SOLAR-FUELLED URBAN DISTRIBUTION

→ Commercial city centers rely on a consistent supply of goods. Solar-powered mini trucks provide a reliable and sustainable way of urban delivery.

ECONOMIC

A saving of roughly 5,200 gallons of diesel annually by taking conventional vehicles off the streets.

SOCIAL

Roughly 4.6 million people die every year from causes directly attributable to air pollution; and motorized vehicles are a large source of the problem.

ENVIRONMENTAL

A savings of roughly 33 tons of CO2 annually by swapping fossil-fuel powered vehicles for solar-powered ones.

THE SOLUTION

! Taking a holistic approach to delivery, Cargohopper provides a new approach to distributing supplies to the commercial heart of Utrecht, in the Netherlands. Cargohopper distributes through solar-powered electric mini trucks, which are well-suited to deliver goods to hard-to-access inner-city areas.

Conventional trucks deliver goods to a distribution center outside the city. Here, goods are preloaded in trailer-sized boxes and lifted into the Cargohopper, which takes goods to the city center. By hauling cardboard and paper for recycling on its return journeys, the Cargohopper is never empty.

WHY A SUSTAINIA100 SOLUTION?

? Easy, fast, and reliable delivery is essential to keep the commercial heart of a city alive. Yet, due to restricted delivery hours, traffic congestion, and environmental regulations, ensuring the supply of goods isn't easy. Small solar-powered electric vehicles, combined with innovative infrastructure solutions, could make cities around the world more livable and yield substantial environmental benefits.

THE NETHERLANDS

www.cargohopper.nl

HIGH-SPEED RAIL

→ For trips under 800 kilometers, high-speed rail (HSR) is a proven alternative to travel by air or car. In Spain, HSR has lured passengers from airlines and reduced CO2 emissions.

ECONOMIC

When complete, 90% of Spain's 47 million people will live within about 50 km of an AVE station.

ENVIRONMENTAL

RENFE estimates the CO2 savings from passengers opting for the AVE over planes and cars on the Madrid-Zaragoza-Barcelona corridor at more than 200,000 tonnes annually.

THE SOLUTION

! Spain opened its first HSR line, Madrid-Sevilla, in 1992. By December 2011, the AVE (Alta Velocidad Española) had grown to 2,665 km, the longest HSR network in Europe. Running at a top speed of 300 km per hour, with a 99% on-time record, the electrified AVE has eroded market share from airlines competing on the same routes.

RENFE, the state-owned train operator, says it has lured away nearly 50% of air passengers on the 600-km Barcelona-Madrid route. Passengers choosing the train are also saving carbon. According to RENFE, a passenger using the AVE for the journey from Barcelona to Madrid is responsible for generating 13 kg of CO2; the same trip by plane generates 70 kg of CO2. Spain plans to expand the AVE network by another 10,000 km by 2020.

WHY A SUSTAINIA100 SOLUTION?

? The success of HSR in Spain proves that, given an affordable alternative to planes and cars, travellers will increasingly opt for less carbon-intensive trains.

SPAIN

www.renfe.com