

The Economy as a Materials Processing System: A New Evolutionary Paradigm

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This lecture will recapitulate a semi-empirical theory of economic growth that accurately accounts for US economic growth from 1900 to 1998, as previously presented at IIASA. It will also present for the first time a quantitative forecasting model based on the theory, along with a number of scenario projections. The most important implication of the new theory is that, along a business-as-usual trajectory, the rate of historical growth can be expected to slow down gradually despite the contribution of information technology, and without assuming any resource scarcity. A zero growth rate can be expected between 2030 and 2040 AD. The sensitivity of the model to various assumptions, and policy implications, will be discussed.

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