



10xE is based on RMI's core ideals. By spreading integrative whole-system design principles throughout academia and industry, this project can change the way engineers, architects, and others create our built environment, transportation systems, and industrial processes. Based on our 27 years' experience creating and implementing whole-system engineering with clients in numerous industries, RMI is pulling together case studies that combine dramatic savings in energy with a design approach that enables savings at comparable or lower capital cost. Through wide dissemination, we hope to create positive change in the way society approaches building and engineering.

Key Personnel

Amory B. Lovins - Chief Scientist
Lionel Bony - Director, Office of the Chief Scientist
Alok Pradhan - Analyst, Office of the Chief Scientist



BACKGROUND

For decades, RMI has sought to influence at the outset of designing, building, and retrofitting power and industrial plants, commercial and residential buildings, and vehicles and transportation systems so they achieve radical energy and resource efficiency, yet often cost less to build.

Yet year after year, we find that the people creating inefficient processes and systems are simply unaware they are doing so—and often, when told, don't know how to change. The reasons boil down to a few familiar parameters: assumed cost, time, tradition, and skills.

RMI's Factor Ten Engineering (10xE) project aims to enable radical efficiency by revolutionizing how engineering is taught and practiced. The project will create a series of tools to help engineers and architects design for many—often ten or more—times less energy and resources than current best practices to perform the same task or create the same product.

STORYTELLING THROUGH CASE STUDIES

EFFECTING CHANGE THROUGH TANGIBLE EXAMPLES

The centerpiece of the project is a casebook to be assembled by leading practitioners and teachers in summer 2010, then beta-tested, improved, and widely disseminated.

Because people are hard-wired for storytelling, case studies are a powerful device for shifting human thinking. The cases, and the design principles they describe, will serve as the basis of a variety of teaching tools that compare traditional engineering approaches with radically efficient engineering approaches. The casebook itself will present real-world examples while explaining the principles that underlie design efficiency. Other tools may include webinars, lectures, and design software.

STRATEGY AND APPROACH

IMPLEMENTATION FOCUSED DEVELOPMENT

To ensure maximum effectiveness, RMI is involving from the beginning representatives from across academia, industry, and other parts of the engineering value chain. Through an integrative development approach—in which cases will be developed, beta-tested, and refined in conjunction with implementation partners—RMI hopes to create teaching tools that will offer tangible results by the time they are launched. At this stage, the team is looking for examples of radically efficient design and potential collaborators in case study development.