

# EBU

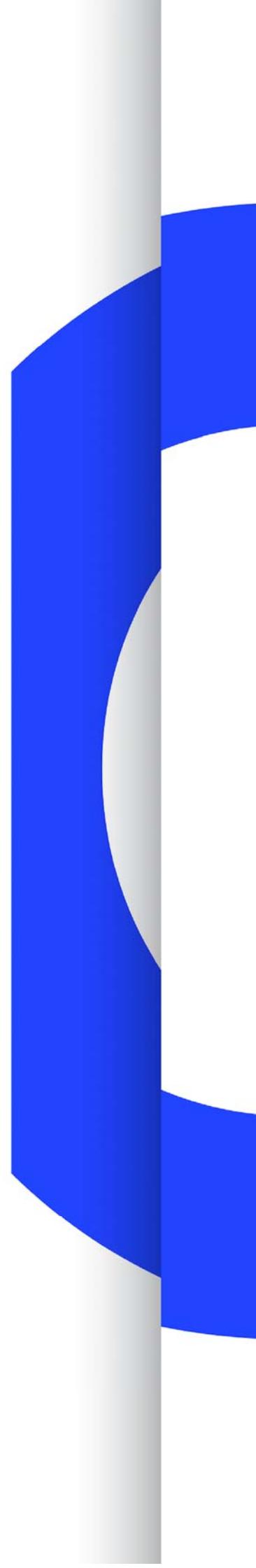
OPERATING EUROVISION AND EURORADIO

## TECH 3367

## SUSTAINABLE PRODUCTION

## OVERVIEW

Geneva  
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# Contents

Scope .....	5
An Essential Glossary.....	5
1. What is Sustainable Production? .....	6
2. Motivation for sustainable production .....	6
2.1 Benefits .....	7
2.2 Examples of sustainable production practices.....	7
3. How to implement Sustainable Practices .....	8
3.1 The process.....	8
4. Broadcaster and organisation case studies .....	9
4.1 BBC, UK .....	9
4.1.1 BBC and sustainable production .....	9
4.2 YLE, Finland .....	9
5. Industry network case studies .....	9
5.1 BAFTA consortium (UK) .....	9
5.1.1 albert .....	10
5.1.2 albert+ .....	10
5.2 HFF Potsdam / Green Film Initiative, Germany .....	11
6. Production case studies .....	12
6.1 All at Sea, BBC Children’s Drama .....	12
6.2 Der Landarzt, ZDF TV Series .....	12
7. Further Information .....	13



## Sustainable Production

### Overview

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SP-Green	2014		

**Keywords:** Sustainable production, carbon footprint, green broadcasting.

### Scope

This document focuses on reducing the environmental impact from producing television or radio programmes. Only the production process is discussed here and not how the programme is broadcast or distributed.

### An Essential Glossary

Greenhouse gases (GHGs)	carbon dioxide (CO <sub>2</sub> ), methane (CH <sub>4</sub> ) and nitrous oxide (N <sub>2</sub> O), together with families of gases including hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs).
Carbon emissions	same as Greenhouse gas emissions. Both terms are used interchangeably.
Carbon footprint	describes the amount of greenhouse gas (GHG) emissions caused by a particular activity or entity. It is generally measured in tonnes of carbon dioxide equivalent (CO <sub>2</sub> e) which converts the impact of all other GHGs into the equivalent impact of carbon dioxide. General convention has been to use a 100 year timescale for this
Carbon calculator	a tool to help track carbon emissions and calculate a carbon footprint
Production carbon calculator	a carbon calculator designed specifically for TV production. It calculates the carbon footprint for the production based on resources used e.g. transport, electricity, materials during pre-production, production and post-production.

## 1. What is Sustainable Production?

Sustainable production is the making of programmes in a way that has a positive impact on the people and places involved in their creation. This means:

- Minimising carbon emissions with an ultimate aim of zero emissions
- Improving energy efficiency
- Minimising waste to landfill, with an ultimate aim of zero waste to landfill
- Sharing sustainable values with all suppliers, cast and crew
- Seeking to improve performance and trying to leave a positive legacy

A sustainable production must:

- Seek to reduce the negative environmental impact of programme production wherever possible
- Share and embed sustainable values and behaviour with the cast, crew and supply chain
- Promote sustainable production values to colleagues within the production or company, across the wider industry, and where appropriate, communicate these to the audience
- Measure and monitor its environmental impact

## 2. Motivation for sustainable production

Throughout history natural factors such as the Earth's pathway around the sun, volcanic activity and fluctuations within the climate system have determined the environment in which we live. However, the influence of human activity such as burning fossil fuels, deforestation and livestock farming are now having an undue effect on the planet's climate.

The vast majority of the world's leading scientists now state that the climate system is warming and that the dominant cause of this is due to *greenhouse gas emissions* from human activity.

Carbon dioxide is the most common of the greenhouse gases produced by human activities (63% of greenhouse gases) that contribute to global warming. The main source of carbon dioxide comes from the burning of fossil fuels.

The latest consensus amongst the scientific communities suggests that if no action is taken to reduce greenhouse gas emissions, there will be a 2 - 5°C increase (compared with 1990) in the average global temperature by the end of this century.

If the average global temperature increases by more than 2°C, the consensus of opinion is that catastrophic changes in the global environment will occur. For this reason the international community has recognised the need to keep warming below 2°C. The consequences of climate change will be higher temperatures, in turn affecting rainfall patterns, the melting of glaciers, an increase in sea levels and more extreme weather will occur. Together this will mean more widespread flooding and periods of drought which pose a serious threat to human life, economic development and the natural world on which we all depend.

The EU has set a number of targets that member countries must legally meet; they are at the forefront of encouraging other nations and regions to reduce greenhouse gas emissions. It is apparent that meeting these targets carries a cost, but doing nothing will be far more expensive in the long run.

The EU has committed to cutting emissions by 20% below 1990 levels by 2020 and by 80 - 95% compared to 1990 levels by 2050. If these goals are to be achieved, all industries must face up to their responsibilities and increase sustainable business practices. The broadcasting industry, and particularly public service broadcasters must play their part in this push to become more sustainable. Being proactive and looking for ways to becoming more sustainable is a crucial part of

this overall strategic plan of preventing catastrophic man-made climate change.

It is estimated that broadcasting is responsible for around 2% of global carbon emissions<sup>1</sup>, which is comparable to the aviation industry. The vast majority of these carbon emissions come from the consumption of fossil fuels. This consumption is due to activities such as travel, electricity use, and consumption and waste of non-renewable materials.

Additionally, due to resource scarcity and the growing global demand for energy, it is forecast that electricity prices and the costs of processing raw materials will continue increasing. Given the broadcast industry's dependence on electricity, it is imperative that it should be as energy efficient as possible for its longer term sustainability.

The importance of measuring and whenever possible reducing the carbon emissions that stem from television and film production cannot be overemphasized. By quantifying these emissions we can understand our impact and target those high emission activities, reducing them by reworking our business operations and culture.

Promoting sustainable production is a way of helping our industry reduce its energy and resource use and to play its part in preventing climate change. As a creative industry and as public service broadcasters, we can be at the forefront of ideas and innovation that could help and inspire other industries to change for the better.

## 2.1 **Benefits**

Adopting sustainable production practices has many benefits such as:

- **Environmental benefits** - Helps to lower carbon emissions, reduced waste, increases reuse and recycling, promotes sustainable practices and preserves finite resources.
- **Financial savings** - Some sustainable production practices can save productions money. Reduces waste and improves efficiency. Reduces carbon tax payments.
- **Risk Management** - Reduces the potential for environmental damage / accidents.
- **Innovation** - Helps introduce innovation and can improve how productions operate.
- **Collaboration** - Promotes pan-industry perspective and sharing of information
- **Reputational benefits** - Shows commitment to environmental and social responsibility. This will have knock-on effects for staff morale and public / audience perception of the organisation.
- **Employee recruitment and retention** - Having a strong stance on sustainability has been shown to be a significant factor in recruiting and retaining staff
- **Carbon literacy** - Promotes carbon literacy and better understanding of sustainability amongst production teams, suppliers and the audience.

## 2.2 **Examples of sustainable production practices**

Sustainable production involves making positive changes to the programme making process - these can be in any of the areas of travel, accommodation, catering, lighting, technology etc. Here are a few examples that have already been put into practice:

- Using low emission vehicles (i.e. below 100 g CO<sub>2</sub>/km) reduces fuel use by, on average, 30%. One television drama shoot managed to save £8000 by switching their unit cars to hybrids.
- On television dramas operating an opt-in policy for paper (i.e. only issuing paper copies of

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<sup>1</sup> Forster C., Dickie I., Maile G., Smith H. and Crisp M. (2009) Understanding the Environmental Impact of Communication Systems. Report for Ofcom. Available from <http://stakeholders.ofcom.org.uk/binaries/research/technology-research/environ.pdf>.

documents to those cast/crew who ask for them ), typical paper use drops by 60% i.e. on average a standard 12 week drama shoot will use about 100 boxes of paper as compared with approximately 40 on a shoot which has an opt-in policy

- BBC drama, Jonathan Creek saved £400 over a three week shoot by utilising reusable water bottles and water coolers instead of expensive bottled water. This also reduced waste.
- It is usually cost neutral or even slightly cheaper for caterers to utilise biodegradable disposables (which are currently more expensive than non-biodegradable disposables) when done so in conjunction with reusable mugs, bottles, cutlery and plates.
- Low energy lighting has the potential to save between 30% and 50% in energy costs compared to traditional lighting methods such as tungsten or HMI lighting. Further savings in money and time can also be made because low energy lights are cooler in temperature and therefore studio air conditioning costs can be reduced as can the need for high temperature related make-up and costume checks. Finally, running costs can be reduced as incandescent production lighting has a much shorter service life than the more efficient low energy lights which can have a life span up to 50 times longer.
- Communicating with suppliers can have a major impact on the environment. Father Figure, a BBC Comedy show, asked the taxi firm supplying their transport to provide low emission vehicles. This resulted in a reduction of carbon emissions of 1.4 tonnes of CO<sub>2</sub> over the course of a 5 week shoot.
- BBC Children's Drama "All At Sea" saved £700 over 12 weeks by using rechargeable batteries for sound recording rather than disposables.

### 3. How to implement Sustainable Practices

Sustainable Production requires changes to how individual productions are made and also changes at the organisational level.

The 3 most important factors needed are strong leadership, engaging the production teams and working with the supply chain.

- **Leadership** - make sustainability a priority and embed it into the strategy and aims of the organisation. Assist with converting strategy into actions.
- **Production teams**- help productions understand what they can achieve and supply them with resource and advice.
- **Suppliers** - tell your supply chain that you expect them to adopt sustainable practices when providing products and services. Give them advance notice and be specific.

#### 3.1 The process

- **Measure** - monitor the organisation's energy, transport and water use plus waste recycling levels and set organisational targets. Measure the carbon footprint of individual productions e.g. using production carbon calculators.
- **Put in practice** - devise practical measures for implementing sustainable production practices e.g. fewer and more efficient buildings, video conferencing etc. See EBU TR 031, "Practical Steps to Sustainable Production" document.
- **Engage staff** - explain benefits in accessible way and provide opportunities for feedback and ideas e.g. provide information and train people with production relevant advice.
- **Verify** - monitor progress and set goals.

## 4. Broadcaster and organisation case studies

### 4.1 *BBC, UK*

The BBC's sustainability strategy is called The Difference and focuses on five areas:

1. Operations and facilities - reducing the impacts of the infrastructure it provides and operates, for example by investing in energy efficiency for its buildings. The BBC has set a range of targets on energy, waste, recycling and water use.
2. Working practices - addressing behaviour, for example by reducing travel through video conference use and using 'pull printing'.
3. Work with suppliers - improving the sustainability of products and services it procures.
4. Industry leadership- embedding sustainability in the TV production process and working closely with partners in the broadcast industry e.g the EBU, the BAFTA albert consortium.
5. Staff Engagement - encouraging and enabling sustainable behaviour by BBC staff across the organisation.

BBC Sustainability Website - <http://www.bbc.co.uk/outreach/sustainability/>.

#### 4.1.1 **BBC and sustainable production**

All BBC television productions are required to use albert, a production carbon calculator to predict their carbon footprint at the start of pre-production. They are then encouraged to take practical steps to reduce this and at the end of post-production must provide their actual data to produce the final footprint.

Productions that have successfully achieved the albert+ mark can include it as part of their end credits in order to demonstrate the commitment to sustainable production to audiences.

### 4.2 *YLE, Finland*

Currently, YLE has an environmental policy and action plan focusing on energy efficiency, a more eco-friendly travel policy and car fleet with lower emissions, waste management and recycling, and employee engagement. One of their big studios will test LED-lights when they renovate their facilities and they aim to reduce office space by 40 % by 2017.

They are starting to think about sustainable production and in partnership with a local university aim to carry out some pilot productions during 2014.

## 5. Industry network case studies

### 5.1 *BAFTA consortium (UK)*

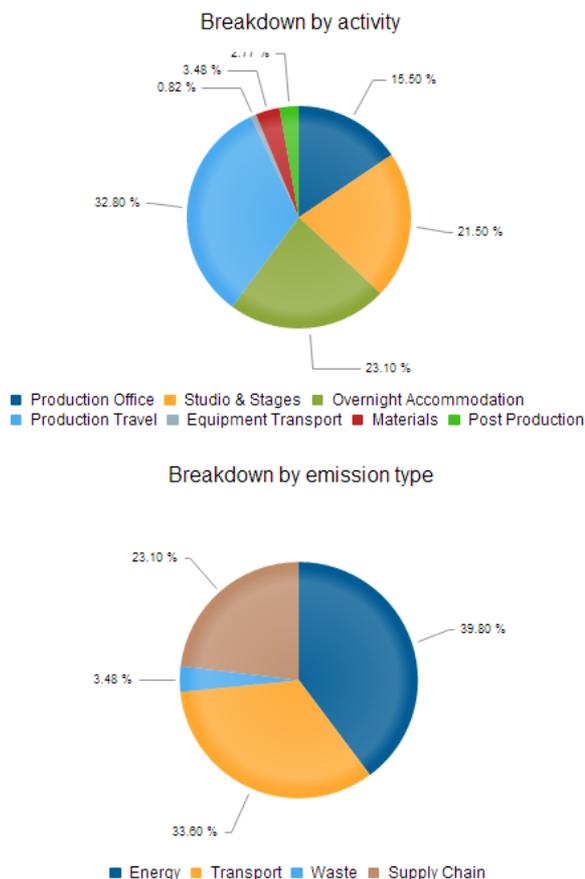
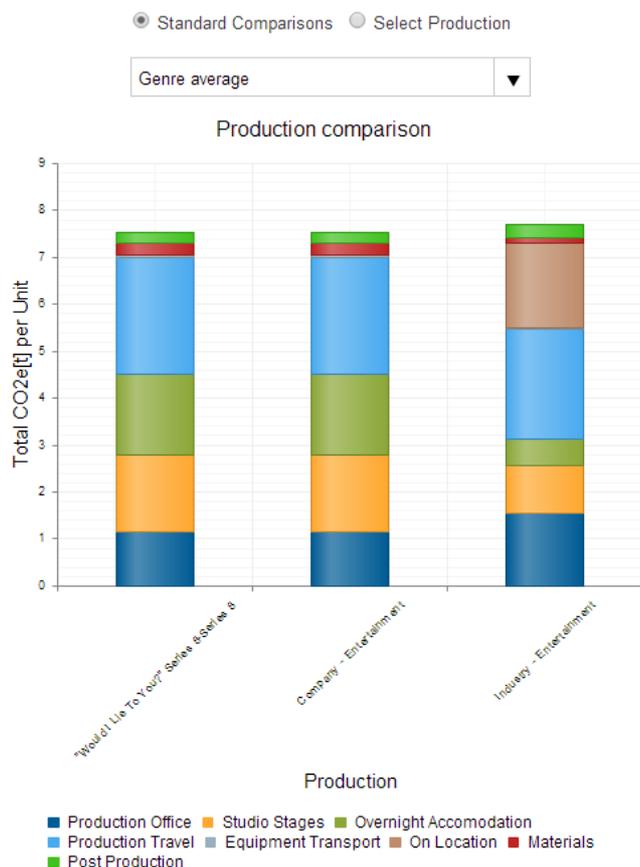
The British Academy of Film and Television Arts (BAFTA) has brought the UK's major broadcasters and independent producers together to form a consortium on sustainability. The group runs albert and albert+ and acts as a hub to share best practice across the UK television production industry.

### 5.1.1 albert

albert is an online carbon footprint calculator for TV productions. Originally developed by the BBC, it is available for free to all programme producers through BAFTA.

<http://www.bafta.org/about/sustainability/albert>

By entering data about their travel, accommodation, material and energy use etc, productions can calculate their carbon footprint.



### 5.1.2 albert+

albert+ is a checklist-based assessment tool to help production teams reduce their impact on the environment, and embed sustainable production values within their shows. It helps teams make their programmes in more sustainable ways, keeps track of their achievements, and then rewards them with an albert+ rating.

Starting at the pre-production stage, teams taking part in albert+ work through a range of ideas and suggestions from the albert+ checklist. They then decide what aspects work for them, and put them into practice.

albert+ focuses on the following areas of the production process:

- Leadership
- Production Office
- Studios & Stages
- Travel
- On Location
- Post-Production

Some albert+ actions are obligatory (called 'green star' questions) and must be implemented, but productions can use their discretion over which other albert+ actions they adopt.

Each action must be supported with evidence or other auditable information, as the albert+ process is verified to ensure the rating system is robust and meaningful.

**albert+**

This is a process designed to help production teams make their programmes in a more sustainable way, keep track of their progress and achieve albert+ certification.



**Productions score points and work towards albert+ certification by addressing their environmental impact in the following ways:**

Adopting **best practice** for sustainable production (BP)  
 Promoting sustainable values to stakeholders through **effective communication** (EC)  
 Achieving a measured **carbon reduction** (CR)  
 Productions may achieve a **further point** by demonstrating an exemplarily instance of any of the above (+1)

**To achieve a starred rating, productions must:**  
 Gain sufficient points for that banding of certification  
 Act upon all starred questions (★)

Rating	Score Required	Instructions:
+	50 - 74	Accompanied by a member of the sustainability team and in <u>pre-production</u> , users should work through the questions to identify ways to reduce the negative environmental impacts that can arise from production.
++	75 - 89	Throughout production, programme teams should act on agreed tasks and collect evidence as appropriate.
+++	90 +	

## 5.2 HFF Potsdam / Green Film Initiative, Germany

The Green Film Initiative was founded as part of the interdisciplinary media lab Climate Media Factory (CMF) that was started in 2009 between the Konrad Wolf Hochschule für Film und Fernsehen (HFF) and the Potsdam Institute for Climate Impact Research (PIK).

While the CMF is committed to developing media products that address the issues of climate change and sustainability and to showing courses of action for each individual by using audiovisual media, they realised that the actual sustainable means of production were not addressed by a research body in Germany. As an independent research initiative they focus on different areas:

1. Awareness in the industry in Germany: they regularly talk with producers, funders, film commissions, the producers' alliance, broadcasters, organizations and service companies from the sustainability sector and inform them on the goings-on at EU / international level.
2. Research: they constantly research in the field of Green Film production methods, best use of technology innovation, production best practices, use of Carbon Calculators from Germany and around the world. They also contributed and examined university research diploma projects on the topic.
3. Cooperation in Europe and abroad to share knowledge and find common standards: they exchange ideas and common practice with partners with the aim to find common guidelines, standards and incentives for producers in Europe and worldwide.
4. Information and Training for the industry: they held workshops at film festivals, invited guest speakers to their own conference, created a university seminar on green production, talked with producers and service companies to raise awareness, understanding and know-how for that topic.

5. Supporting film productions with know-how and represent the topic at funding level: they support first movers in the field with practical advice and guidance and speak to the film commissions and film funds at regional and national level about supporting producers to go green.

The website of the Green Film Initiative: [www.greenfilminitiative.de](http://www.greenfilminitiative.de)

## 6. Production case studies

### 6.1 *All at Sea, BBC Children's Drama*

All At Sea is a BBC Children's Drama which undertook the albert+ assessment. They managed to achieve the following positive outcomes:

- The production team used albert+ right from the start of pre-production to help embed sustainable production practices
- The production team had clear leadership from the top - environmental goals were set and communicated, and feedback and ideas sought
- Cast and crew had to opt-in to receive hard copies of call sheets, schedules, scripts, etc., reducing paper use by an estimated 60%
- Team very conscious of energy use: in production office - lights, computers, copiers etc. were turned off at the end of each day; on location/in studio - the unit base ran off local power whenever possible; lighting department ensured equipment switched off when not in use
- FSC & PEFC Timber used for set construction
- Catering contractor sourced local and seasonal produce, recycled waste and used biodegradable disposables and water-coolers instead of bottled water
- Reusable mugs used by cast and crew; only biodegradable disposables provided
- Paper, plastic, metals and sensitive data documents recycled to Environment Agency guidelines
- Car sharing encouraged amongst the crew; many of the cast shared transport
- Rechargeable batteries exclusively used by sound department - saved approx. £700
- Cloud computing used to share rushes
- Recycled tapes used for deliverables and DVD copies limited to on-request only
- The All at Sea team subsequently helped other BBC and independent productions by advising them on best sustainable production practice.

### 6.2 *Der Landarzt, ZDF TV Series*

The production company Novafilm, part of the Odeon Film AG Group, decided to go green with the production of their TV series. They are the first ever German TV series to have received a Green Shooting Card from the Film Commission Hamburg Schleswig-Holstein. The following steps were taken in the production of the series:

- An adjusted Carbon Calculator was used before production started to predict the carbon footprint; they then worked to better this figure.
- By using renewable energy, the energy carbon footprint was significantly reduced
- As the series was shot on location in a remote place and renewable energy was used, travel was by far the largest factor in the carbon footprint. Catering, accommodation and production were much less impactful.
- On set, the crew used biodegradable and reuseable mugs instead of plastic disposables.
- Catering was regional and seasonal, and also organic to some extent, when affordable.

- LED lights and generators with improved energy efficiency were used
- Sets were re-used and eventually recycled.
- The use of paper on set and in the office was reduced, but a paperless office was still not possible.
- The production company implemented sustainability as a philosophy.
- Although the idea was set by the management, the cast and crew took on the challenge, generated their own ideas and changed the production with not much extra effort and within budget.
- Flights were reduced to a bare minimum and most travel was by train. Car sharing was also introduced.
- The 21st season of the series produced 175 tonnes of CO<sub>2</sub>. The offsetting of this was paid for by the production company itself, not the broadcaster.

## 7. Further Information

### ***More information is available from:***

- EBU TR 031: this documents contains a list of recommendations for specific steps that a production or organisation can take
- The EBU's Sustainable Technology In Broadcasting group <https://tech.ebu.ch/groups/green>
- The Media Greenhouse website <http://mediagreenhouse.co.uk> from BAFTA is full of useful and practical information on sustainable production.

### ***Links to other organisations:***

- [www.greenfilminitiative.de](http://www.greenfilminitiative.de)
- [www.ecoprod.com](http://www.ecoprod.com)
- [www.pgagreen.org](http://www.pgagreen.org)
- [www.greenproductionguide.com/](http://www.greenproductionguide.com/)
- [www.sonypictures.com/green/](http://www.sonypictures.com/green/)
- [www.greenisuniversal.com/](http://www.greenisuniversal.com/)
- [thewaltdisneycompany.com/citizenship/environmental-stewardship](http://thewaltdisneycompany.com/citizenship/environmental-stewardship)