A solar-powered car, a modified Volkswagen Golf, is shown driving on a road at sunset. The car is white with blue accents and has 'swisscom' written on the side. The sun is low on the horizon, casting a warm, golden glow over the scene. The car's headlights are on, illuminating the road ahead. The background shows a hilly landscape with trees and mountains under a clear sky.

Not many people can keep an audience of more than 200 entertained with a two-hour slideshow. When most of that audience is comprised of teenagers, the task becomes almost impossible. However, impossible is not a word you often hear from 36-year-old Swiss adventurer, Louis Palmer. He just returned from a 53,451-kilometre journey around the world in a homemade, zero-emissions solar-powered taxi.

Driving into the future on solar power

By Matthew Beattie | Palmer's passengers have ranged from an inebriated hitchhiker to government ministers and the Secretary General of the United Nations, so the anecdotes from his journey are numerous and hugely entertaining. Moreover, they carry a serious message about climate change and the technology we can fight it with.

Reels – and wheels – that rivet
Swiss News caught up with the adventurer and former teacher during a presentation he gave to pupils of Kantonsschule Luegeten in Zug, shortly after his triumphant return to Switzerland.

Until recently, this reporter seldom had good experiences with other people's travel pictures. As a rule, the entertain-

ment provided was usually in inverse proportion to the number of photographs shown. Minutes would pass like decades while I tried to think up excuses for escape before the next cartridge of slides got loaded into the projector ...

This changed when I saw Palmer's presentation. Humorous, entertaining and thought provoking, it was a genuine de-

light. His photos and videos were a beautifully captured testament to a unique and inspiring journey across 38 countries and five continents in the Solartaxi.

Teenagers filled the Kantonsschule Luegeten auditorium almost to capacity, yet the room was silent. As Palmer spoke, only bursts of laughter or applause in response to his experiences disturbed the calm.

“Driving around the world was a childhood dream,” Palmer explains. “But I wanted to do it in a way that would not damage the planet. I was 14 years old when I came up with the first plan for a solar-powered car.”

Started to action

But it wasn't until later that Palmer was driven to realise his ambition. While touring five continents between 1994 and 2000, he saw for himself the impact of global warming: drought in Africa and Afghanistan, and unprecedented rainfall in South America.

“The climate was changing. Our planet couldn't afford to wait for somebody to take the initiative to develop zero-emissions vehicles,” he says. “Something needed to be done immediately.”

The formulation of his plan began almost as soon as he arrived back in Switzerland.

“I returned from my trip determined to make a difference. If nobody else was willing to do it, I would build my own car and prove the viability of alternative technologies,” Palmer explains. “The world has known about global warming for the past 25 years, yet some people still think there is nothing they can do. This is absolutely incorrect.”

No money, no technical knowledge ... no problem.

As a primary school teacher, he didn't have the first idea about how to start the construction of such a car. Nor did he have the financial resources. Such obstacles would discourage many, but not Palmer. Instead, he set out on a quest for support that would take him to every corner of Switzerland and require all his powers of persuasion.

First, he approached the HTA Technical University in Lucerne to come up with a design for the vehicle. At the same time, through a request to the ETH Zurich (Federal Institute of Technology), he secured help to design the trailer to

carry the photovoltaic cells that would power the Solartaxi. By March 2005, the plans were complete.

Still lacking funds, Palmer approached companies across Switzerland and Germany in the hope they would provide the components he needed to construct his vehicle. With his passion and inimitable presentation style, he convinced many forward-thinking companies to provide everything from aluminium for the frame, to the battery and motor.

Schindler AG donated the time and skills of their talented apprentices to build the frame; the leading German solar cell manufacturer, Q-Cells SE, not only provided the solar arrays, but was also so impressed by the project, they became the main sponsor for the world tour.

Ready to roll

By February 2006, the Solartaxi was ready for testing at the airstrip in Buochs, Canton Nidwalden.

“Unfortunately, we couldn't get police approval to test it on the road,” says Palmer. “At that time, the car was just a shell with wheels.”

Nevertheless, it exceeded all expectations.

“The trailer wasn't ready, so we relied on battery power. Despite this, we achieved 90 kilometres per hour. Impressive, considering the car had no bodywork and no brakes,” he adds.

Following the test's success, the task of transforming the shell into a recognisable car began in earnest. And in June 2006, the Solartaxi was finally complete.

It received its registration from the Lucerne Department of Motor Vehicles, passing its safety tests on the first go. After a year of endurance testing that took Palmer as far as Barcelona and across some of the highest roads in Europe, the Solartaxi was ready to face the challenge of a journey around the globe.

53,451 kilometres = 0g CO₂

On July 3, 2007, Palmer and his support team set off from Lucerne. They had only a rough idea of the route their journey would take; their loose plan was to visit events and organisations concerned with climate change along their way.

With no suitable electric vehicles available for the job, the support team drove a diesel Toyota van. To keep the project carbon neutral, all of the carbon emissions produced by the support trans-



Did you know ... ?

According to the WWF, Swiss nationals drive an average of 28 kilometres a day for work and pleasure. This amounts to 40 per cent of the country's CO₂ emissions over the course of a year.

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 GRÜEZI
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port were offset through investments in green energy projects.

Although the power for the Solartaxi would come predominantly from the on-board solar arrays, it was also necessary to use battery power for night driving and low-light conditions. To ensure that no additional CO₂ was produced from charging the battery, Palmer came up with an ingenious way to ensure all electricity used was offset by electricity generated from renewable sources.

“Throughout the trip, we had solar panels on the roof of a building in Bern feeding electricity into the Swiss energy grid,” Palmer explains. “CO₂ emissions are a global problem. By treating the world’s electricity supplies as a power bank, we could draw electricity from the mains in Indonesia or the United States, knowing that back in Switzerland, the equivalent electricity was being fed into the Swiss system from a sustainable source; thus the global CO₂ balance would remain the same.”

Without the on-board battery, the Solartaxi would have been too reliant on weather conditions for a viable trip. Although the solar panels and regenerative braking system delivered the majority of the power, the security of an on-board battery meant that more miles could be covered each day, regardless of poor light or heavy cloud cover.

The first leg of the journey took them from Lucerne to the United Nations in Vienna, before moving onwards across Europe and crossing into Asia at Istanbul. From there, they drove through Syria, Lebanon, Jordan, Saudi Arabia and the United Arab Emirates before shipping the car in a container ship across the Arabian Sea to India.

“The one thing that stood out throughout the trip was just how enthusiastic people were for the solar-powered car,” Palmer recalls. “I was anticipating problems. After all, we couldn’t drive any faster than 80 kilometres per hour. I would see a car pull out to overtake after

being stuck behind us for miles; instead of the rude gestures of frustration I expected, people would wave or give me the thumbs-up.”

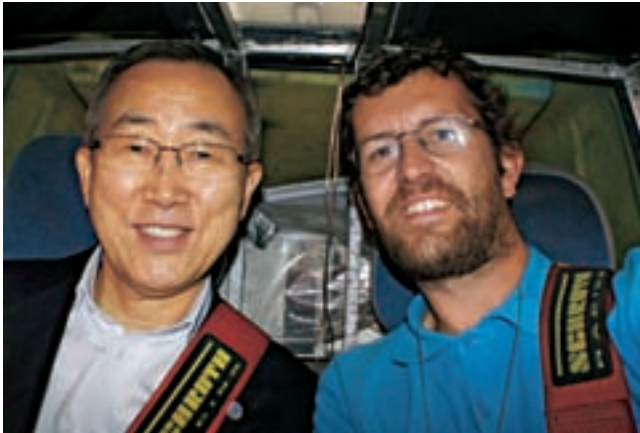
Sacred cows, chaos and celebrities

The trip wasn’t without difficulties. Just after Palmer crossed the border into Syria, somebody crashed into the trailer. Fortunately, Swiss craftsmanship withstood the impact well, which was more than could be said of the other car.

The chaotic roads of India presented a different challenge, with buses, motorcycles, cars and sacred cows all competing for space and testing his nerves and driving skill. In Jaipur, a Hyundai pulled out of a side road and crashed into the side of the trailer. Again, it was one in the eye for mass production, since the Solartaxi suffered only superficial damage. However, the police nearly seized both vehicles until blame could be determined.

“If it hadn’t been for a member of the crew filming the whole incident from a fol-

Louis Palmer with UN Secretary General Ban Ki Moon; in Beijing; crossing the Golden Gate Bridge; and showing the Solartaxi to Jay Leno



© All photos Solartaxi



Louis Palmer posing in Dubai; driving through Monument Valley in Arizona; on the road in Seoul; and in Luang Prabang in Laos

lowing rickshaw, the car would have been impounded until a court date was available. As this process can take anything up to six years in India, it was a lucky escape," Palmer says.

Their journey took them onward to Bali for the World Climate Change conference, where the taxi served as official transport for the event, and was graced by passengers like Bianca Jagger and Michael Bloomberg, the mayor of New York City.

"Bali was my favourite part of the entire trip. It was tropical, hot and beautiful," Palmer tells me. "The Balinese were just so friendly. They had so much joy for life."

Down under with The Rainbow Warrior

The journey continued with a choppy ride on Greenpeace's ship – *The Rainbow Warrior* – to Australia and New Zealand, then Singapore, South Korea, China and Japan before Palmer returned to Switzerland for a break. He resumed the tour in the United States and Canada.

After a journey across so many countries, Palmer has enough stories to fill a novel. However, his encounter with the UN Secretary General Ban Ki Moon in New York likely ranks among one of the most personally significant. It affirmed everything he hoped to achieve with the venture.

Ban Ki Moon encapsulated Palmer's mission in a statement to the press following a journey in the Solartaxi. "I

hope that this Solartaxi, one of the alternate sources of energy, can give some good messages to the people around the world that we need to be creative, we need to be practical. We need to really address these energy issues and also address the climate change issues."

Palmer's global adventure finally ended on December 18, 2008, well before his self-imposed deadline of getting back to Lucerne for Christmas with his family. Behind Palmer and his team lay 53,451 kilometres of motoring (and only two breakdowns), and with them, a multitude of friends, supporters and well-wishers in 38 different nations around the globe.

He had realised his dream and with it, inspired others with a message of hope: carbon-neutral technologies already exist and more importantly, they work. Getting that message across to vehicle manufacturers is more challenging, but he hopes they will realise the demand for solar cars already exists.

"Sceptics need only look at my experiences with the Solartaxi in India. Everywhere I stopped, the car attracted huge crowds of enthusiastic people, all interested in owning a car that doesn't require fuel."

Next on the itinerary

Palmer's Solartaxi mission was so successful, he is already planning another alternative-powered adventure. In De-

ember, he hopes to embark on a journey with six cars powered by renewable energy sources: a 21st-century eco-friendly version of *Around the World in 80 Days*. Given Palmer's enthusiasm and ability to galvanise people to action, I have no doubt it will prove every bit as successful as the Solartaxi.

Shortly before we parted company, I asked him what people could do on an individual basis to ease the plight of the planet, besides the obvious like careful use of energy and recycling.

"It's hard," Palmer replies matter-of-factly. "The world is still reliant on dinosaur technology. [Internal combustion] is inefficient and unsustainable for the planet ... For me, it's about getting the message out to as many people as possible. The real difference comes from changing people's thinking. It is only by reaching as many people as possible that we can gain the momentum to challenge government and corporations to invest in sustainable technologies."

I would, however, like to offer a suggestion to anybody considering a two-hour lecture and slideshow of their latest trip: don't bother. Be kind to the planet and your friends, send your slides for recycling and go and see one of Louis Palmer's presentations instead.

More information can be found at:
www.solartaxi.com