

# BIOMIMICRY

## AN ECONOMIC GAME-CHANGER

*Biomimicry, the discipline of applying nature's principles to solve human problems, provides the means to achieve both environmental and economic goals.*

*Many of the mechanisms and systems found in nature are highly efficient, eschew waste, and are sustainable in a virtually closed system. Biomimicry could be a major economic game-changer.*

Based on the executive summary of a study commissioned by San Diego Zoo Global. Researched and produced by the Fermanian Business & Economic Institute. November 2010. For a copy of the entire report, [click here](#).

### HUB FOR BIOMIMICRY

San Diego appears well-positioned to become a hub for biomimicry. The region possesses four key characteristics: **intellectual resources, capital, a strong entrepreneurial base, and a collaborative environment.** The San Diego Zoo, with its rich animal and plant collection together with its existing research institute for conservation, appears well-suited to lead such a hub.

### SOLUTIONS IN NATURE

Two very different approaches are followed in the use of biomimicry. In some cases, scientists see an interesting concept in nature and then find a commercial application. In other instances, firms are **seeking a solution to a specific problem and find an answer in the natural world.**

### DOUBLING OF SALES

Firms selling biomimicry-inspired products in the marketplace have frequently seen a doubling of sales annually in the early years. **Many of these products can offer customers reduced energy requirements, less waste, and enhanced performance** while being sold at prices competitive with or even less than those of existing products.

### ATTRACTS INVESTORS

Investors should be attracted to biomimicry because of the prospects for **rapid sales growth and high rates of return.** Venture capital could flow into biomimicry at a pace at least equal to that of biotech, estimated at \$4.5 billion for 2010.

### 2025 BIOMIMICRY CORE

**A cluster of 1,000 biologists, naturalists and other scientists could form in San Diego over the next 15 years as a biomimicry core to help take solutions in the natural world to commercial application.** Including all of the ripple or multiplier effects, this cluster could generate a total of 2,100 jobs and add \$325 million to San Diego's gross regional product annually by 2025. Biomimicry could emerge as San Diego's next major economic driver, complementing and enhancing such clusters as biotech and cleantech.

2,100 JOBS

\$325M GRP

### MITIGATING DEPLETION

While the field today is just emerging, in 15 years biomimicry could represent \$300 billion annually of U.S. gross domestic product (GDP) in 2010 dollars. **It could provide another \$50 billion in terms of mitigating the depletion of various natural resources and reducing CO2 pollution.** Biomimicry could account for 1.6 million U.S. jobs by 2025. Globally, biomimicry could represent about \$1.0 trillion of GDP in 15 years.

