



Annual Energy Outlook 2014 foresees growth of LNG as a fuel for railroads

The U.S. Energy Information Administration expects liquefied natural gas, or LNG, to play an increasing role in powering freight locomotives in the coming years.

EIA's Reference case, in its recently released *Annual Energy Outlook 2014* indicates that growing natural gas production and lower natural gas spot prices compared to crude oil prices could provide significant cost savings for locomotives that use LNG as a fuel.

Given the expected price difference between LNG and diesel fuel in the Reference case projection, future fuel savings are expected to be well above the extra cost of roughly 1 million dollars associated with buying an LNG locomotive and its tender, rather than a diesel locomotive.

EIA's analysis suggests that a relatively large reduction in the projected gap between diesel and LNG prices would be required to change LNG's fuel economics for railroad use from favorable to unfavorable. However, there are uncertainties specific to fuel economics as well as operational, financial, regulatory, and mechanical challenges that may constrain the use of LNG to power freight locomotives.

Taking these factors into account in varying degrees, EIA developed several scenarios for the future use of LNG as a locomotive fuel. In EIA's Reference case, LNG fuel use accounts for 35% of total freight rail energy consumption by 2040. By comparison, EIA's High Rail LNG case finds that LNG could account for 95% of freight rail energy consumption. In EIA's Low Rail LNG case it accounts for just 16% of freight rail energy consumption by 2040.

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