## Reducing Consumer Costs, Economic Costs, and Unemployment by Moving the U.S. to 100% Wind, Water, and Solar (WWS), Storage, and Transmission For Electricity, Transportation, Heating/Cooling, and Industry

WWS needs 1/2 the energy as fossil fuels, thus consumer costs are 1/2 fossil fuel costs

\$9.5 trillion capital cost with 30-year payback from energy sales



Transition to 80% WWS by 2030 and 100% by 2035-2050





2 million more longterm, full time jobs created than lost

Data sources: Case C of

http://web.stanford.edu/group/efmh/jacobson/Articles/I/CombiningRenew/WorldGridIntegration.pdf http://web.stanford.edu/group/efmh/jacobson/Articles/I/CountriesWWS.pdf http://web.stanford.edu/group/efmh/jacobson/Articles/I/USStatesWWS.pdf

Graphic by A.-K. von Krauland and M.Z. Jacobson



Economic (energy, health, plus climate) costs per unit energy are 1/3 fossil economic costs per unit energy



With 1/2 the energy use,
WWS absolute economic
costs are now 1/6
absolute fossil costs