This thesis investigates the relationship between energy consumption and economic growth in 15 post-Soviet states with a primary focus on Ukraine over the time period 1991-2013. First, panel unit root tests are applied to the time series for energy use and GDP for each post-Soviet country, then cointegration tests are run to identify the relationship between the variables. The empirical strategy of the panel data analysis is based on a neoclassical growth model specification, which includes the gross capital formation and total labor force of each country as additional explanatory variables for economic growth, along with energy inefficiency, % fossil fuel use, liberalization of the energy sector, and several other variables. The dataset is analyzed using Pooled OLS, Fixed Effects and Random Effects models, with Fixed Effects being identified as the optimal estimator. The results of the analysis show that there is a positive, bidirectional causality relationship between economic growth and energy consumption for Ukraine (the “Feedback Hypothesis”). In addition, the results of the panel data analysis suggest that reducing energy inefficiency, increasing “own production” of energy (including renewable energy), and liberalizing the energy sector of Ukraine could all be valuable strategies for increasing the country’s economic growth.