change”, said Bertolucci. “Every step starts with awareness building”, says Grenna. “That is why we launched Action4Climate”. “As filmmakers we have a double opportunity to help ensure that life itself – the life of our precious earth and that of all beings who depend on its bounty – can continue. Every step of the filmmaking process can be made without waste and thoughtless exploitation of resources in the physical world.”

Sally Potter
Director

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THE POWER OF PERSUASION
With the Film4Climate initiative, the World Bank Group is taking on climate change. Lucia Grenna, Program Manager and Donald Renavaud, Creative Producer at Connect4Climate, World Bank Group, give us a strategic preview.

What does Film4Climate want to achieve?
Film4Climate is a global initiative of the World Bank's Connect4Climate programme (connect4climate.org). It aims to help reduce the environmental impact of film production and raise greater awareness of climate change issues through the use of cinema and the whole visual media. The film industry can both set an example and use money by reducing and revising production methods to reduce the amount of energy and resources used. What is more, messages woven into an angling story on the big screen can indeed change minds, and hearts! Cinema and the visual media do indeed have great powers of persuasion. We are bringing together industry leaders who are already actively greening the screen, hosting high-profile events, facilitating climate change workshops with film industry heavyweights and through video competitions we are energizing young people to share their climate experiences.

What impact can the film industry have?

As Jim Yong Kim, President of the World Bank says, “We will never end poverty if we don’t tackle climate change.” Our changing climate is affecting the poorest people the most. We have to find solutions and find them quickly. The film industry is not one of the most polluting, but because film has great powers of persuasion it can be a leader going forward into a solution-oriented future. In the US, there are still lobbyists and political action groups that deny the existence of climate change. The film industry—by using the scientific data verified by 99% of researchers to provide a solid consciousness as a normal frame of mind that prompts green behavior.

Climate change is a global problem—but there are many degrees of awareness across various countries and industries. What impact can the film industry have?

After material things, ending up surrounding ourselves with clutter without ever focussing on real issues. Role models can help instill a sense of responsibility and can help build and consolidate groups of individuals to come together to motivate their communities and make change happen.

Does Film4Climate have any suggestions for the film industry?
If producers acknowledge and apply Best Practices, then they’re going to reduce their carbon footprint. For example, the carbon calculators Carbon Clap in France and Albert in the UK are being used by over 1,000 production companies. With tools such as these, producers can see their progress, step by step, towards reducing the carbon footprint. Filmmakers also need to be aware that this is not simply a moral imperative, but an economic question as well. The evidence is there that sustainable filmmaking can save substantial amounts of production money if done properly. The creation of a fund and maybe award structures, to reward sustainable productions that make substantial reductions in their carbon footprint is entirely conceivable and desirable.

Is it possible to develop a globally standardized green protocol for Film and TV production?
Different carbon calculators in different countries—such as in Brazil, India, China, and so on—are doing their job but there are many differences between them and rightly so, since the process depends on the conditions in each country. However, we feel it is possible to establish uniform guidelines as best practice guidelines in every country and I think it’s inevitable that we will eventually be able to establish a universal, standard protocol. Right now, we’re suggesting that producers keep using the carbon calculators they are familiar with. Once we run enough production data through the system, we’ll be able to establish protocols that can form the base for creating a sustainab

after materials, ending up surrounding ourselves with clutter without ever focussing on real issues. Role models can help instill a sense of responsibility and can help build and consolidate groups of individuals to come together to motivate their communities and make change happen.

How could this green fund be financed?
To film financing institutions, we’re proposing the idea that the last 10 percent of either the tax incentives or financial support be tied to a production reducing its carbon footprint. We need to get the whole film industry behind this in a big way. We still need data to develop a financing model.

What is Film4Climate doing at COP21?
We are asking filmmakers all over the world to come together on the day of the Global Climate March on November 29th to shoot and edit a three minute film on the march in their city or a climate action undertaken that day, and to upload it the same day on Vimeo, which is partnering with us for this project. We will produce a feature-length program with this material and make the best short available online. We also plan to screen a selection of these films at the Sustainia Awards ceremony and to premiere a 20-minute segment from Slater Jewell-Kemker’s film, An Inconvenient Youth. Fernando Morellés will also join us to present the Sustainia Awards ceremony to promote the Film4Climate Charter that we will be working on in an all day session supported by EcoProl before the conference in collaboration with sustainable film making organisations.

Are you expecting real changes in sustainable practices?
We’ll have to wait and see—especially in terms of how policies agreed upon might be financed, but generally speaking I think we can expect changes. Governments of 146 countries have made commitments to reducing carbon emissions. Two thirds of the countries that produce 84 percent of carbon emissions have already committed themselves. This is a positive sign, this is huger italy, film and entertainment industry are not big polluters, but I’m certain they will be convinced by both the arguments and the commitments made by other countries. If this doesn’t happen, then it might be the time to find some other mechanism to replace COP.

RECIPE
THE BEST WAYS TO INCREASE YOUR
ENVIRONMENTAL

Actor / Producer / Environmentalist
Leonardo DiCaprio
What inspired you as a five-year-old to shoot films?

I was born in Los Angeles in 1992, a time when a lot of people were inspired by the Internet and were looking at all the possibilities of how to use this powerful tool in a positive way. My mom's friend Joanne Mayers, who created the My Hero project, gave me my first camera and arranged for me to meet with the Vietnam War veteran and peace activist Ron Kovic. I sat in his lap while he wheeled me around his apartment talking about peace and showing me his art and photographs. I'll never forget how kind and gracious he was with this little kid haphazardly filming everything.

As little kids we gain this kind of emotional intelligence and understanding about other people and the world around us through stories. Being so young and exposed to people like Ron Kovic, Jeanne Meyers, Kathy Elliott (Creative Visions Foundation) kind of planted this seed in my head that we're all connected and that we're all family and that, yes, we CAN make a difference in the world around us.

As a very young environmentalist, you interviewed stars and well-known scientists such as Leonardo DiCaprio and Jean-Michel Cousteau. Are adults more open to children?

I think people are open to children and talking about the world in a more honest and open way because that's how children look at the world, naturally. We ask questions, we are curious. We look at the world around us without bias. When I was interviewing Jean-Michel, I was thirteen and he told me: “I have grown up on this space as called adults. I only talk to young people because I can have a meaningful conversation with them, and I don’t have to go through the ritual of flirtation that basically kills their willingness to open up and let themselves be vulnerable and emotional.”

Where have you traveled as an environmental filmmaker?

I’ve been to youth conferences in Slovakia, the Czech Republic, the Netherlands, New York and Japan. I’ve traveled to agricultural communities in Nepal, South America and Northern Alberta. When you follow the story of climate change, you follow the story of how our world is changing and how we as people, are changing. It’s a global issue. Sometimes it affects one nation more than others, but eventually we’re all going to be affected.

Was the COP in Copenhagen in 2009 a turning point for you?

Copenhagen was being touted as a huge moment. World leaders would finally come together and create a fair, ambitious, binding deal that would last all of humanity into a more sustainable and fair world. This was the story that was being sold by corporations like Coca-Cola with their “Hopenhagen – Open a Bottle of Hope” campaign. It’s everywhere. It felt like: “Wow, maybe this really is the moment. Maybe we can get everything that we’ve been fighting for.” There was a lot of momentum building towards COP15 – and then the bubble of delusion burst.

Did you expect a policy change?

It shouldn’t have been a surprise that governments found it difficult to work together. And it shouldn’t have been a surprise that they were digging in and putting their own national interests ahead of moving together for the global community. But it really was devastating. You look at the science and you look at anecdotal evidence and it’s saying very clearly, with a loud voice, that we have a very small window of opportunity to change the way we live with each other and the planet in order to adapt to climate change. We’ve now gotten to the point where we can’t reverse climate change, but we can still lessen its effects. We can still adapt in a way that is sustainable and efficient and that will ensure our survival. It’s cutting it very close, though.

Do you think that the warnings were heard?

Seven years ago scientists were saying that we have maybe five to ten or fifteen years at most to do something, now, seven years later, a lot of people are getting to the point where they’re wondering whether we can trust this system or not, whether we can trust the UN Climate Change Conferences, because they told us seven years ago that it was all going to happen, but now it’s seven years later and they’re saying the same thing. For me, and I think for a lot of other people too, we’ve come to the point in our thinking of “Okay, we gonna give you this opportunity. It’s either all gonna happen here or it’s gonna be to another Copenhagen and then... we’re gonna have to find another way to do this.” I’m 23 years old, they’ve already been speaking all my life, it’s unacceptable to not have a deal already.

What is the essence of this experience?

Copenhagen was inspiring, but frankly, we can’t let it happen again. It’s a brutal reminder of the ticking clock of climate change, and it hopefully shows that we can do better. I was just watching a video clip of the Filipino negotiators at COP15, not too long after super typhoon Haiyan. A delegate broke down in his address to the conference members and delegates and was saying: “If not us, then who? If not now, then when? If not here, then where? What my country is going through due to this climate-related event is madness. The climate crisis is madness. We can stop this madness. It’s the 19th COP but we might as well stop counting because my country refuses to accept that a COP30 or a COP40 will be needed to solve climate change”. That was two years ago.

Do you still have any hopes for the COP21?

You have to have hope or you’ll go crazy. I am cautiously optimistic about COP21 because there is a part of me that says “There’s still a chance” and you take it with the idea that maybe everything could work out and we can finally start on this course to change how we live. But I’m not looking at it as the only solution.

When will your first feature-length film An Inconvenient Youth be shown?

I’ve been making it since I was fifteen and it ended up taking over my life a bit. My team and I are hoping to premiere the complete film next summer in New York. I’m going to show a 30 minute version that includes the journey of the last seven years, but also the most recent trip to Northern Alberta where the tar sands industry is located. It’s home to the world’s largest industrial project on Earth. A lot of climate activists are looking at it as a climate bomb – that the carbon in the oil sands is so rich that we can’t let it out of the room and if we do, we’ll have no hope of adapting.

Has your film been growing in step with your experiences?

The film started off when I was fifteen visiting an environmental summit in Japan as a young Canadian youth delegate who was concerned about the environment and made new friends in Bangladesh and learning how my life can negatively impact someone half way around the world. I am learning about sustainability and adaptation in the UN which is leading me back to the simple connection between climate change and the environment and our addiction to oil. Because of our addiction to oil, we have significantly damaged not only the planet and our own health, but we have also caused the climate to be changing as rapidly as it is now. The film is really coming back to that awareness and asking the question: What’s the bottom line? How far are we willing to go?
WE WILL SUCCEED

Famous Hollywood star, politician, and environmentalist Arnold Schwarzenegger launched the nonprofit environmental organization R20. Its mission is to help subnational governments around the world develop low-carbon and climate-resilient economic development projects.

What are the biggest obstacles and challenges to fighting climate change?

I believe that we need to fight climate change, but we want a clean, green energy future. We need those local leaders who are willing to make that change and who are willing to be part of a real solution by joining this unprecedented group of partners.

The R20 is in a way a matchmaker – you bring the investment capital or grant funding and we connect you to a willing government and technology partners who can successfully implement low-carbon projects. I believe this is an approach that could be the catalyst for real change. Imagine removing the barriers to finally bringing finance into the picture and you will see the rapid deployment of clean-energy projects that will improve the global economy, lower emissions, and provide new jobs. The government members of the R20 are eager to open the door for investment in order to scale both the government and investors come up with a low-risk, win-win deal. This project is going to increase the supply energy of the whole country by 10%, so it’s very happy to have been able to help make that happen. This is going to make it possible to embark on a huge initiative to deploy 1 GW of renewable energy across West and Central Africa.

Do you expect any policy changes to result from COP21?

I have great faith in the outcome of the Paris summit. I believe that we can come out of the Copenhagen summit learning valuable lessons about what not to do, and as I’ve noted previously, we need to take action regardless of the negotiations is the only path forward. Of course, most promising is the ongoing cooperation that was launched at a summit meeting held in 2014 where an historic accord was sealed by President Obama and President Xi Jinping, who both pledged that the United States reduce carbon emissions up to 28% by 2020, while President Xi vowed that China would halt its emissions growth by 2030. That announcement was a fantastic breakthrough after decades of deadlock on efforts to forge an effective global accord on climate change. Then, as a follow up in September of this year, President Obama’s top climate change negotiator met with his Chinese counterpart to announce joint actions by cities, states, and provinces in both countries to reduce greenhouse gas emissions. These developments make me very hopeful that by continuing this level of cooperation we will have a positive and possibly unprecedented outcome at COP21.

Finally, I’m most confident because of the leadership of UN Secretary-General Ban Ki-Moon. He is a tremendous leader and visionary and is deeply committed to a positive outcome at COP21. He recently remarked that an agreement in Paris “must mark a decisive and irreversible turning point in the world’s collective response to the climate challenge”. I believe that we will succeed.
A \textbf{Awareness} is a necessary condition for any green action. Photo: Isak Kuri/Unsplash

B \textbf{Best Practices} are the tools and strategies that may be adopted by any production in order to become more sustainable. Photo: FFHSH

C \textbf{Carbon Calculator} as, for example, the Carbon Clap by Ecoprod, an Excel tool used to measure the carbon impact of an action. Photo: Ecoprod

D \textbf{Dispenser} for water is a practical solution on film sets to substitute for plastic bottles. Photo: Niko Tavernise

E \textbf{Energy efficiency} is a key principle that must be applied during film production because energy consumption is one of the biggest sources of carbon emissions. Photo: Rainer Sturm/Unsplash

F \textbf{Forest Stewardship Council (FSC)} is the certification agency responsible for granting a seal of approval to sustainably produced wood and wood products. Photo: Erich Keppler/Unsplash

G \textbf{Grid}, drawing energy from the electrical power grid is more environmentally friendly than using a diesel-powered generator. Photo: Egon Häbich/Unsplash

H \textbf{Hybrid cars} lower the carbon footprint of automobiles. Photo: Ford

I \textbf{Innovative ideas} and incentives can inspire the cast and crew to increase their environmentally friendly efforts. Photo: Peter_Pleischl/Unsplash

J \textbf{Junk}, i.e., metal, carpet, polystyrene, pallet wrap, sash, and non-rechargeable batteries are often recyclable. Photo: Tamtam Film

K \textbf{“K-cups”}, which are used in modern coffee machines are a no-no for any sustainable production. Please don’t use them. Uncredited photo

L \textbf{LED lights} are much more energy efficient than incandescent. Their cost is offset by energy savings, so it pays off in the long run to use them. Photo: Lightequip

M \textbf{Management} by an Eco Supervisor is crucial for a production’s sustainability efforts from prep through wrap, so that solutions may be found and implemented in all departments. Photo: Niko Tavernise

N \textbf{Natural cosmetics} should provide ingredient transparency in order to make sure that the products are chemical-free and have not been tested on animals. Photo: JPS Peters/Unsplash

O \textbf{Organic food} is healthy and can be a real improvement for catering. Photo: Helene Souza/Unsplash

P \textbf{Paper distribution} should essentially be eliminated at any production. Schedules, call sheets, production reports, crew and contact lists can be put in dropbox folders and distributed via email. Photo: Celeste Laker/Unsplash

Q \textbf{Q.rad digital heater}, a combined multi-processor/electric heater. Instead of cooling the computer’s server, its heat is used to heat a room. Photo: Guarnol Computing

R \textbf{Rechargeable battery} systems save a fair amount of money as well as hundreds of batteries during production. Photo: Niko Tavernise

S \textbf{Solar-powered generators} are a smart and silent solution to meet off-grid power needs of a production. Photo: Niko Tavernise

T \textbf{Transportation by train} instead of planes is one of the key elements of Best Practices; it minimizes carbon emissions. Photo: Erich Westendorp/Unsplash

U \textbf{Use laptops} instead of desktops because they are more energy-efficient and shut down all devices overnight. Nearly 75% of the electricity used by electronics is consumed while in standby mode. Photo: Quarnot Computing

V \textbf{Vegetarian dishes} are delicious alternatives. According to scientific research, a plant-based diet with grain products, vegetables, and fruits has health as well as environmental benefits. Photo: FFHSH

W \textbf{Waste separation} is essential for the environment and it’s easy to do. It can even recoup its cost in some countries. Photo: Cristine Lietz/Unsplash

X \textbf{X-Men: Days of Future Past}, a 2014 American superhero film based on the fictional X-Men characters who appear in Marvel Comics, was sustainably produced by 20th Century Fox. Photo: 20th Century Fox

Y \textbf{Yes Men}, the rom de guerre of two New York filmmakers who create provocative media actions, can balance a production’s carbon impact by participation in a sustainable project, such as reforestation. Photo: The Yes Men

Z \textbf{Zero carbon impact} is the certification agency responsible for granting a seal of approval to sustainably produced wood and wood products. Photo: FFHSH