

POWER PLAY

Jutta Lemcke heads into the Ngorongoro Crater in an electric vehicle, curious to see how it alters the wildlife-watching experience – and if it will make it out. Is the silent treatment a viable future for safaris?

Denis Leboutoux, founder of Tanganyika Expeditions, is a tinkerer – a kind of Gyro Gearloose (friend of Donald Duck) of the Serengeti – who has set his mind on conducting a safari tour through northern Tanzania using only electric vehicles (EVs). The biggest challenge to this is the 600m-deep Ngorongoro Crater.

Going down shouldn't be a problem. But will the vehicles manage the steep climb out of the volcanic basin?

Our 20-year-old Toyota Land Cruiser, which Leboutoux has converted to electric, tilts downward and jolts along the steeply descending narrow track into the Crater – one of the greatest natural wonders of the world and home to some 25,000 large mammals. The excitement builds. It's a day that promises a double adventure: will there be spectacular wildlife encounters and, above all, will the batteries hold out?

As we head in, the EV Land Cruiser's battery indicator shows a level of 91 per cent and a remaining range of 182km. But what does that mean when the road out is so

steep? One thing is certain: there is definitely no charging station in the Ngorongoro Crater.

Reaching the caldera floor, all concerns fade. The sun hangs high above the crater rim, Lake Magadi glimmers like a polished opal and what looked like specks of dust from above reveal themselves as a gathering of giants, a herd of elephant ambling along a sandy path before disappearing into a dense forest of fever trees.

Leboutoux glances at the battery display with satisfaction: 78 per cent. Zebras parade along the lakeshore, and, in the distance, a pink hue catches the eye... flamingos.

When it comes to game viewing, the benefits of an electric vehicle are clear. "We got very close to lions, elephants and hyenas on our drives because the vehicles are so quiet," says fellow traveller Carolina Saporiti. "The animals behave much more calmly and naturally. For me, it's obvious that they feel less disturbed compared to loud conventional vehicles." Indeed, especially skittish animals such as antelope merely glance up briefly as we approach. ➔

Energy sapping. The wall of the Ngorongoro Crater rises 600m, making it a power-hungry incline for an EV

When a diesel vehicle arrives, however, the herd scatters.

But it's not just for wildlife sightings that EVs offer advantages. We also enjoy the tranquillity afforded by the lack of engine noise and we immerse ourselves much more deeply in nature. I feel less like an intruder and more like a quiet observer. It's almost comparable to a walking safari – only more comfortable and less strenuous.

Our morning game drive is delightful; an almost meditative experience. Accompanied only by a soft hum, the vehicle rolls through the landscape. I can hear the rustling of leaves in the treetops and the multi-voiced birdsong welcoming the day. When the sun finally rises above the horizon and bathes the world in a rosy hue, nothing disrupts the serenity.

Those on a walking safari also benefit. During a sunrise hike in Grumeti Game Reserve (Serengeti) later in my tour, a EV silently follows behind carrying heavy equipment such as tripods or telephoto lenses. A conventional vehicle would no doubt disturb the idyllic setting and frighten the animals. Instead, we enjoy the quiet, observing a herd of impala frolicking exuberantly and a dazzle of zebra calmly glancing in our direction. Only one buffalo looks grumpy. "That's normal," says our guide. "We call these animals 'bankers', because they always stare at people as if they owe them money."

The advantages of electric Land Cruisers are clear, but their use requires sophisticated logistics. While diesel is readily available everywhere, charging points for electric cars are scarce. Public stations don't exist at all in Tanzania. To operate his electric fleet, Leboutoux has had to create the infrastructure himself.

He has equipped each of his 13 camps and lodges with photovoltaic systems and charging stations. Additionally, the



properties are strategically located so that the vehicles can complete a circuit through northern Tanzania. A full battery charge should last for 120–230km (depending on terrain), enough to reach the next lodge. Charging a completely drained battery takes fifteen hours, or four with a fast charger. While some lodges in Africa, such as in Botswana and South Africa, use electric vehicles for game drives, Leboutoux can handle the entire journey with EVs, including airport transfers.

He's convinced EVs are the future in Africa. "The electric Land Cruisers are quiet, so they don't disturb the animals and they produce no emissions," he says. "My cars run 85 per cent on solar energy. I only use generators in emergencies."

Sustainability and cost savings are key advantages, he adds: "I go green and put the money in my pocket." Not only does he save on fuel but also on maintenance costs. Regular services, along with oil and air filter changes every 5000km, are no longer needed.

His company now owns 14 EVs – all former diesel Land Cruisers retrofitted with electric drives by E-Motion, a company based in Arusha. The conversion kit, comprising batteries and an electric motor, costs around US\$20,000, while the retrofit costs US\$30,000. In comparison, a new Land Cruiser costs US\$100,000.

The range remains a limitation – for now. Until the next generation of high-performance batteries arrives, he must plan routes carefully to avoid running out of charge. If that happens, the only option is to send a replacement vehicle.

The drive out of Ngorongoro Crater is a challenge, regardless. Batteries drain so quickly on the uphill climb you can literally watch the power indicator ticking down. The path is so steep that even the animals leave the basin only in emergencies. Giraffes, with their awkward legs, cannot manage the incline at all – the reason for their absence in the caldera.

The EV performs well, however. As diesel-powered 4WDs rattle toward the Crater rim, the electric Land Cruiser glides quietly and smoothly. We reach the summit with 46 per cent charge and a range of 92km remaining – more than enough power to reach the next camp.

The drive in and out of the Crater shows the power of these vehicles. Driving them at a slower speed to conserve battery life may be a disadvantage on highways, but this is irrelevant during game drives.

The pioneering Leboutoux, though, continues to innovate. More powerful batteries are on order, which will enable the cars to travel up to 280km. In a few years, he expects the company's entire fleet will run on electricity. "Electric cars are perfect for safaris and will undoubtedly dominate in Africa," he says.



TANGANYIKA EXPEDITIONS

Opposite, top to bottom: Denis Leboutoux with one of Tanyanyika Expeditions' 14 electric vehicles being charged in camp; each of his 13 lodges has a photovoltaic system running primarily off solar power; an onboard gauge allows the driver to monitor available power and range; the bank of batteries in one of the converted Land Cruisers

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