

Memorandum

May 11, 2016

Re: Free Energy from Falling Freight Trains

I do not see any proposals to address the enormous use of fossil fuels to bring trains in and out of California. Massive, long trains are assembled at places like Roseville for passage over the California mountains. There, extra locomotives are added to bring the trains up to the summit, and critically, to slow them as they descend.

These locomotives do not use brake pads (like on a car) for the majority of their braking. Because they are "Diesel-Electric", they have electric motors that generate huge amounts of electricity when braking. This energy cannot be currently stored, so there are massive "toasters" on these locomotives that waste this massive amount of energy.

I propose that California subsidize the construction of overhead electric rail systems for the mountain passes. Overhead rail systems are common in Europe and many US metropolitan areas. The braking energy of the fully-electric locomotives would be stored in a new or appropriate, existing pumped-storage hydroelectric dam, which transfers water efficiently and in an environmentally-friendly manner between an upper and a lower pool (e.g. the Oroville and Thermalito pools). When energy is needed to make a train ascend, this water can be released back to the lower pool.

The railroad lobby is powerful, and conservative. It is likely uninterested in pursuing this proposal, but that does not mean that it is impossible or unwise. Please consider this proposal seriously, and respond back to me with your comments.

Sincerely,

/s Eric Theiss
Freshwater, California