The Swiss Solar Impulse is going to cross America with a solar airplane.

Over the clouds the sky is all of the time clear – and if it's so, what else could be more suitable to utilize the solar energy than an airplane? According to the founder and the members of Solar Impulse nothing else, and in compliance with this they build, develop and test their solar cell powered „machine bird“, which is able to fly about more and more distances year after year, powered by the pure energy of the sun. The long aim is a round – the – world trip, though before this there are still challenges which have to be completed by the team – e.g.
this summer they would like to get to New York departing from California.

Their first and at the moment still active airplane, the HB – SIA has already performed countless successful trips, it flew 24 hours non – stop – proving that yes, indeed, it’s really able to a night operation -, then last summer it flew from Switzerland to Marocco, and then back. This 6000 kms trial flight was the first, such kind of intercontinental flight in the world, which was accomplished entirely with the aid of solar energy.
The airplane - which accomplished the adventure of one month without any special breakdowns - is a special construction: it's wing span is 61 meters (bigger than that of a Boeing 787 passanger monstrum's), it's weight of 1,6 tons hardly exceeds the weight of a middle – class car. The 12 thousand solar cells placed on the surface of the wings charge 400 kgs of lithium batteries; the airplane is able to do a 60 – 70 knot travelling speed with four 10 HP strong electro – engines - powered by those batteries.
The following, trans-american flight doesn't mean a big difference in terms of the distance, but the challenge is still enormous, as they will fly in this case with the successor to their well-tried airplane, to the HB–SIA designed for a round-the-world trip. The wing-span of the second generation plane reaches the 80 meters,
which logically means more solar cells, in addition it gets a pressure cockpit. The latter one makes it possible that the pilot is able to extend the time spent in the air with short naps, which is in case of flying over the land less, but on a round – the – world expedition the more important.