



Carbon as a means of achieving  
positive environmental contribution  
and reducing costs

**October 2010**

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# Company Profile



## Who We Are

- GCC region's premier emissions reduction firm
- Based in UAE, focused on the Middle East
- Helping regional firms take control of their energy consumption and carbon footprint
- Developing projects in the UAE to reduce carbon emissions

## Our Partners

**ICF:** (NASDAQ: ICFI) ICF is a global consultancy that has been at the forefront of climate change regulation and energy auditing since 1987.

**TCNC:** UK-based The CarbonNeutral® Company is one of the world's foremost carbon offsetting firms and has engaged EcoVentures to be its exclusive partner in the Middle East.

**RSK:** Range of specialist energy and environmental services. Services range from the creation of sophisticated energy models through to performance testing and certification.

## Our Emissions Reduction Team

### Shezan Amiji

- Founded EcoVentures in 2008
- Founded and ran 7DAYS newspaper
- Worked at Goldman Sachs and Standard Chartered
- MA from Oxford, MBA from The Wharton School

### Armen Vartanian

- Extensive experience in clean energy processes, and operations at high-tech firms
- BS from MIT and MBA from Johnson School at Cornell

### Jamie Phares

- Previously at Johnson & Johnson and General Mills
- BA, University of Pennsylvania and MBA, The Wharton School

### Karan Yadav

- Emissions Reduction Specialist
- Previously at 7DAYS and Blue Line Trading/FILA
- BBA from American University of Dubai

## Some of Our Clients in the Region



# We learn from our customers



- Emirates Foundation, Abu Dhabi, UAE
- World Future Energy Summit, Abu Dhabi, UAE
- NYU Climate Change Conference, Abu Dhabi, UAE
- Sabban Properties, Doha, Qatar
- The Department of Tourism and Commerce Marketing, Dubai, UAE
- Jumeirah Group, Dubai, UAE
- The Big 5, Dubai, UAE
- Al Habtoor Leighton, Abu Dhabi, UAE
- Tecom Investments, Dubai, UAE
- Sesam Conferences, Dubai, UAE

# EcoVentures' GCC Clients



Construction			
Events & Conferences			
Technology			
Services			
Government			
Hospitality			

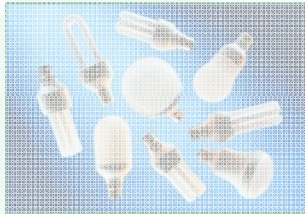
EcoVentures has presented to and conducted research for additional industries including cement manufacturing, aviation, oil and gas, agriculture and aluminum production.

# Certificate

Presented to:



Energy Efficiency



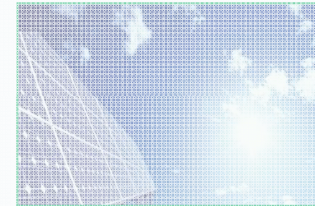
Coal Mine Methane



Livestock Methane



Solar Power Generation

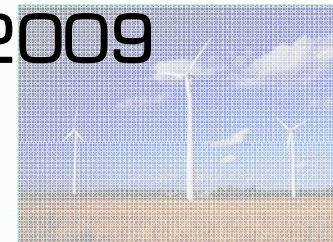


**Green Technologies FZCO**  
**Carbon Neutral Company**

Hydro Generation



Wind Power Generation



**January 1, 2009 to December 31, 2009**

**Dubai, United Arab Emirates**



This certificate commemorates that carbon dioxide emissions for the above company have been balanced out by support for international projects which save equivalent amounts of CO<sub>2</sub>.





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## Coldplay to stage UAE's first carbon neutral gig

by Rob Morris on Monday, 23 March 2009

The upcoming Coldplay concert on Mar 28 is set to make history as the first carbon neutral music event in the UAE.



**CARBON CONSCIOUS:** Coldplay will be the first band to hold a carbon neutral gig in the UAE, during the last date of their Viva La Vida world tour. (Getty Images)

To offset the band's carbon footprint through lighting, electricity and flights, the concert's organiser Flash plans to finance an unannounced sustainability project.

Meanwhile, Environmena, an Abu Dhabi solar power systems installation company, is carrying out an initial audit into the likely level of CO2 emissions produced by the concert.

It will then conduct a final review following the event.

Story continues below ↓

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# #1

## Customer Relationship Management

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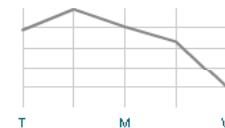
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29 Apr 2010 09:59 GMT  
(Market Open)

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**Business.com**

# Our Services



Energy  
Efficiency

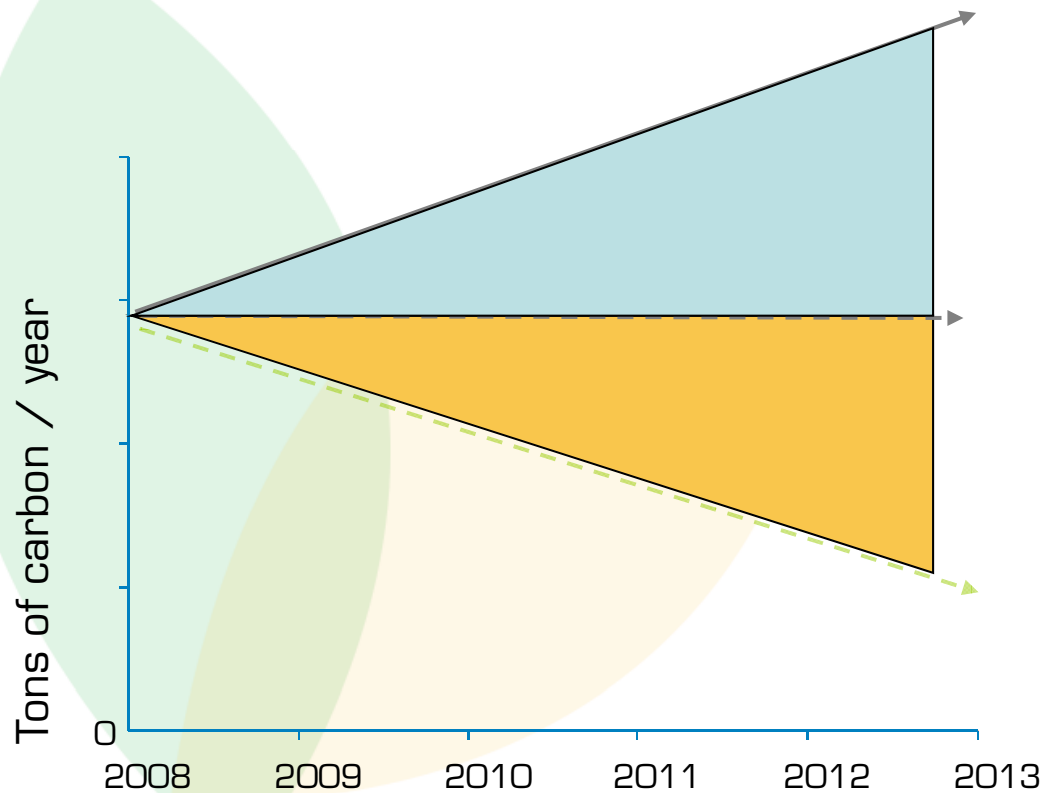
Education and  
Awareness

Carbon  
Management  
Services

Assessments:  
Greenhouse  
Gas and Life  
Cycle

Carbon  
Neutral  
Certification

# Value at risk of business as usual



The gap between **business as usual** and real reductions in emissions represents economic **value at risk**:

Regulatory risk of increases in water and power levies

Operating risk of grid-connected power shortages and expensive / loud diesel generators

Compliance with Green Building

Lost financial gains from waiting to implement cost-saving efficiency measures

Losing employees to companies promoting environmental record



# How might managing your footprint work?



## Business as Usual

Existing Building

AED100,000/year electricity and water costs

Footprint 2,000 tons per year

Driven by:  
Energy shortages  
High operating costs  
Old equipment

## Reduce Emissions

AED400K upgrade to HVAC

↓

200 ton CO2 reduction

AED75,000/year electricity and water costs

Footprint 1,800 tons per year

Driven by:  
Product differentiation  
New market development  
Investor relations

## Aim for Carbon-Neutrality

Footprint ZERO  
= Carbon-Neutral





The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations. Projects are placed on the map in accordance with geographic coordinates submitted by the project participants. The UNFCCC secretariat is making efforts to verify the coordinates and correct wrong entries. It is however possible that some projects are misplaced on this map. Please report those projects to the [CONTACT US](#) link above.

**Legends**

- Parties to the Kyoto Protocol with a DNA and 1-9 projects
- Parties to the Kyoto Protocol with a DNA without projects
- Parties to the Kyoto Protocol with NO DNA

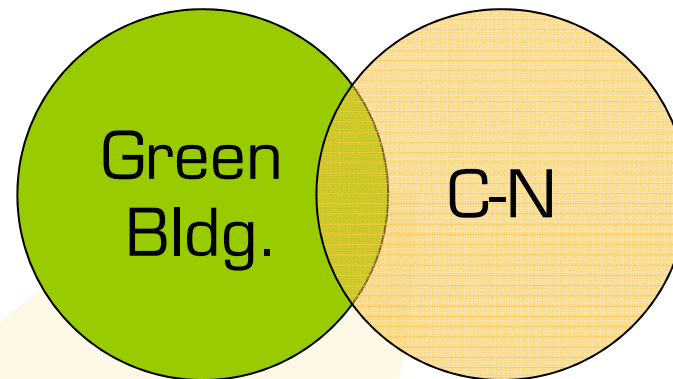
Parties in:

Asia and the Pacific	(18)
	(12)
	(-)

**Regions**

- [WORLD](#)
- [Africa](#)
- [Asia and the Pacific](#)
- [Latin America and the Caribbean](#)

## Green Building and CarbonNeutral are complementary



Green Building standard reduces energy consumption and emissions, and improves sustainability.

CarbonNeutrality quantifies emissions and reductions in emissions, and measures success of sustainability initiatives.

# CarbonNeutral Measures Success of Green Building

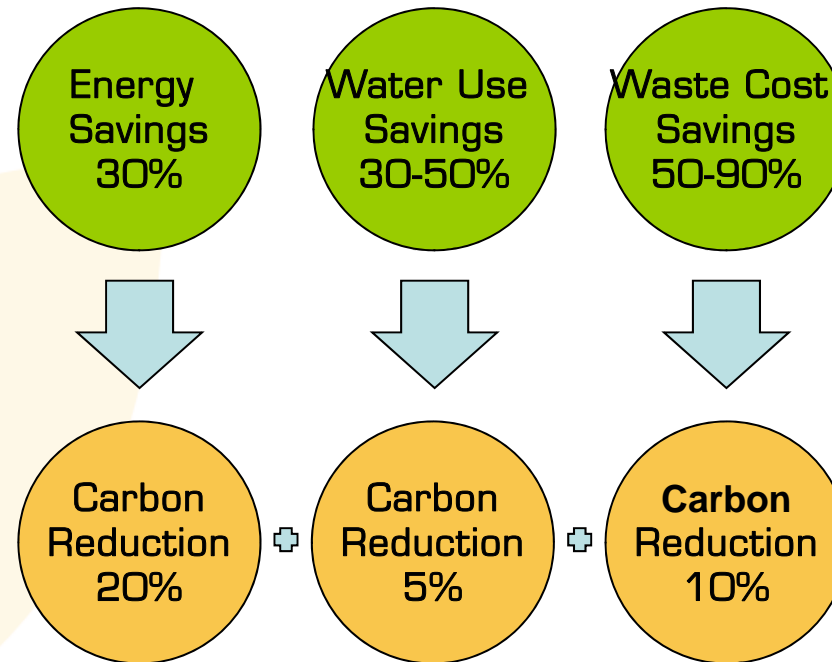


Outcomes of Implementing Green Building

35% Carbon Emissions Reduction

(65% to go until CarbonNeutral)

=



*Green Building achieves reductions in emissions year on year based on milestones, whereas CarbonNeutral has a single milestone, of a zero footprint.*

## Algae – “Green Gold?”

- Currently being developed
- 30 times more oil per acre than current crops used
- No sulfur
- Non-toxic
- Highly biodegradable
- Not subject to a commodity risk as is crude oil, corn & soybeans





# Comparative Emissions

## Emission Levels: Natural Gas vs. Oil & Coal

*Pounds per Billion Btu of Energy Input*

POLLUTANT	NATURAL GAS	OIL	COAL
CARBON DIOXIDE	117,000	164,000	208,000
CARBON MONOXIDE	40	33	208
NITROGEN OXIDES	92	448	457
SULFUR DIOXIDE	1	1,122	2,591
PARTICULATES	7	84	2,744
MERCURY	0.000	0.007	0.016

SOURCE: EIA-NATURAL GAS ISSUES AND TRENDS

# Refinery capacity in the MENA



	Number of Refineries	Crude Oil Distillation / Thousand bpd	Catalytic Cracking / Thousand bpd	Thermal Cracking / Thousand bpd	Reforming / thousand bpd
Bahrain	1	249	39	22	11
Iran	9	1,451	35	291	165
Iraq	8	598	0	0	82
Jordan	1	90	4	0	11
Kuwait	3	889	36	0	47
Lebanon	0	0	0	0	0
Oman	1	58	0	0	16
Qatar	1	200	60	0	29
Saudi Arabia	7	2095	104	138	193
Syria	2	240	0	23	31
United Arab Emirates	5	781	34	0	26
Yemen	2	140	0	0	15
<b>Middle East</b>	<b>40</b>	<b>6,818</b>	<b>312</b>	<b>473</b>	<b>625</b>
Algeria	4	450	0	0	89
Egypt	9	726	0	0	62
Tunisia	1	34	0	0	3
<b>North Africa</b>	<b>14</b>	<b>1,210</b>	<b>0</b>	<b>0</b>	<b>154</b>
<b>MENA Region</b>	<b>54</b>	<b>8,028</b>	<b>312</b>	<b>473</b>	<b>780</b>

Source: US Department of Energy



# Carbon Footprint of a Cement Plant

- The globally accepted benchmark is 0.9 tonnes of CO<sub>2</sub> per tonne of cement.  
*(source : Cement Sustainability Initiative)*
- It is not known how ECF compares to this benchmark
- The cement industry contributes to 5% of global emissions

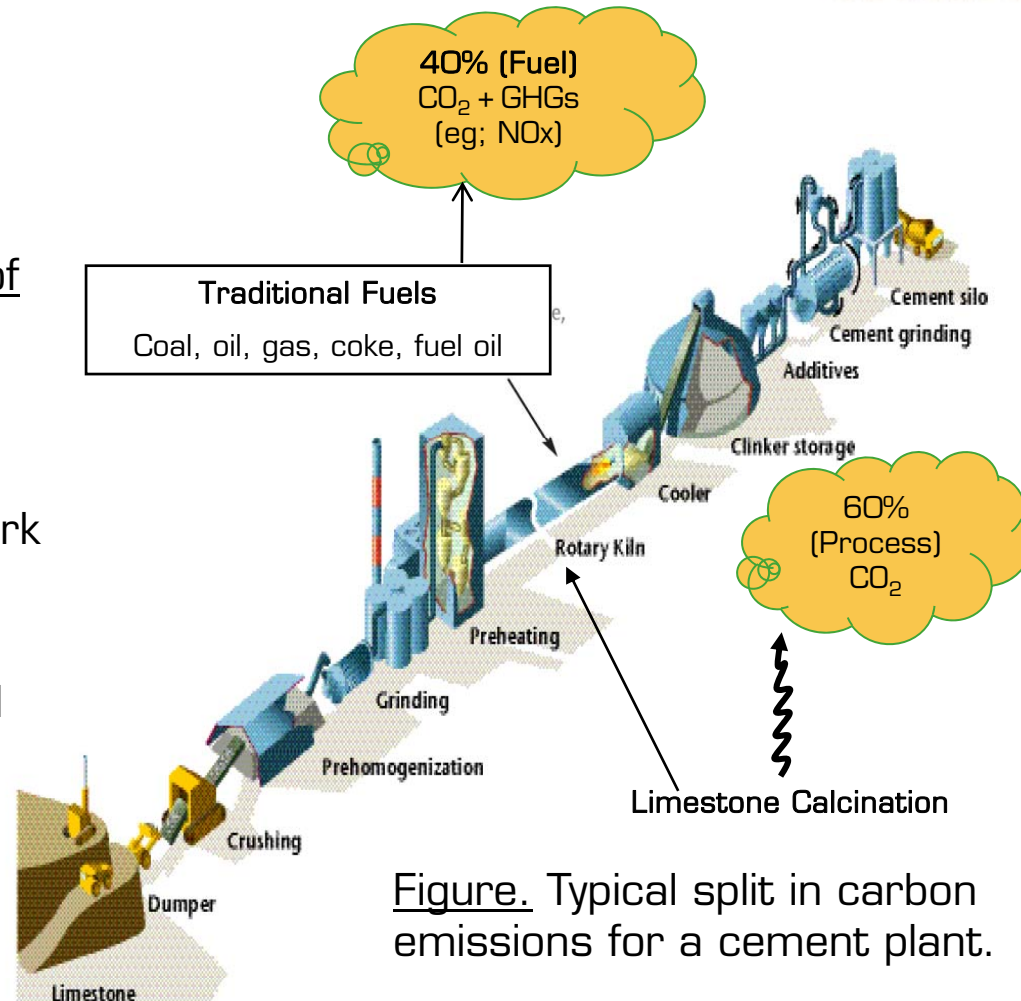
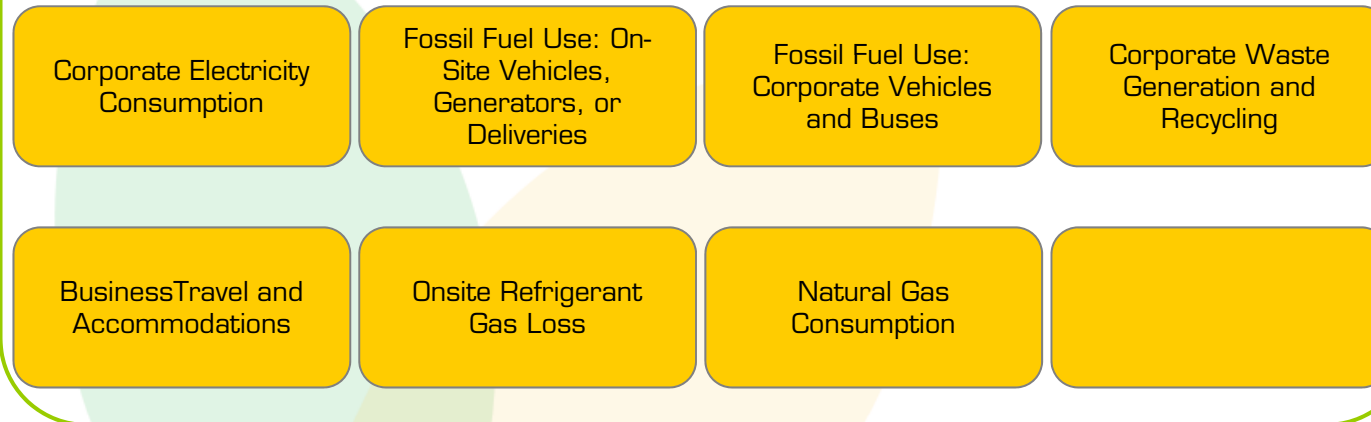





Figure. Typical split in carbon emissions for a cement plant.

# Assessment Boundary & Process

## Assessment Boundary



### Legend

-  Emissions producing activity within boundary
-  Emissions producing activity outside boundary
-  Assessment boundary

Staff Commuting  
(Other than Using  
Company  
Cars/Buses)

Embodied Emissions  
of Materials Used at  
Office

Generation,  
Distribution, and  
Management of  
Water

Management and  
Disposal of Waste

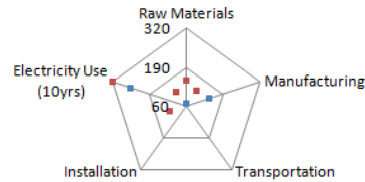
## Assessment Process

1. Establish the assessment boundaries
2. Collect client data
3. Evaluate data quality and client data sources
4. Calculate emissions using appropriate conversion factors

# Lifecycle Assessment of

## Bena PAC CO<sub>2</sub>e Emissions Comparison

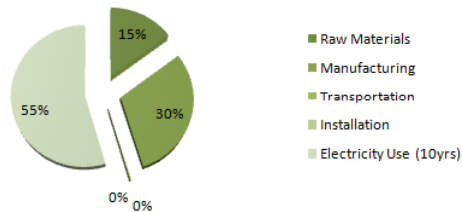
■ Bena Villa (T CO<sub>2</sub>e) ■ Std. Concrete Villa (T CO<sub>2</sub>e)



*Bena PAC generates greater emissions than standard concrete in the manufacturing process, but generates 20% fewer emissions over its lifecycle.*

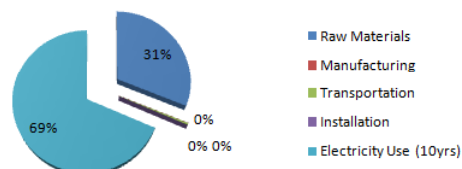
*Standard concrete generates significantly higher emissions in its procurement and embodied emissions of raw materials than Bena PAC. Emissions through use of the produce over its lifecycle are also significantly higher.*

### Bena Villa Emissions Over Lifecycle (T CO<sub>2</sub>e)



*The pie chart at left provides a breakdown of the different emissions sources over the lifecycle of the Bena PAC product in a villa in the UAE.*

### Standard Concrete Villa Emissions Over Lifecycle (T CO<sub>2</sub>e)



*The pie chart at left provides a breakdown of the different emissions sources over the lifecycle of the Bena PAC product in a villa in the UAE.*

# Recommendation

**S**

## Reduce Energy Use in Manufacturing

The burning of natural gas in the PAC manufacturing process accounted for a staggering 97% of the emissions due to manufacturing, accounting for 137 tons of the 141 total tons emitted in production. Reducing this energy use – which may not be possible – could significantly reduce carbon emissions.

## Implement Use of Alternative Energy

If energy use cannot be reduced, the implementation of alternative fuel sources that emit less CO<sub>2</sub> would be a solution. For example, a waste-based engineered fuel could be made to work in the Bena PAC production process with minimal equipment retooling and generate 25% fewer emissions.

## Offset Unavoidable Emissions

Bena can also offset the impact of its PAC production process through the purchase of carbon credits, also known as carbon offsets. The purchase of these offsets directly supports an operation elsewhere in the world that is saving CO<sub>2</sub> from being emitted, thus directly offsetting the environmental effect of Bena's manufacturing operations for PAC. For example, if Bena wanted to offset the CO<sub>2</sub> emissions of the entire PAC production process (141 tons per m<sup>3</sup> of PAC), this would make the product by far the lowest CO<sub>2</sub> emitting concrete product on the UAE market for a cost of about \_\_\_ per m<sup>3</sup>.

## About the Study

Please contact EcoVentures or Bena for details or questions on methodology, data, analysis, or assumptions.

## About EcoVentures

EcoVentures is the Middle East's premier emissions reductions firm. We are also one of the regions' leading consultants on carbon, alternative energy, energy optimization, green building, and energy project finance with a particular focus on alternative energy solutions.

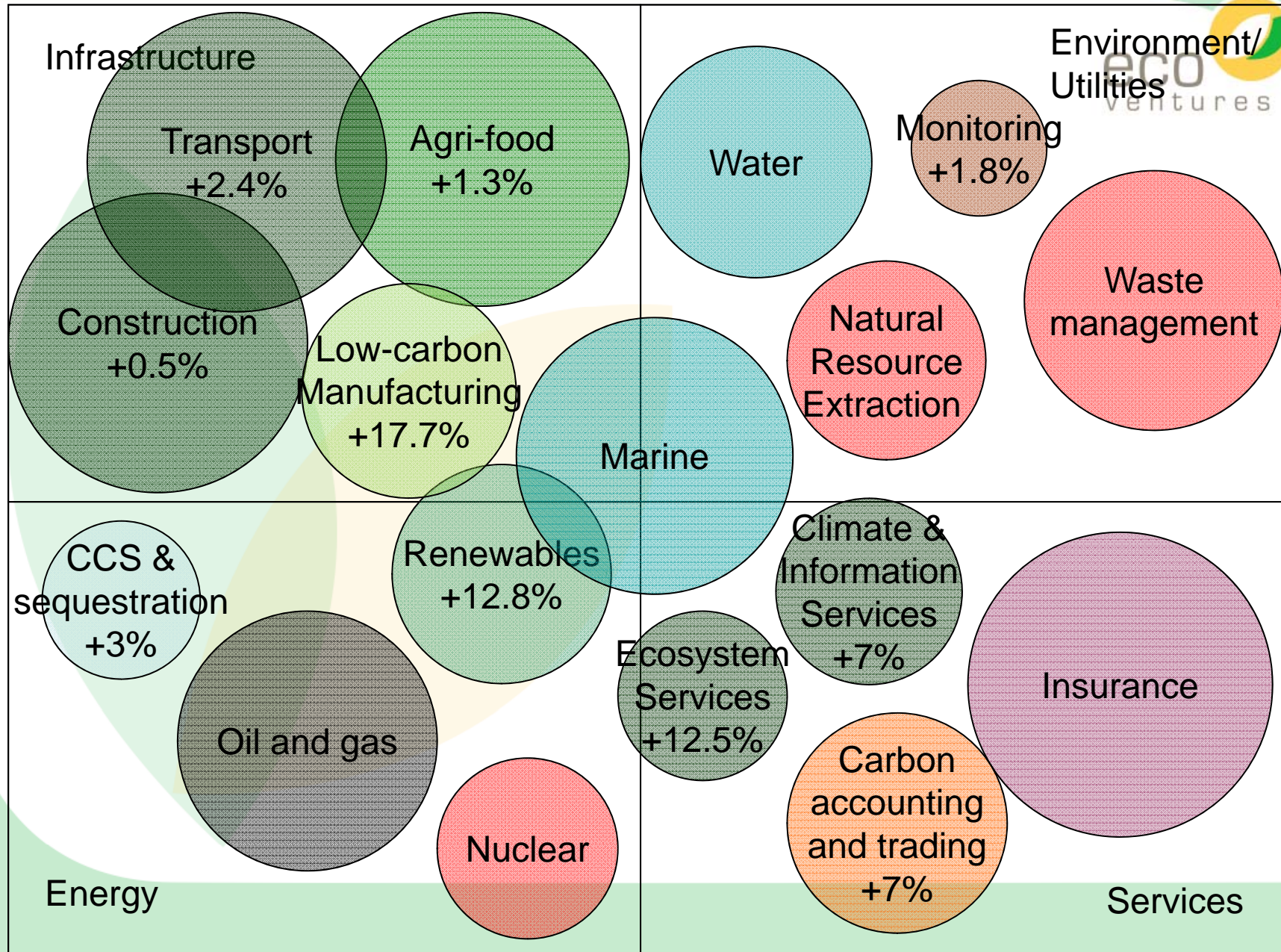
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Office 332, Bldg 10, Dubai Media City  
Dubai, UAE





# Future green economy (2015)



# Sharjah Sustainable Business



## DAY 1 = AWARENESS and Day 2 = ACTION

- 
- Sustainable Business Leadership & Strategies - Made in Sharjah
  - Concentrated Photovoltaics Technology
  - Easier Said than Done – Implementing Sustainability
  - Sustainable Business Strategies - Lessons to be Learned from Global Players
  - From Add on to Value Creation – The Future of Sustainability in the Arab World
  - From Research to Industrial Application: Biomanufactured Masonry
  - Putting Ideas into Action: Creating an Environmental Company
  - Sustainable Supply Chain Management – Case Study of Masdar City Best Practice
  - Social Entrepreneurship in the GCC – Empowering the Young Generation
  - Sustainable Business Management - Gearing up your Business
  - Investors How to raise funds through Green Innovations
  - Sharjah & UAE Environment, Health and Safety Regulations – Overview & Emerging Priorities
  - Empower Your Teams - What can Business Leaders Learn from the Sports World?
  - Energy Efficiency Projects for existing buildings - Save Today. Protect Tomorrow

# “Positive Environmental Contribution”



- CSR Conference in May 2010
- 

- The Business Case Behind Environmentalism
- Exploring Corporate Sustainability, The New CSR
- Sustainable Retailing With Focus On The Supply Chain
- CSR : Building Successful Sustainable Strategies
- Carbon Footprint Strategy And CSR
- Convincing The Skeptics In Your Company That CSR Is Good For Your Business
- Developing Long Term Sustainability And How It Relates To Oil Company X's Business Objectives