

**The Emergence of Life Cycle Space™ and the Life Cycle Ratio™
A Proposed Planning Tool for Lowering our Ecological Footprint**

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DEFINITION OF LIFE CYCLE SPACE

Buckminster Fuller once stated that "A geodesic is the most economical relationship between any two events." Life Cycle Space™ is dependent on three determining elements. First, on how the processing phases (nodes) of the life cycle are configured in a manner that these nodes are multi-tasked and therefore shorten the distances (linkages) between them. Second, the careful matching of nodal (processes) to the ambient elements of the environment. Finally, the degree of balance (the ratio of source area to re-source area) within a given spatial context (boundary scale). The latter relies heavily on our understanding of a goal of developing a spatial performance (source to re-source) to life cycle activities. We refer to this spatial performance as the Life Cycle Ratio™. At this time there are over 12.5 million businesses in the U.S. with the only recordable linkage between them being the Input/Output model of the U.S. economy. Presently the use of the I/O tables merely expands (via regional businesses analysis) the one directional nature of an already one directional extractive economy. The recording of business practice according to its life cycle phase, linkage potential as well as the spatial positioning in a GIS format would enable the procedure of the use Life Cycle Space™ and the Life Cycle Ratio™ in planning with the potential balancing of our economy. The employment expansion implications of looking at both sides of the life cycle within a regional context could have considerable impact on the economy and on our overall environmental impact. This paper presentation will explore the implications of this thinking partially using our national I/O-GIS modeling procedures referred to as BaseLineGreen™ and GreenBalance™ and partially the growing disciplines of Industrial Ecology, ZERI, and other land integrated life cycle balanced systems as examples of a reduction in our life cycle space.

EVOLUTION TOWARDS LIFE CYCLE SPACE

Life cycle thinking has progressed steadily from Life Cycle Cost accounting (L.C.C.) to Life Cycle Analysis and Life Cycle Assessment (L.C.A.) to Life Cycle Balancing (L.C.B.) and finally with this paper the introduction of Life Cycle Space™ (L.C.S.) and the establishment of the Life Cycle Ratio™ (L.C.R.) Each development is dependant on the one previous with the emergence of the Life Cycle Ratio™ becoming a direct result of establishing the spatial footprint protocols of Life Cycle Space™. This paper will introduce the present topic by using this evolutionary sequence.