

# SUSTAINABILITY

PLANNING FOR CHANGE  
MANAGING FOR RESILIENCE

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MIAMI-DADE COUNTY

LEADERSHIP ✦ COLLABORATION ✦ INNOVATION





# UNDERSTANDING SUSTAINABILITY

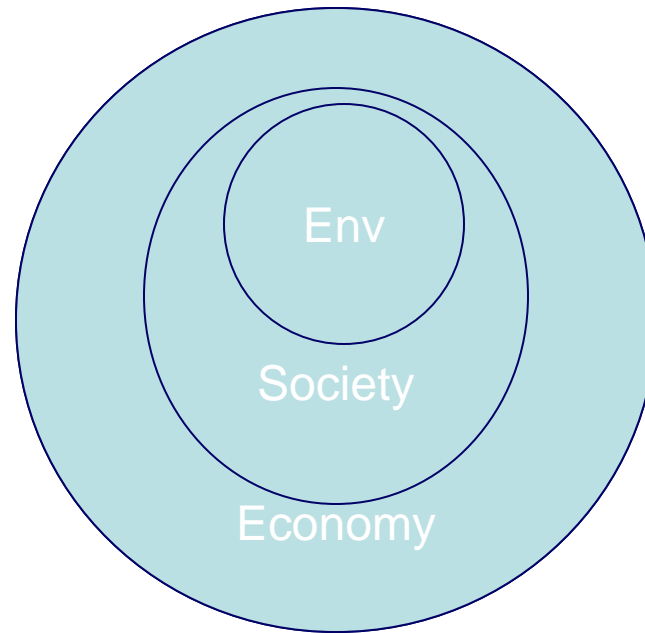
- **Sustainable** *adjective*: a method of harvesting or using a resource so that the resource is not depleted or relating to a lifestyle involving the use of sustainable methods.
- **Sustainable Development** (Brundtland Commission: 1987) *noun*: "development that meets the needs of the present without compromising the ability of future generations to meet their own needs."
- **Sustainability** *noun*: Achieving continuing economic prosperity while enhancing the natural environment and providing a high quality of life for our community.

A PROCESS

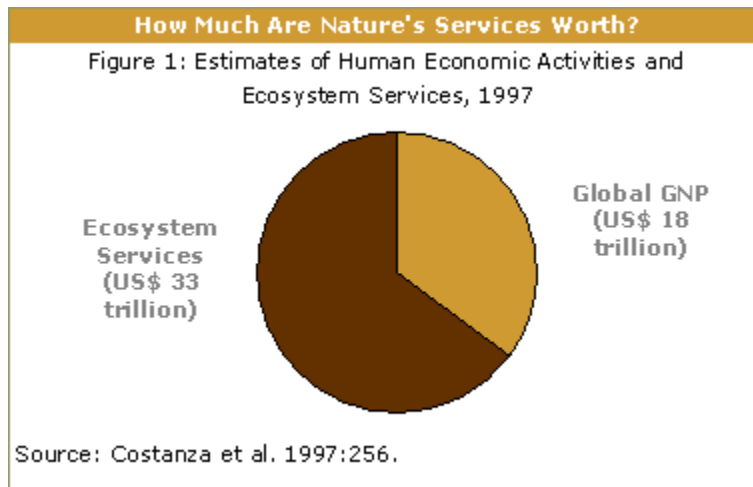
# SUSTAINABILITY SIMPLIFIED

Process that Enables the Correct Linkages

Find Opportunities to Successfully Paradigm Work and Play in what is the Reality



# THE VALUATION PROBLEM



Recent Milestone: State of New Jersey's Natural Capital Analysis

**Ecosystems Services: Free, But Valuable**

Figure 2: Estimates of Various Ecosystem Services, 1997

ECOSYSTEM SERVICES	VALUE (TRILLION \$US)
Soil formation	17.1
Recreation	3.0
Nutrient cycling	2.3
Water regulation and supply	2.3
Climate regulation (temperature and precipitation)	1.8
Habitat	1.4
Flood and storm protection	1.1
Food and raw materials	0.8
Genetic resources	0.8
Atmospheric gas balance	0.7
Pollination	0.4
All other services	1.6
<b>Total value of ecosystem services</b>	<b>33.3</b>

Source: Costanza et al. 1997:256

# RESILIENCE IN NATURE: ECOLOGICAL HOMEOSTASIS

- The characteristic of an open system (organic, living systems) to **regulate its internal environment to maintain a stable, constant condition, by means of multiple dynamic equilibrium adjustments, controlled by interrelated regulation mechanisms**. The term was coined in 1932 by Walter Bradford Cannon from the Greek homoios (same, like, resembling) and stasis (to stand, posture). – Wikipedia

Ecosystem Attributes	Developmental Stages	Mature Stages
<i>Internal Symbiosis</i>	<i>Undeveloped</i>	<i>Developed</i>
<i>Nutrient Conservation</i>	<i>Poor</i>	<i>Good</i>
<i>Stability (resistance to external perturbations)</i>	<i>Poor</i>	<i>Good</i>
<i>Entropy</i>	<i>High</i>	<i>Low</i>
<i>Information</i>	<i>Low</i>	<i>High</i>

- Odum, E.P., 1969. The strategy of ecosystem development. Science 164:262-270.

# SUSTAINABLE COMMUNITIES: INCREASED RESILIENCE

<b>Sustainable Community Attributes</b>	<b>Developmental Stages</b>	<b>Mature Stages</b>	<b>Sustainable / Unsustainable Examples</b>
<i>Mutually beneficial / Interdependent relationships</i>	<i>Undeveloped</i>	<i>Developed</i>	<i>One factory or farm's waste is another's raw material</i>
<i>Nutrient (Fuel &amp; Food) Conservation</i>	<i>Poor</i>	<i>Good</i>	<i>Nutrient runoff and loading; local sourcing of food; reuse / recycle</i>
<i>Stability (resistance to external fluctuations)</i>	<i>Poor</i>	<i>Good</i>	<i>Insurance Rate Crisis</i>
<i>Level of Entropy (creation of useless or wasted energy)</i>	<i>High</i>	<i>Low</i>	<i>Can we recover the heat from a parking garage?</i>
<i>Information flow, exchange, access to, and utilization</i>	<i>Low</i>	<i>High</i>	<i>A product's prices speaks to how environmentally and socially sound it is</i>
<i>Motivation to Innovate</i>	<i>Low</i>	<i>High</i>	<i>Renewable energy technology; right plant, right place</i>
<i>Planting the seeds of a sustainable culture</i>	<i>Low</i>	<i>High</i>	<i>Social norms for sustainability: Sustainability pledge contest</i>

# MANAGING CHANGE

ENABLING STRATEGY



OPERATIONS, FACILITIES & INITIATIVES



ENSURING TRIPLE-BOTTOM LINE PERFORMANCE

*FACILITATE ORGANIZATION-WIDE CHANGE*

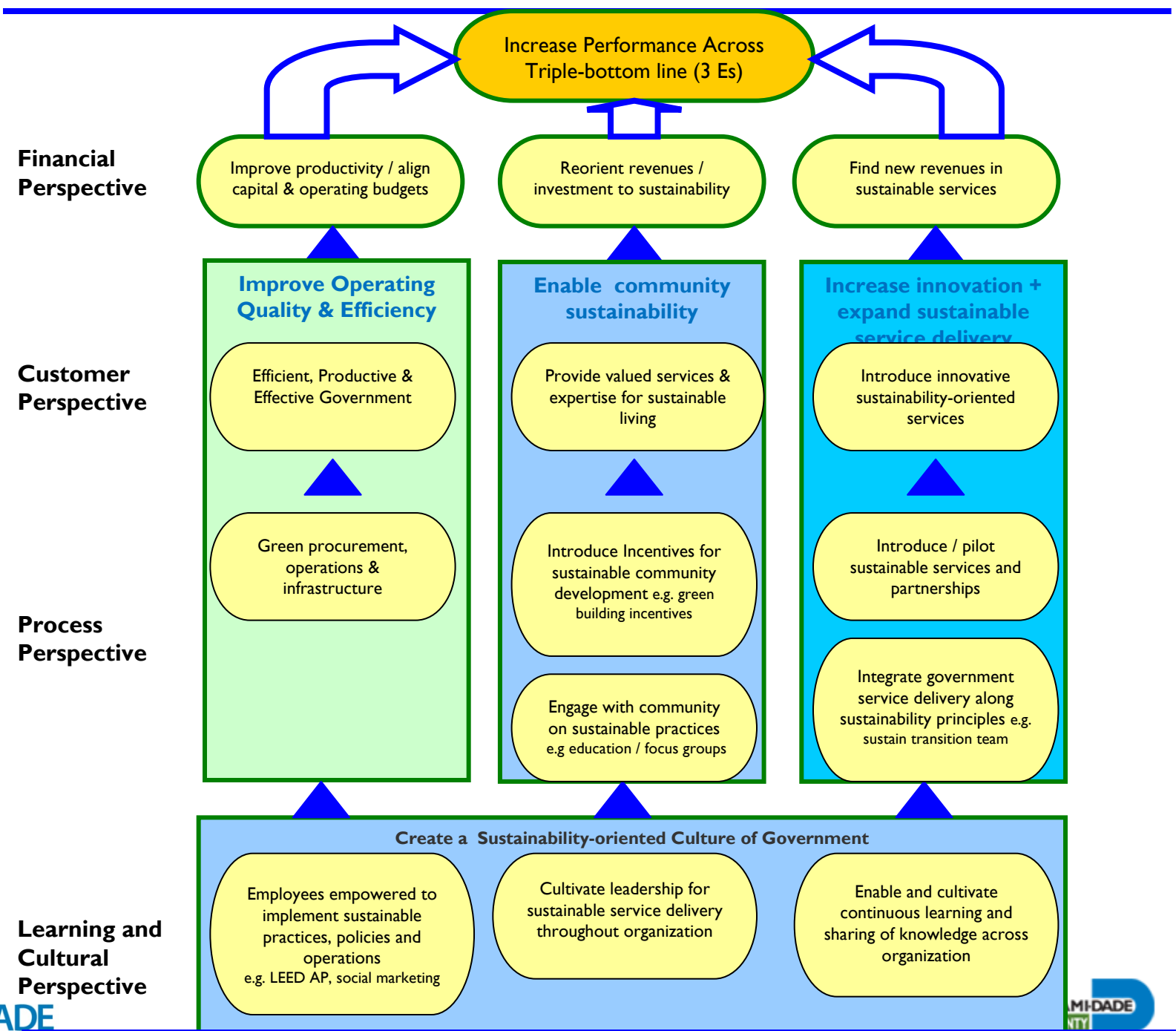
*FILLING THE SUSTAINABILITY VOID (GREEN UPGRADE)*

*SUSTAINABLE DESIGN AND EVALUATION OF POLICIES & PROGRAMS*

PROGRESS = FACILITATION + REWORKED / NEW POLICIES & PROGRAM

# VISION: SUSTAINABILITY \_\_\_\_\_ ?

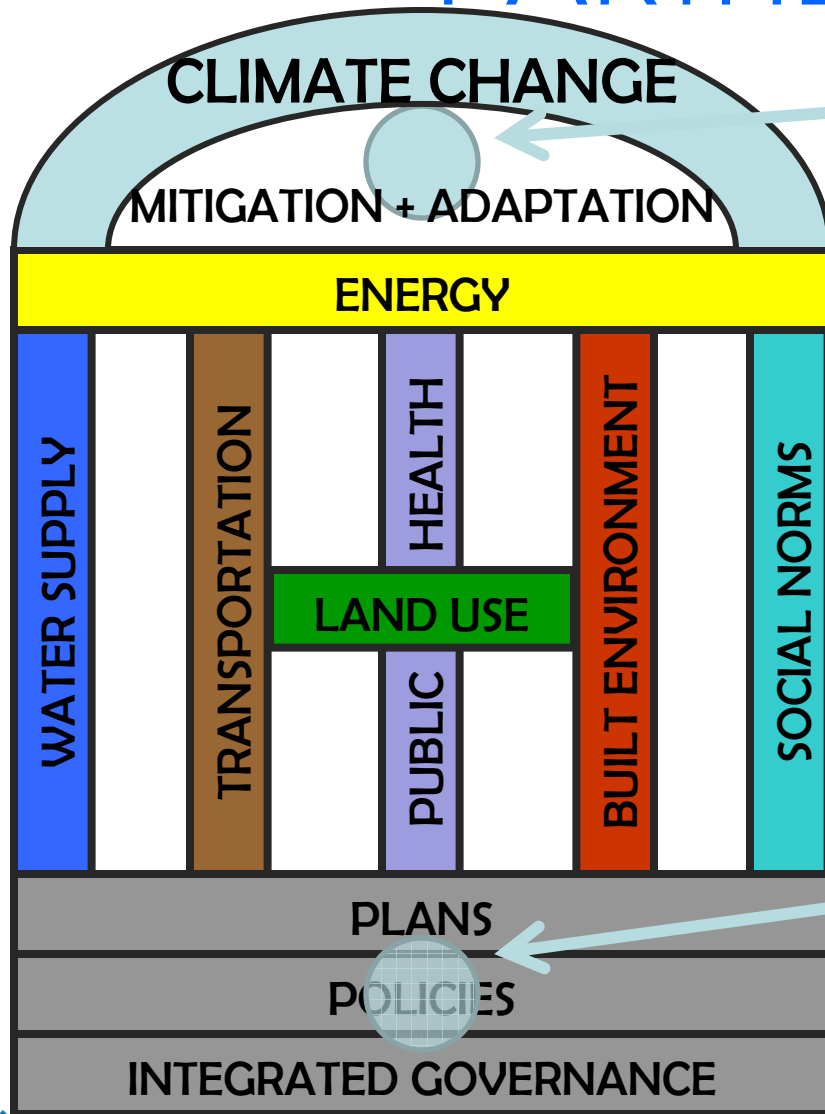
- Miami-Dade County will be a livable and integrated urban and rural community;
- where our coastal and natural areas are in pristine condition and enjoyed by all, visitors and residents alike;
- where our buildings that we live and work in and infrastructure that provides us with our daily needs will be designed to enhance and restore, not damage the natural environment;
- where companies that will drive the sustainable economy will establish themselves; where young professionals will find a progressive environment in which they can settle and thrive;
- where there will be an abundance of secure “green collar” jobs that will support a healthy and prosperous community;
- where decisions are made today that will only benefit not harm future generations; where innovation in government, the private sector and civil society is the norm, not the exception and where we will all work together across our diverse and rich communities to make a sustainable Miami-Dade County a reality.



# FIRST YEAR PRIORITIES

- Building sustainability into 5 year strategic plan and departmental business plans
- Climate change
  - Mitigation
  - Adaptation
- Green building
- Operational resource-efficiency
- Implementation of best practices

# 21<sup>ST</sup> CENTURY PLANNING PARTHENON



STATE OF FLORIDA GROWTH  
MANAGEMENT

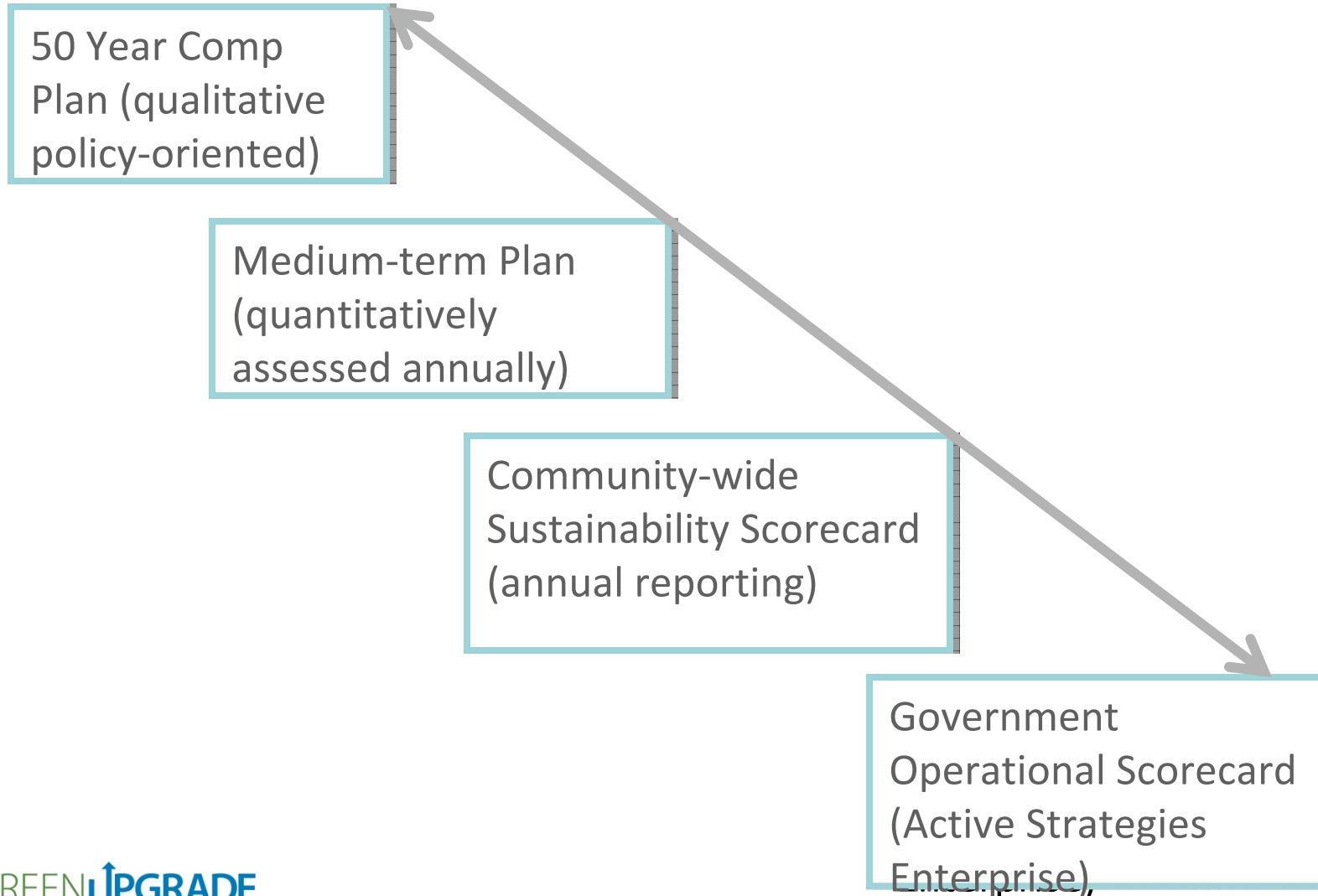
A NEW EMPHASIS ON NATURAL  
RESOURCES + ENVIRONMENT

INTEGRATION OF  
COMMUNITY BUILDING  
BLOCKS TO SHAPE MORE  
RESILIENT COMMUNITIES

OFFICE OF SUSTAINABILITY

EFFECTIVE FOUNDATION FOR  
MANAGING CHNAGE

# 50 YEARS OUT & BACK TO TODAY



# INTEGRATED “PLANAGEMENT”

LONG-TERM POLICY	MEDIUM-TERM PLAN (10 yrs out)	ANNUAL COMMUNITY SCORECARD	OPERATIONAL INDICATORS
Improve the ability of government and community to design + build green	75% of design and construction professionals have experience w/green projects	# of new contractors trained in green building # of architects, engineers and contractors w/experience on green projects	# of design staff trained in green building
Incentivize green building	50% of square footage certified green / energy efficient	New square footage of built environment certified green	% of permit revenues associated with certified green projects

# LINKAGES: CONCEPT TO PRACTICE

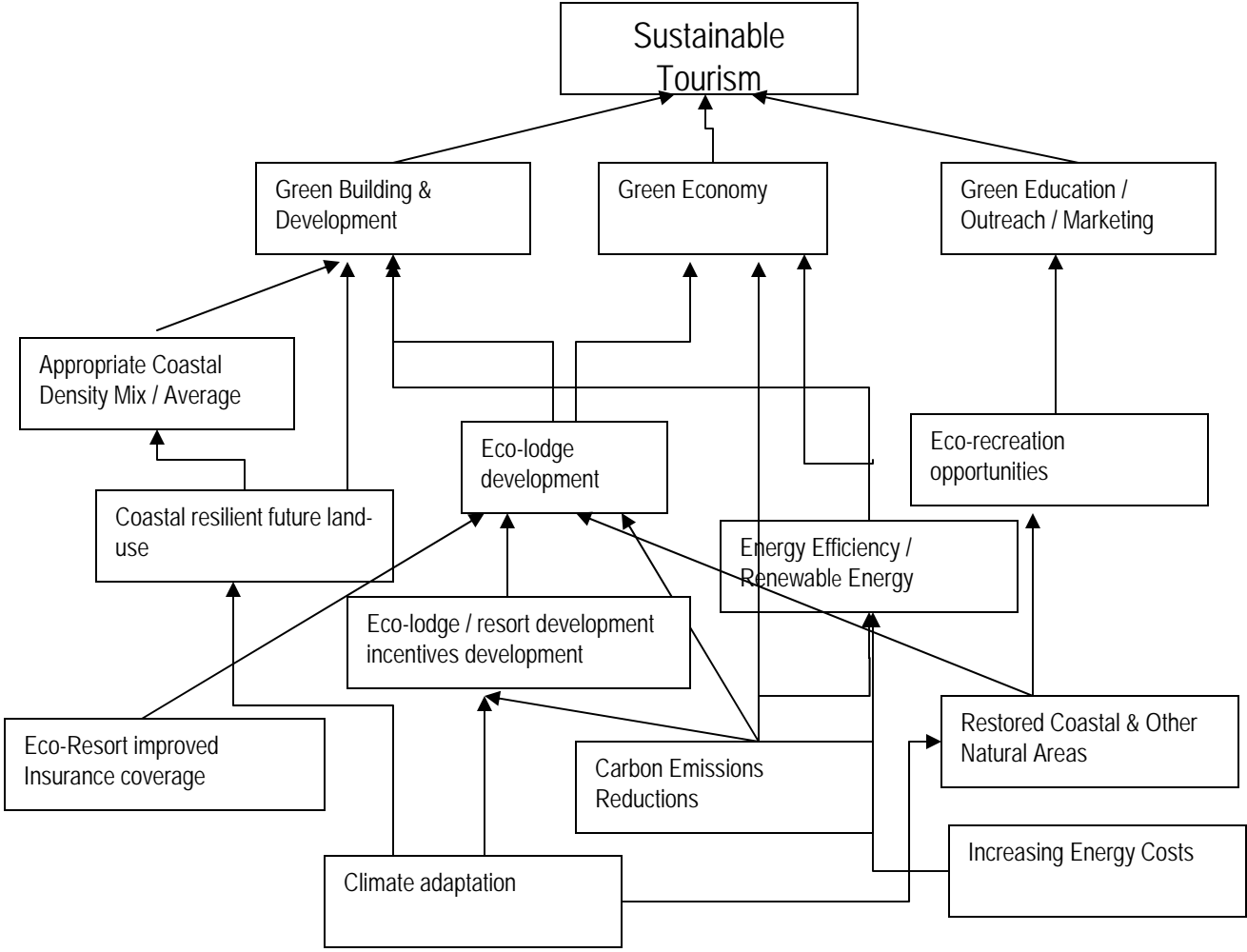
## SANTA MONICA SUSTAINABILITY GOAL / INDICATOR MATRIX

	Human Dignity	Community Engagement and Civic Participation	Housing	Open Space and Land Uses	Economic Development	Transportation	Environmental and Public Health	Responsible Consumption
<b>Resource Conservation Indicators</b>								
Solid waste generation					■			■
Water use		■			■		■	■
Energy use			■		■	■	■	■
Renewable energy use		■			■		■	■
Greenhouse gas emissions			■	■	■	■	■	■
Ecological Footprint for Santa Monica			■	■	■	■	■	■
Indicator of sustainable procurement					■		■	■
“Green” construction			■			■	■	■



# SUSTAINABILITY SOLUTION MAPPING

## A Variety of Approaches Required



# GREEN = SUSTAINABLE

The Brighter Shade of Green = Mainstream

- Green Building
- Green Collar Jobs
- Green Products
- Green Lifestyle
- Green Industries
- Opportunities for innovation and collaboration

# BRANDING THE PARADIGM SHIFT



- ❑ 7 steps to a green Upgrade of your home
- ❑ Upgrade to a greener business and certify through the green business certification program
- ❑ Upgrade to green and move your building plans up to the front of the line



*get your green on and move on up!*

## MDC OFFICE OF SUSTAINABILITY

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