Wind-powered train travel is on Dutch rail schedule

28 August 2015, by Nancy Owano

Can the Dutch rail network run on wind? Julian Turner, writing in *Railway-technology.com*, reported that the Dutch rail network will run entirely on renewable wind energy by 2018.

This development comes from a new contract signed by power company Eneco and VIVENS, an energy procurement cooperative. VIVENS is a joint venture comprising Netherlands Railways (NS), Veolia, Arriva, Connexxion and rail freight firms. Eneco will supply 1.4TWh of electricity for the rail system .

That 1.4TWh of electricity for the rail system, said Turner, is equivalent to the amount consumed by all households in Amsterdam and is to come from wind farms. The farms are in the process of coming on-stream. Half of them are in the Netherlands, and the remainder are in Belgium and Scandinavia.

Drawing upon sources outside the Netherlands to source the railways means they avoid decreasing availability and also avoid increasing prices of green power for other parties.

"A key objective is to avoid procuring energy from the limited existing number of sustainable energy projects in the Netherlands, thus promoting renewable growth both domestically and Europe-wide," said Turner. After 2018, he added, about half of the electricity demand will likely need to come from foreign sources.

What this undertaking signifies is that a whole sector is to decrease its CO2 footprint enormously, commented an Eneco spokesperson.

"Mobility is responsible for 20 percent of CO2 emissions in the Netherlands, and if we want to keep travelling, it is important that we do this without burdening the environment with CO2 and particulate matter," said Michel Kerkhof, Eneco account manager. According to the deal, the NS (Dutch Railways, the principal passenger railway operator in the Netherlands) fleet of electric trains running on green energy will be 95 percent in 2017, with the goal of a 100 percent renewable network by 2018.

One general concern with renewable energy projects has been the question of whether they are eventually viable on their own or can only work by relying heavily on government subsidies. No direct subsidies from the government are related to this contract in this instance, said Kerkhof in the report, but instead is the result of "a European tender procedure between market parties," and the wind farms operate within local subsidy systems.

"As the Netherland's premier rail operator," said Turner, "NS handles 1.2 million journeys a day and is something of a pioneer in the arena of climate-neutral travel. The firm has cut energy consumption per passenger per kilometer by roughly 30 percent since 2005 using new trains and more efficient driving techniques."

Earlier this month, Anubhuti Vishnoi in *The Economic Times* reported on elements "unfolding in

India's solar revolution, most notably in the transport sector." The Indian Railways is looking to run locomotives on solar power and installing panels across station platforms and on the large tracts of land. Indian Railways have signed agreements "to bring in a change in the energy mix and solarization of railways."

The *Daily Mail* said that per the plan, a train would be pulled by conventional diesel-run engines while solar panels would provide electricity needs for lights and fans on both AC and non-AC coaches. Andrew Wade, senior reporter for *The Engineer*, further explained that "Trains would still of course require diesel-run engines for locomotion, but the current plan is for solar to take on the lighting and cooling load. One report has claimed that a train using solar power could cut diesel consumption by up to 90,000 liters per year, reducing CO2 emissions by over 200 tons."

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