



AFF CO2 Neutral 2007

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Carbon Footprint Analysis AFF 2007

1.0 Overview

From Alpinist - "The Alpinist Film Festival (formerly the Barry Corbet Film Festival) honors Barry Corbet's athletic and artistic spirit with films that celebrate the adventure lifestyle across disciplines and generations. The festival's mission is to advance the art of cinematographic storytelling as it underscores the unity among adventure lifestyle communities. A portion of the proceeds from every festival are donated to charity in order to foster well being in the places of our inspiration." This year's charity recipient will be One Percent for the Teton's - a local non profit based on and affiliated with One Percent for the Planet.

2.0 Background

Global warming caused by manmade emissions of carbon dioxide from the burning of fossil fuels is the most frightening and compelling environmental concerns of our time. There is no debate as to whether global warming is caused by our consumption of fossil fuels. Similarly, there is no debate in the scientific community that global warming will lead to devastating environmental, social, and economic impacts globally in the form of flooding, severe storms, wildfire, loss of biodiversity, mass human migration, and declines in agricultural productivity.

The Arctic has long been regarded as a canary in the coal mine when assessing the impact of global warming. "The Arctic is now experiencing some of the most rapid and severe climate change on earth." is what the Arctic Climate Impact Assessment of 2004 had to say. From today's headlines comes this - "The Arctic ice cap has collapsed at an unprecedented rate this summer and levels of sea ice in the region now stand at record lows" from the Guardian this morning. <http://www.guardian.co.uk/environment/2007/sep/04/climatechange> In fact, the Northwest Passage across the top of Canada is currently open and experts at the University of Colorado predict that the summertime Arctic could be completely free of ice as early as 2030.

Alpinist Film Festival recognizes that the production of it's events contributes to global warming through several channels. In order to help preserve the places featured in the films shown at the AFF itself, energy conservation measures will be used and high quality renewable energy and emissions reduction and/or renewable energy programs will be supported through market mechanisms.*

* Renewable Energy Credits and Certified Emissions Reductions are both traded on the [Chicago Climate Exchange](#). The market for emissions and renewable energy trading is expanding, including the breadth of instruments traded.



3.0 Methodology

The guiding documents and tools for the AFF's greenhouse gas inventory assessment and mitigation strategy will be the [Greenhouse Gas Protocol](#) along with the [Carbon Neutral Protocol](#).

This study will seek to be accurate, transparent, and complete - with any exclusions disclosed and justified.

The Inventory boundary will be

- Building Infrastructure - electrical and gas
- Transport Fuel - Diesel, Unleaded, Jet A
- Paper - printing of flyers, press kits, posters, programs, etc.
- AFF office time to prepare festival
- VIP party - gondola and Bridger building (JHMR is 100% wind powered - www.jacksonhole.com/info/jhpressreleases/jhpressreleases.011907.release.asp)
- AFF office travel - festival preparation

The inventory boundary will not include embodied energy from the production of the films shown - while a worthy goal, it is beyond the scope and resources of the project at this time.

Infrastructure, and transportation figures are derived from the [Climate Trust's](#) publicly available spreadsheet and also used for calculation is the [Bonneville Environmental Foundation's online carbon calculator](#). This data is blended with paper figures from *Going Neutral - A Guide for Publishers* (Dauncy, www.earthfutures.com)

Accuracy and completeness are difficult to achieve with many of the areas taken into consideration. Where accuracy and completeness are not possible - we make conservative estimates and then add a reasonable amount to reach our numbers, which should be higher than actual consumption if anything.

4.0 Assumptions

- Alpinist office uses an average of 1225 kWh/year for a daily figure of 40.613 kWh
- Alpinist office uses 48 days over 4 months to prepare festival = 1950 kWh = 4486 lbs CO₂ (BEF)
- 48 days X 20 sheets + 400 pages (guides) + posters = paper consumption of approx. 1500 sheets (17x22) @ 4.5 kg/500 sheets and 3.24 kg CO₂ per kg paper = ~100 lbs CO₂



- Wyoming CO2 per kWh = 2.3 †
- 80% participants driving 20 miles per day of event X 800 people = 12,800 participant miles@17mpg = 753 gal X 20 lbs CO2 per gallon (diesel and unleaded figures blended together) = 7.5 tons CO2 Add office driving 48 days @ 20 miles ~ .5 ton + 1 tons for beer delivery from New Belgium = 9 tons
- Diesel @ 22.384 lbs CO2 per gallon fuel‡
- Unleaded @ 19.564 lbs CO2 per gallon fuel (see diesel footnote)
- 20,000 total air miles for presenters and film makers§ (1000 miles = .5 tons CO2) = 10 tons
- 22,500 sq ft used for hall and arts center
- 25 participants/presenters staying in hotels for 3 nights
- embodied energy from production of films not included

† From the U.S. Department of Energy and U.S. Energy Information Administration Form EIA-1605 (March 2006, data through 2005), Voluntary Reporting of Greenhouse Gases, Appendix C: Adjusted Electricity Emission Factors by State.
From Energy Information Administration - Electric Sales, Revenue, and Average Price 2005, Table 5 (Nov. 2006).

‡ These conversion factors come from the U.S. Department of Energy and the Energy Information Administration, Instructions for Form EIA 1605B, Voluntary Reporting of Greenhouse Gas Emissions, Appendix B. (Natural gas = 12.0593 lbs. of CO2/CCF and 11.708 lbs. of CO2/Therm, Oil = 22.384 lbs. of CO2/Gallon, Propane = 12.669 lbs. of CO2/Gallon.

§ 'Radiative Forcing Index' (RFI) multiplier of 2 for all aviation calculations. At present there is good scientific evidence to suggest using an RFI value of 2 as a minimum. Future research may result in this value being increased to account for effects that we have limited understanding of at this time. The RFI is a multiplier which allows for the environmental effects of all aircraft emissions at altitude to be considered. These effects are much greater than the CO2 which is released from burning the fossil fuels alone. NOx (Nitrogen Oxide) emissions at altitude produce O3 (Ozone), with a climatic impact similar in size to the CO2 emissions. The IPCC (1999) estimated the RFI for aviation in 1992 to be 2.7 with a range of 1.9 to 4.0. The TRADEOFF project has recently re-assessed aviation radiative forcing (Sausen et al., 2005) and the RFI for the year 2000 was calculated to be approximately 2.

Sausen, Robert; Isaksen, Ivar; Grewe, Volker; Hauglustaine, Didier; Lee, David S.; Myhre, Gunnar; Köhler, Marcus O.; Pitari, Giovanni; Schumann, Ulrich; Stordal, Frode; Zerefos, Christos, 2005: Aviation radiative forcing in 2000: an update on IPCC (1999). Meteorologische Zeitschrift, Volume 14, Number 4, August 2005, pp. 555-561(7)



5.0 Footprint

Item	Description	Source Used	CO2 in metric tons
Building Infrastructure	kWh and Gas for event and prep	Climate Trust and BEF (blended)	4.2
Transport Fuel	Diesel and Unleaded fuel for participant/organizers/ food and beverage	multiple	9
Jet Fuel	20,000 miles air travel	IPCC / carboncounter.org	10
Paper	Event guides, posters, office paper	Dauncy	.075
VIP Party	at top of gondola in Bridger building	JHMR	.75
Total Est. + 25%	CO2 from event	multiple/blended	30 tonnes

6.0 Offsetting

There are many offset providers offering a myriad of offset options ranging from top quality, additional wind and solar projects to spurious ER projects and many others of varying veracity..

Here are links to some of the better providers

- [Bonneville Environmental Foundation](#)
- [Climate Trust](#)
- [Native Energy](#)
- [TerraPass](#)
- [Carbonfund](#)

7.0 Disclaimer

Teton Power, Inc. appreciates your interest in calculating the carbon footprint of your organization's event. We have used the most recent tools and data available to attempt to calculate how much carbon dioxide will be emitted as a result of energy usage associated with the event including air travel, auto travel and transport, electricity and gas usage for building infrastructure, and consumables associated with organizing the event. Please note that the events estimated carbon footprint will not be certified by Teton Power, Inc. Although we have attempted to account for the vast majority of



the AFF's footprint, Teton Power, Inc. cannot provide any statement attesting to the completeness or accuracy of this report. We have sought out the most credible sources of information including the US EPA, the IPCC, several NGO offset providers, and private company data.