



Centre for Risk Studies
Conference Out-brief

New Energy Finance Round-table Discussion
2 Jun 2010
Michelle Tuveson

Centre for
Risk Studies



CAMBRIDGE
Judge Business School

New Energy Finance Roundtable Discussion

- Attended 2010 Bloomberg New Energy Finance Summit – 17-19 March 2010 London
 - <http://www.newenergyfinancesummit.com/Summit/information/downloads.php>
 - <http://www.newenergyfinancesummit.com/Summit/information/video-interviews.php>

Discussion Topics

- Copenhagen and Cancun discussions
- State of the carbon markets
- Impacts of global financial stimulus on clean energy
- State of the capital markets
- Wind energy projects in China – Megabases
- Carbon Monitoring
- Energy Security

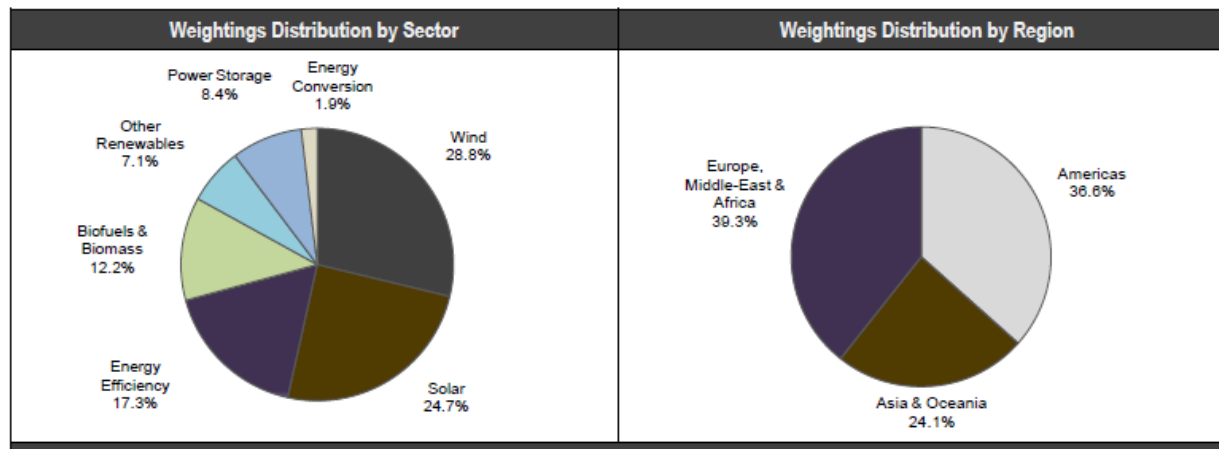
The WilderHill New Energy Global Innovation Index

Fact sheet March 2010

Key Statistics		Index Performance		
No. of Constituents	88	Average Return*	4.7%	
No. of Countries**	20	Average Return – MSCI World*	1.8%	
Total Market Capitalisation	\$216bn	Correlation with MSCI World *	88.3%	
Largest Company	\$21.8bn			
Smallest Company	\$80m			
		Annualised Returns	NEX	MSCI World
Average Market Capitalisation	\$2.5bn	1 Year	26.5%	34.2%
Median Market Capitalisation	\$0.9bn	3 Year	-7.5%	-4.6%
Largest Company Weight	2.07%			
Top 10 holdings	20.03%			

* Since 29th December 2000. **Excluding Hong Kong and Taiwan.

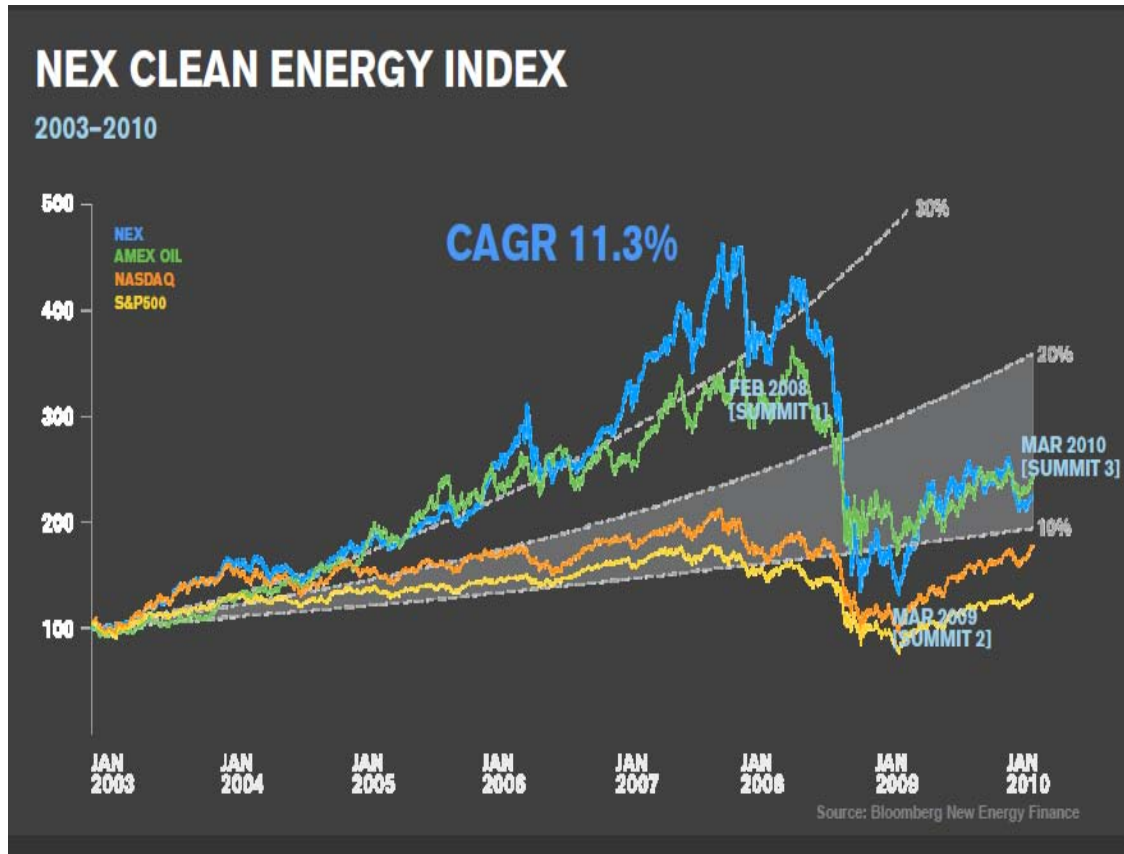
- 88 companies
- 24 exchanges
- 20 countries (excluding Hong Kong and Taiwan)
- Focus: generation and use of cleaner energy, conservation, efficiency and the advancement of renewable energy



Source: WilderHill New Energy Index

http://www.nexindex.com/pdf/2010_03_31_nex%20factsheet.pdf

NEX: Clean Energy Index



NEX tracks:

“innovative technologies and services focus on generation and use of cleaner energy, conservation and efficiency, and advancing renewable energy generally.”
WilderHill

Source: Bloomberg New Energy Finance

<http://www.nexindex.com/>

Chinese Wind Megabases

CHINA

CHINESE WIND MEGABASES



INSTALLED CAPACITY 2009: **25GW (3%)**

TARGET: **120GW OF WIND CAPACITY**
INSTALLED BY 2020 AT 'MEGABASES'

INCLUDING OFFSHORE COULD BE **200–250MW BY 2020**

(23–29% OF POWER GENERATION CAPACITY)

Source: Bloomberg New Energy Finance

<http://www.newenergyfinancesummit.com/assets/downloads/BNEF-2010-03-18-Summit-2010-Guy-Turner.pdf>

Discussion: Wind power

- Is wind power a viable option?
- What are the challenges?
- What are the potential unknowns & risks?
- What are the developmental opportunities?
- Are economies of scale needed?
- Future export item?

State of Carbon Markets

- Status of US Carbon Markets
- Carbon Auditors Technology
 - University College London spin-out
 - Carbon monitoring services
 - They estimate that the market space for monitoring carbon is between \$400M - \$2B per year.
 - Carbon trading is currently based only on industry usage, whereas, much of the carbon levels is highly impacted by deforestation.
- China is developing Measureable, Reportable, Verifiable (MRV) system for measuring carbon
- BRIC nations investing \$100B/ year, regardless of carbon requirements. How will these get deployed and are there enough companies in the sector?
- Forestry important component in mitigating carbon.
 - The current status of forest loss is estimated at a rate of “4 Hyde Parks every hour”.
 - Forestry was considered a winner at Copenhagen, with Canopy Capital and Terra Global Capital as leaders in forestry equity and providing strategic advice on environmental markets

Source of information: Bloomberg New Energy Finance Summit

Discussion: Carbon Cap & Trade

- One purpose of carbon cap & trade is to transfer resources from developed to developing countries.
- It is a means for a country to buy their way out of carbon reductions?
- What is a reasonable ceiling on external mitigation of carbon emissions outside of one's country?
- Poll: What percent should be allowed?
- Carbon trading simulations

Carbon Disclosure Project (CDP)

- The Carbon Disclosure Project launched in 2000
 - accelerate solutions to climate change by putting relevant information at the heart of business, policy and investment decisions (Source: CDP website)
 - Available via Google Finance
- US SEC has signed the CDP project
- Businesses would follow carbon accounting standards to report their emissions
- 500 largest companies would provide their carbon disclosures
- Allows data to be collected and used to drive the capital markets for climate change.
- The CDP system is currently being built by industry

Energy Smart Grid

- Digital Energy and the introduction of intelligence into the world's power network.
 - US GridWise Alliance www.gridwise.org
 - Communication technologies
 - Privacy
 - Cybersecurity
 - Standards
 - Management
- Renewables to the energy mix can cause significant volatility for the powergrid
 - Need leadership in standards and interoperability
 - Ownership of data from the energy grid
 - Smartgrid provides opportunities for a data-enriched environment

General Discussion

- Energy security is “trumping” climate change concerns
- An option for nuclear energy becomes a political decision.
- Electric vehicles – incentive structures
- Emissions taxes vs cap & trade

New Energy Pioneers Showcase

- ALERT ME – Cambridge based company that uses cloud computing and persistent services approaches to interact with home energy systems to monitor and reduce usage.
- NovaCem – London Imperial College spin-out that provides carbon negative cement material. Made out of magnesium silicate versus traditional concrete which represents 5% of CO2 emissions.
- DYESOL – Australian company that makes building integrated photovoltaics based on artificial photosynthesis.
- Topell Energy – Netherlands company that provides biomass alternative to coal.
- Magnomatics – Sheffield University spinout with fundamental breakthrough in magnetic gearing with stealth, efficiency, and size improvements. Application includes wind turbines.

Future of Clean Energy Investment

- Sustainability needed for renewable energies
 - \$184B for clean energy stimulus was awarded, of which only \$16Bb has been spent in 2009.
 - The future of Copenhagen will be incremental with diplomacy and global economic interest,
 - Must translate to economic viability after the stimulus funding is gone.
- Bloomberg sees the following 7 decadal trends in new energy:
 1. Cost competitive clean energy: Economies of scale making it a viable solution
 2. Nuclear Power: Resurgence in nuclear power along with security issues
 3. Cities go green: Trends for new cities with population growth
 4. Pervasive data: Smartgrids connecting more customers and opportunities for IT providers
 5. Transformation in transportation: Electric Vehicles
 6. Developing world leapfrogs: The developing world is progressing without subsidies
 7. Technology “black swans”: Solar, Ocean, Batteries, etc.

Source: Bloomberg New Energy Finance Summit

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Cambridge Risk Centre: Student Research Spotlights

Thursday 10 June 2010 JBS - W2.01 12:00 -13:00



- Pip Walters: Lithium: Risks Associated with New Energy Supply Chain and Implications to Energy Security



- Simeon Innocent: Facial Skin Colour and Health Perception in Humans



- Mukesh Kumar: Risk Management Practices in Global Manufacturing Investment



- Catherine Edwards: Complexity in Health Organizations and the Co-existence of Different Organizing Principles