Seven billion people want prosperity. The dominant lifestyles in prospering countries do not lend themselves to replication across the world. What then? Tell those in developing countries that the Earth can only accommodate 1 billion people at the American way of life and to live in poverty forever? The best way out may be a new technological revolution. Technologies are available extracting 4 times, eventually 10 times more wealth from a gallon of water, a kilowatt hour, or a ton of copper ore. This “Factor Four” revolution is doable but requires we adjust our technological priorities, economic incentives, consumer behavior, and educational system.