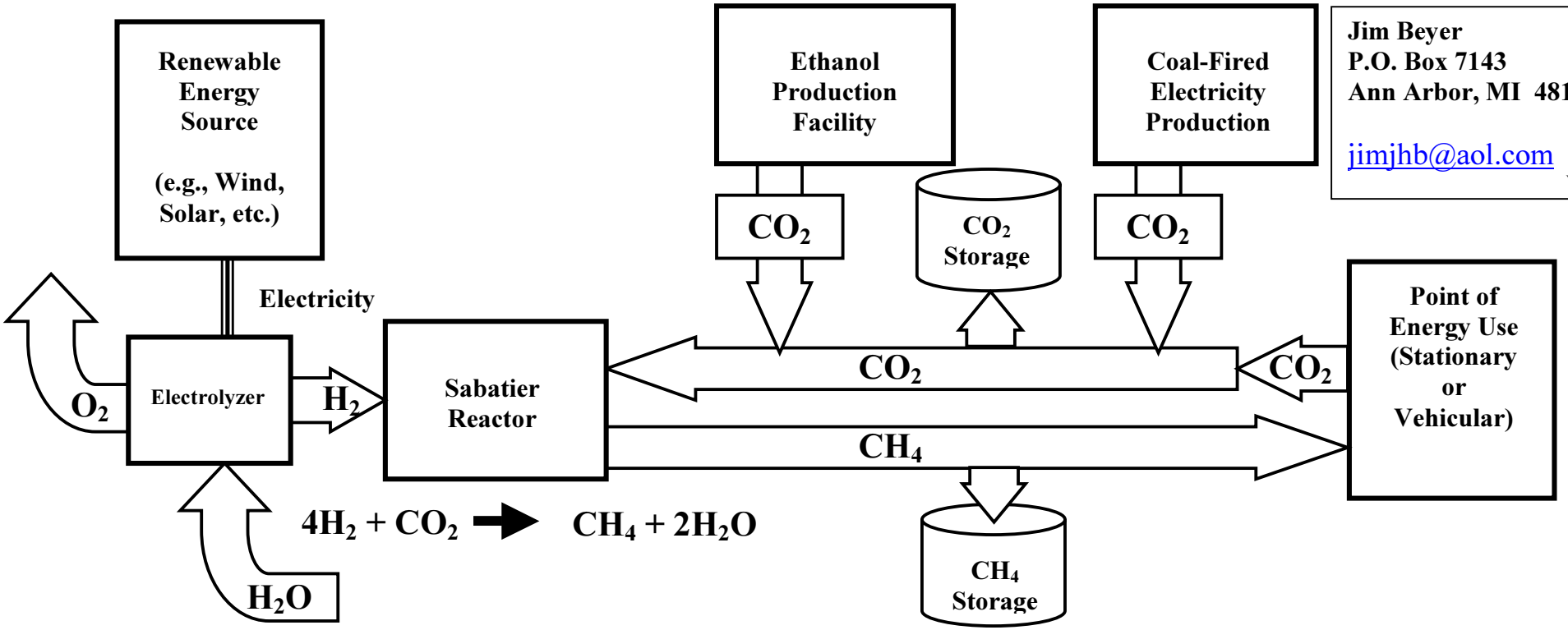
The Methane/Carbon Dioxide Energy Cycle



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6) Cost of CO_2/CH_4 dual gas transfer is less than moving an amount of hydrogen of equal energy content singly.
7) Energy cost of methane conversion is recouped by reduced costs of fuel storage and transport.
8) Bulk storage of CO_2 and CH_4 already in place. Allows for use of renewable energy with daily, weekly, monthly or seasonal variation.
9) Leverages CO_2 retention and sequestering technologies.
10) System "monetizes" CO_2 (for its value as the optimal energy carrier) facilitating and motivating further CO_2 emission reduction.

1) Uses only about half of the water at energy source compared with pure hydrogen fuel creation.
2) Conventional Natural Gas Vehicle reduces CO_2 emission by 50% by using carbon atom "twice". Advanced vehicles can retain CO_2 for re-use.
3) Makes use of existing energy infrastructure.
4) No need for fuel cells or expensive hydrogen storage strategies.
5) Lowest cost method of transporting and storing renewable energy.

An Alternative Implementation of the "Hydrogen Economy"