



# **Is There a Green Factor?**

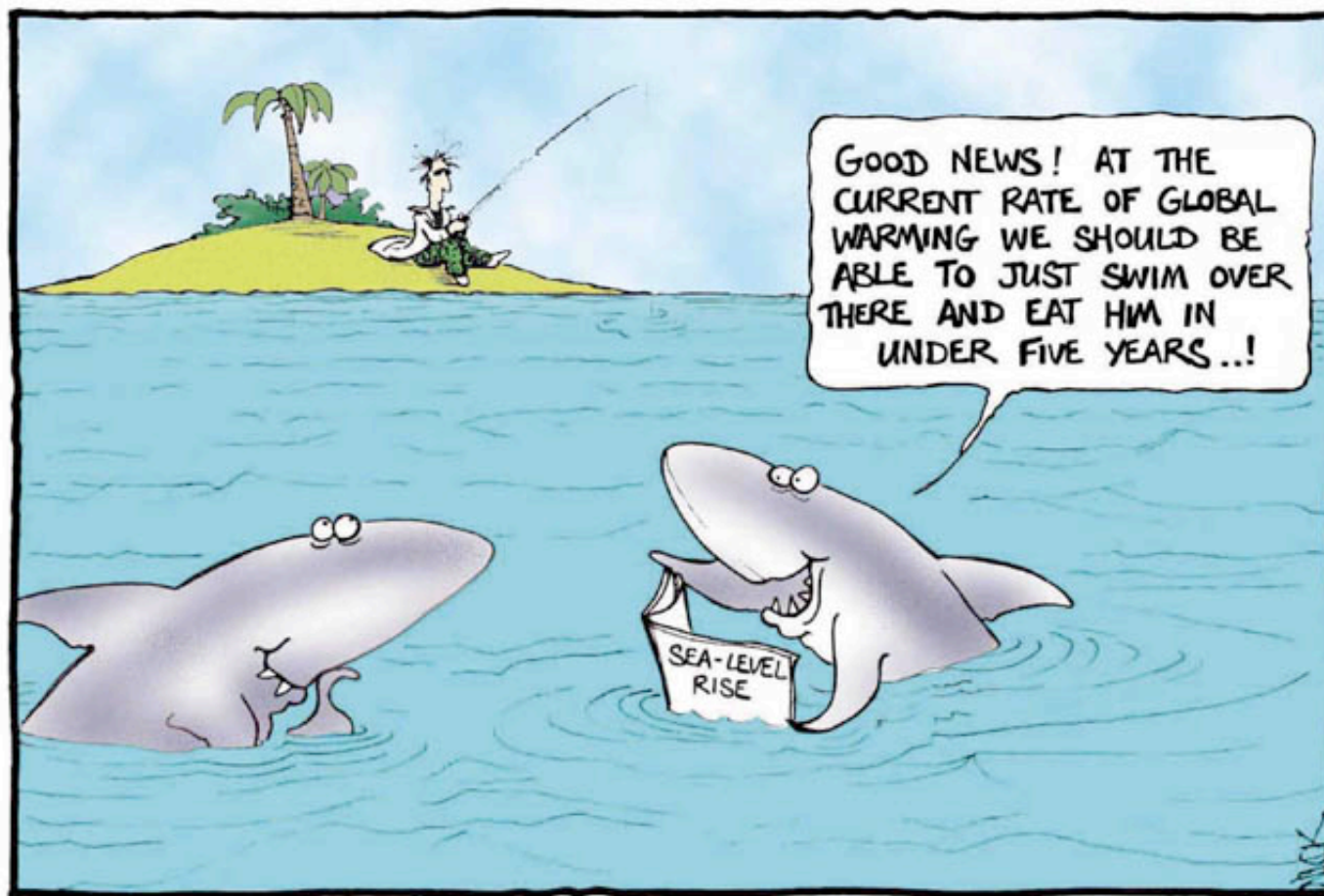
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**11 May 2010**

# Outline

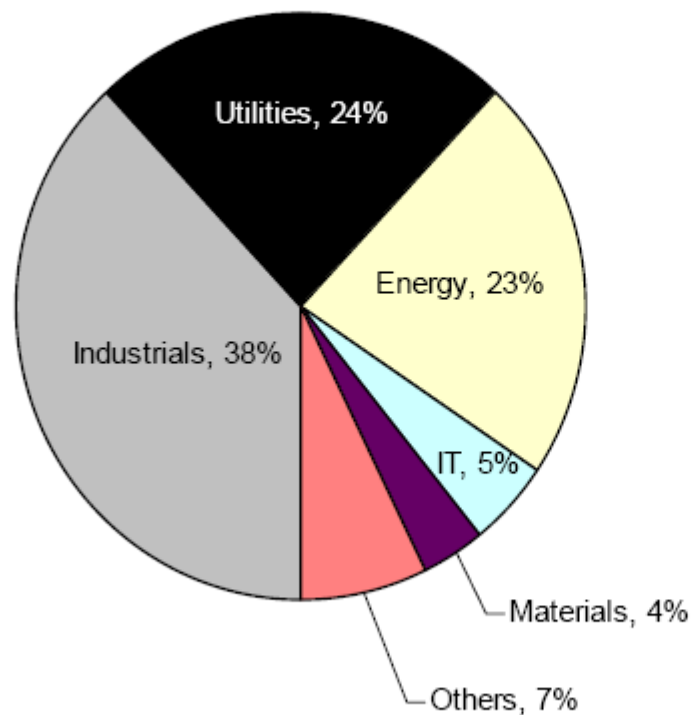
- Interplay between environmental & financial issues
- Analytical tools available to investors & challenges
  - Insights gained from analyzing equity indices
  - Insights obtained from examining risk models
- Do climate change beneficiaries share common properties?
  - In other words, is there a green factor in equity returns?

# Interplay between environmental & financial issues



# The renewable energy sample portfolio

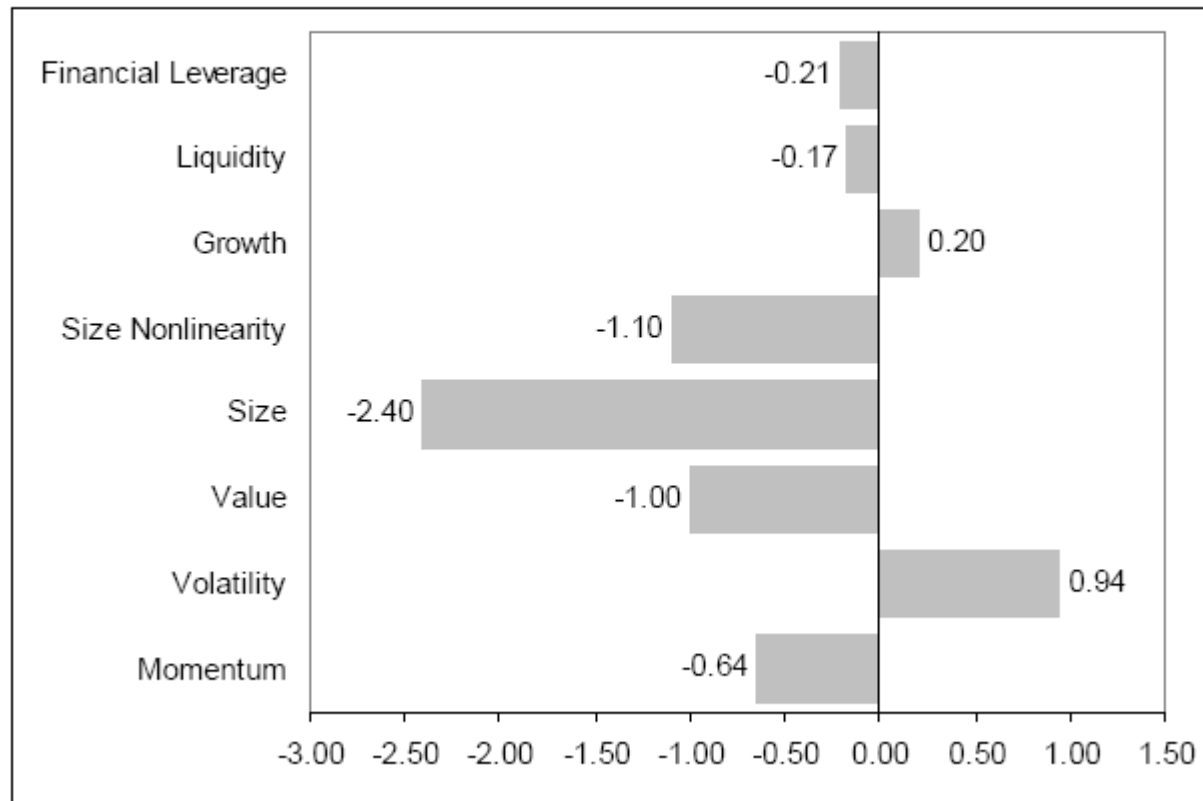
Figure 1: GICS Sector and Country for Selected Firms with Renewable Energy Activities



Country	No. of Stocks
USA	27
Germany	13
United Kingdom	6
Canada	5
France	4
Australia	4
Taiwan	3
Brazil	3
Denmark	3
Italy	2
Switzerland	2
Philippines	2
Poland	2
Belgium	1
Hong Kong	1
Russia	1
Norway	1
Greece	1
Thailand	1
Indonesia	1
Spain	1
<b>Total</b>	<b>84</b>

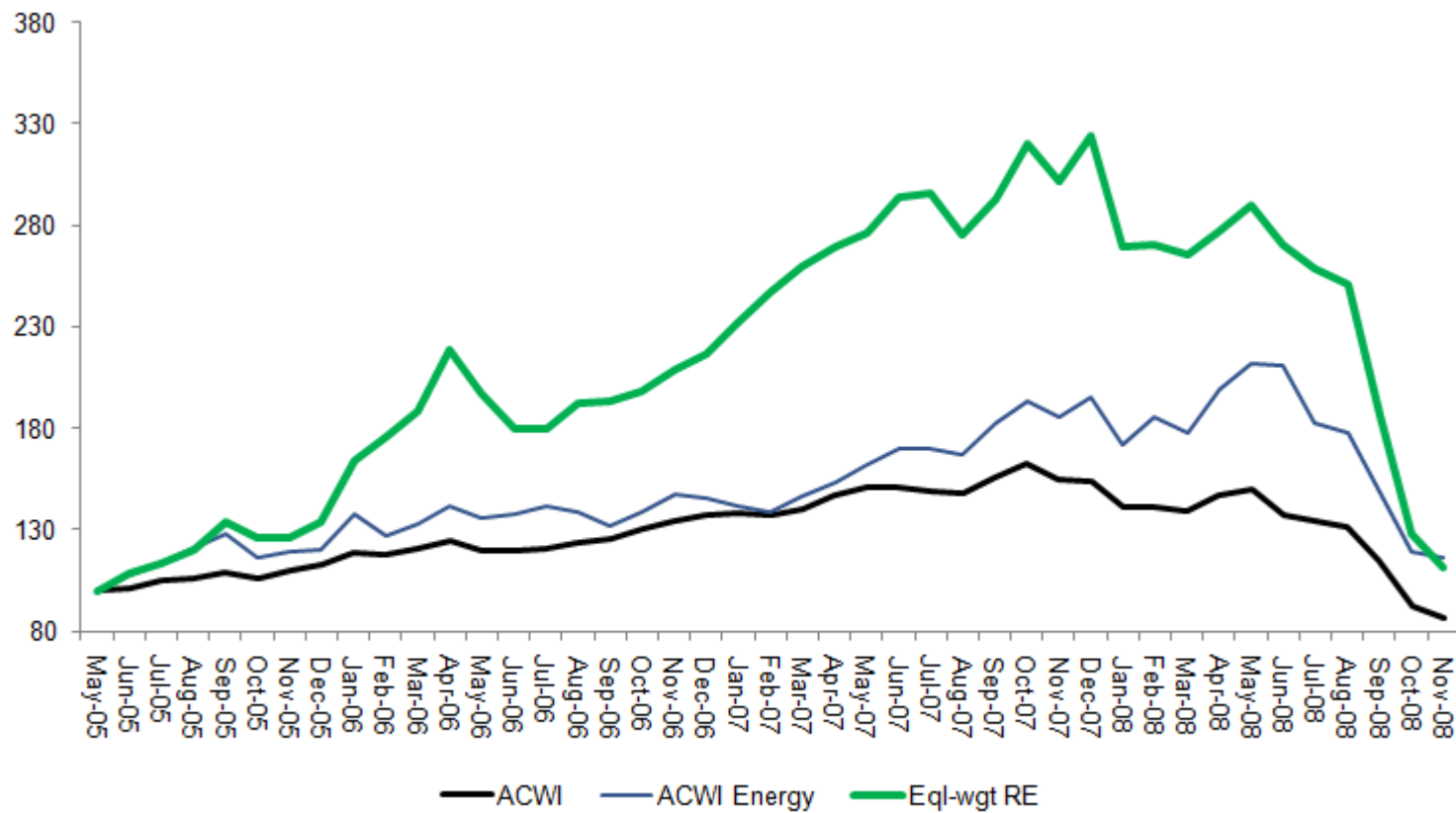
# Risk exposures

**Figure 2: Exposures to Barra Risk Factors In Barra GEM2 Model  
(averages of monthly exposures from Sep 2007 to Aug 2008)**



# Historical performance

Figure 3: Historical Performance of Renewable Energy Sample Portfolio and Selected MSCI Indices



## Conclusions & further reading

- Main conclusion:

*“Controlling for all GEM2 risk factors, we found that a statistically significant green factor seems to have emerged in recent years...”*

- Further reading:

Chin-Ping Chia, Lisa Goldberg, David Owyong, Peter Shepard, Tsvetan Stoyanov, “Is There a Green Factor?”, *The Journal of Portfolio Management*, Spring 2009, Vol. 35, No. 3: pp. 34-40

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