ASPO 7
PRESENTATION
Andrew MCKILLOP

GLOBAL ENERGY TRANSITION PLAN AND PROGRAMME

October 2008

World Oil Demand Continues to Grow

By 2010 world oil demand can easily exceed all available production due to continued growth of consumption, and declining new supplies

Average per capita demand	World Population 2010 *Millions*		Year Total Demand 2010 Billion barrels (**Gb**)		Year Average Daily Demand, 2010 *Million Barrels per Day (MBD)*	Growth from 2002 *MBD*
	High	Low	Low	High		
LOW 4.75 Barrels/year	6850	6750	32.1	33	88.4 – 90	Circa 12.5 Mbd
MEDIUM 5 Barrels/year	6850	6750	33.8	34.5	92.5 – 94.5	Circa 17 Mbd
HIGH 5.25 Barrels/year	6850	6750	35.4	36.2	97 – 99.2	Circa 21 Mbd

Recent data disclosed by Kuwait Oil Co suggests Kuwait's remaining oil reserves are about 43 Billion barrels. **World oil consumption, 2008, will be about 32 Gb** (Source: Petroleum Intelligence Weekly)

Continued demand growth may trigger prices above 150 to 200 USDbbl, almost certainly leading to global economic recession, falling oil demand, and falling oil prices unless supply Is reduced

Oil and Gas Intensity is Very High in the OECD countries (Barrels per capita per year)

Country or region Rounded averages **2006-2007**	**Oil intensity** (barrels per capita per year, bcy)	**Natural Gas intensity** (barrels oil equivalent per capita per year, boecy)
United States	25	12.8
South Korea	17.5	5
Netherlands	17	18
Australia	15.1	8.2
Japan	14	5
EU-27 average	10.6	6.6
Russia	7.2	20.4
Turkey	4.5	4.5
China	2.5	0.3
India	1.3	0.2
Low income Africa	0.4	0
WORLD AVERAGE	**4.8**	**2.8**

Continued extreme high oil and gas intensity in “postindustrial” OECD countries will intensify the impacts of Peak Oil and Peak Gas on supply and price

MULTILATERAL ENERGY TRANSITION

EXISTING FRAMEWORKS

IMF IBRD – International Monetary Fund and World Bank (monetary stability and financial policy coordination, aid to development, emergency aid to economic reform, monitoring)

IEA – International Energy Agency (reporting, policy coordination, cheap oil oriented)

IAEA, UNCNRET, ILO, UNCTAD etc (various energy economic and related agencies pursuing different energy goals, including renewable and alternate energy development)

IFC, CFC etc (financing entities depending on IBRD and related entities, encouraging tech transfer)

PROPOSED FRAMEWORKS

IEF – International Energy Fund (issues ODRs and GDRs in case of non compliance with Energy Intensity reduction targets, automatically finances IREA)

IOGA – International Oil & Gas Agency (supply allocation, price setting, transitional market arbitrage & monitoring)

IETA – International Energy Transition Agency (policy setting entity regrouping all energy exporters and importers, sets goals for Energy Intensity reduction in OECD countries and global alternate energy development of IREA)

IREA – International Renewable Energy Agency (special agency created to pursue accelerated and global Alternate Energy development, policy set by IETA, automatically funded by IEF)

IN CURRENT GLOBALIZED LIBERAL ECONOMY ENVIRONMENT MARKET ONLY « SOLUTIONS » ARE PREFERRED….

UNTIL CRISIS ARRIVES

Threats to "Market-driven" Energy Transition

Implosion of ARE Asset Bubble

Global Geopolitical Conflict

Middle East or Central Asian Geopolitical Conflict

Collapse of Decoupled Growth in China and India

Slow Economic Growth or Recession in OECD

Global Equities Crisis Depressing Asset Values

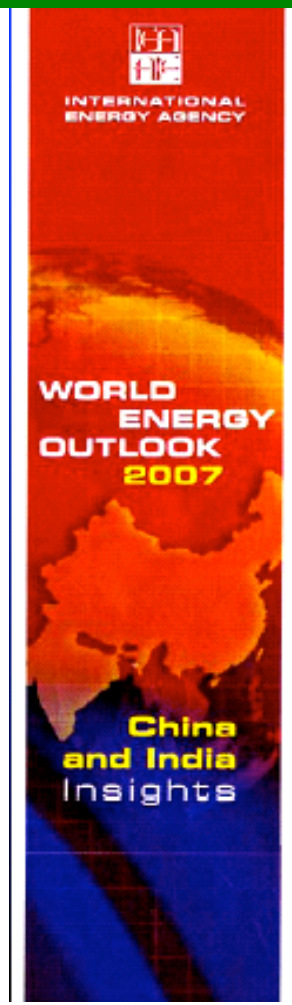
Inflation Crisis Leading to Defensive Interest Rate Rises

USD and EUR Currency Crisis and Flight to Gold

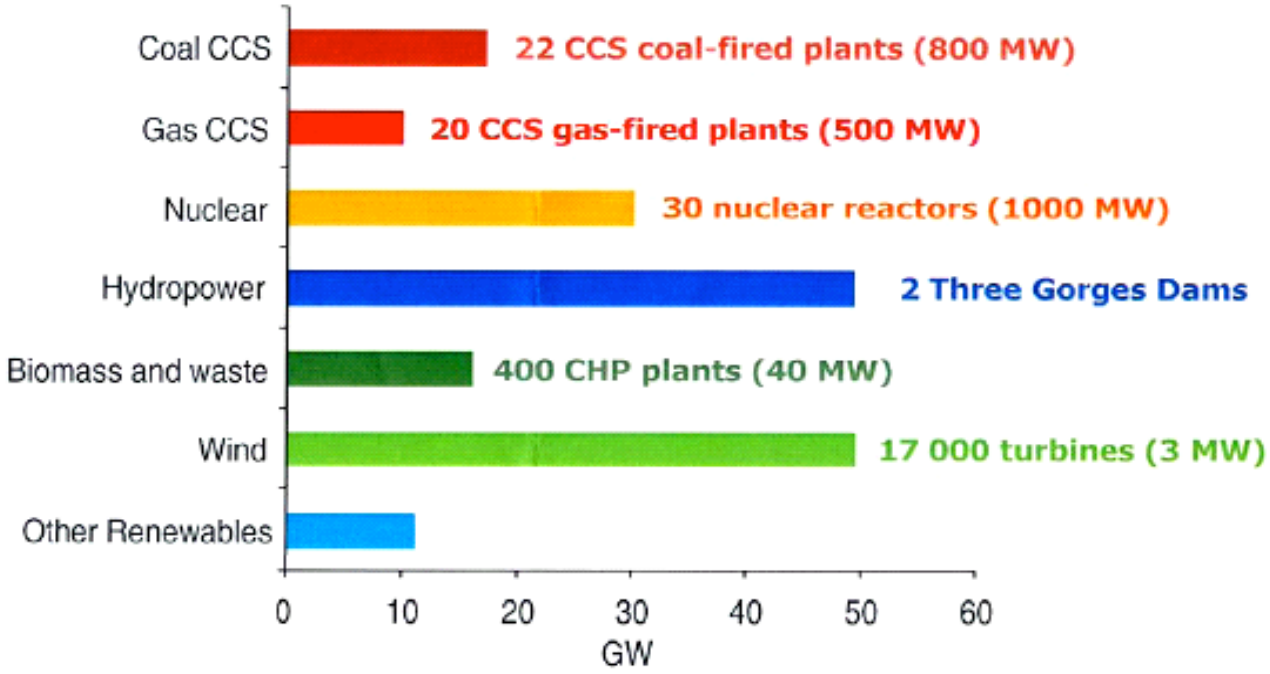
ANY OF THE ABOVE CRISIS SCENARIOS CAN RAPIDLY CUT THE FLOW OF INVESTOR FUNDS TO, AND INTEREST IN ALTERNATE AND RENEWABLE ENERGY

ECONOMIC CRISIS WOULD LEAD TO *de facto* REDUCTION OF OIL AND GAS INTENSITY

Impossible Targets for "Spontaneous Market-driven" Alternate Energy development *China and India only*



Average Annual Power Generation Capacity Additions in the 450 (ppm CO2 by 2030) Stabilisation Case, 2013-2030



These rates of ARE development are almost certainly (99%) unlikely or impossible

Financial Asset Bubble Building in the Alternate and Renewable Energy sector

Alternate and renewable energy sector (ARE)	2005	2006	2007
Direct investment, stock purchases, private equity	40 Bn USD	55 Bn USD	70 Bn USD
M&A, buyouts and asset refinancing	15 Bn USD	25 Bn USD	40 Bn USD

SOURCES: Market Watch, UN Environment Program ; Thomson-Reuters, Lehman Bros, Bloomberg, i.a.

Current 'investor boom' in OECD country ARE sector and ARE-linked financial operations is now dominated by 'financial engineering', is increasingly leveraged, concentrates resources in non-productive sectors ***and is not sustainable.***

New opportunities provided by ARE investment and Carbon Finance in Middle East and Central Asia region can attract major inward capital flows, and generate revenues, ***but requires appropriate investor vehicles established in the region.***

The MECA region ARE Fund will be a regional flagship for steering and channeling funds to long-term performing Sustainable Investment in the region ***to achieve "After Oil" policy objectives of regional and national economic policy deciders.***

GREEN CHIP INVESTOR FUND

THE MIDEAST & CENTRAL ASIA ALTERNATE AND RENEWABLE ENERGY FUND

Andrew McKillop
2007-2008

GLOBAL NEGAWATT

- Fund of funds addressing finance sources including: investment banks, corporate and state pension funds, national wealth funds, and multilateral finance sources. The Fund of funds will promote and take participations in financial, financial-technical, scientific and technological, and private enterprise entities operating in the large, but defined sector of **Alternate & Renewable Energy, and Sustainable Development.**

- The Fund of funds geographic scope will particularly target selected regions and countries where national and regional organisations prioritize the acquisition of assets, technology and know-how in the above mentioned sectors (ARE and SD)

- **Financial and commercial entities funded or created will respond to strategic criteria of the Negawatt Fund:**

Delivery of minimum cost, sustainable **solutions** to final private, collective and corporate user energy and resource needs within a global scope of Transition to Sustainability

- **Sectors :** **ENERGY HABITAT TRANSPORT FOOD**

- **ENERGY SOLUTIONS** : localised heat and electric power supply ; micro power stations ; local low cost renewable energy supply ; CDM and Carbon Finance operations; energy recovery and recycling (de-manufacture, recycling of materials) ; private equity in this sectors; consulting and advisory services

- **HABITAT SOLUTIONS** : retrofit and restructuring of existing urban habitat ; financing, construction and operation of low energy, low cost sustainable habitat ; derived operations including regional and international development of 'Eco Tourism' habitat; design and advisory services; property management services

- **TRANSPORT SOLUTIONS** : green urban transport solutions ; sale, leasing and hire of low cost, energy efficient 'Green Vehicles' eg CNG-fuel vehicles; fleet operation; fuels and energy supply where legal; supply of personal, collective and goods transport services ; private equity in this sector; advisory services

- **FOOD & WATER SOLUTIONS** : production and distribution of certified organic, local produced, low cost foodstuffs, related and derived products ; integration of food production in urban regions with transport, water and energy supply and services ; private equity in this general sector; consulting and advisory

Biofuels and Water Security

In a recent report, the UN Food and Agriculture Organisation drew attention to the rising threat of higher food prices due to Biofuels production – this in turn will also increase Water supply shortages

- Availability of food could be threatened by bioenergy production:
  - Currently, about 14 million hectares (**1 %** of the world's arable land) used for liquid biofuel production
  - 2.5-3.8 % arable land used for biofuels by 2030
  - **20 %** of the world's arable land by 2050

Water-efficient and Energy-efficient biofuels will come to the fore as energy and water prices rise

Careful investment Analysis and Advice is needed to avoid Unsustainable Choices

In many countries, unwary and over-optimistic investing in certain ARE ventures has turned into traumatic adventure. In particular we can note the **'Boom and Bust' in Biofuels**

Australian Biofuel IPOs

Firm	*IPO Date*	*IPO Share Price $*	*31 Jan 08 Price $*	*Gain Loss %*
Australian Renewable Fuels	May-05	1.00	0.045	-95.5
Australian Biodiesel Group	Dec-05	1.00	0.021	-97.9
Mission Biofuels	May-06	1.00	1.295	29.5
Sterling Biofuels International	Sep-06	1.00	0.079	-92.1
Axiom Energy	Sep 06 IPO withdrawn			
Natural Fuel	Dec-06	1.50	0.11	-92.7
Agri Energy (formerly Australian Ethanol Ltd)	NA	0.45*	0.035	-92.2

DWS Global Climate Change Fund
Top 10 Holdings as at 31 December 2007

Stock	Country	Theme	% of Equity
Gamesa Corp Techno	Spain	Clean Tech	2.45
ABB	Switzerland	Clean Tech	2.23
Emerson Electric	USA	Energy Efficiency	2.19
Vestas Wind Systems	Denmark	Clean Tech	2.16
SolarWorld	Germany	Clean Tech	2.01
Umicore	Belgium	Clean Tech	1.97
Q Cells	Germany	Clean Tech	1.88
Schneider Electric	France	Adaptation	1.84
Acciona	Spain	Clean Tech	1.84
Saint-Gobain	France	Energy Efficiency	1.79

Source: DWS

Classic strategies for reducing risk include investing only in large company stocks (Large Cap Equities), or large specialised funds and vehicles, eg. Credit Suisse "Alternate Energy Index" but this strategy is decreasingly attractive.