

BIG-STEP

BUSINESS, INDUSTRY AND GOVERNMENT –
SCIENCE AND NEW TECHNOLOGIES FOR ENHANCING
POLICY

Tackling Large Scale Economic Uncertainties

Brussels, April, 15th., 2010.

Pedro A. Prieto
Vice President

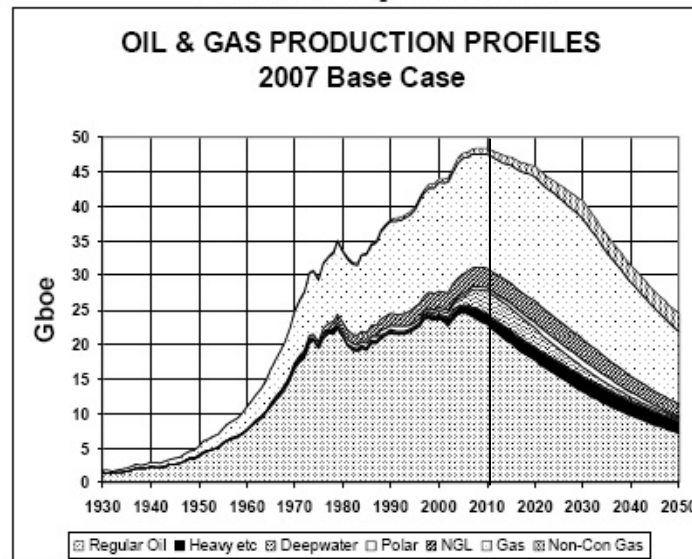




The Association for the Study of Peak Oil and Gas (ASPO)

The ASPO Vision

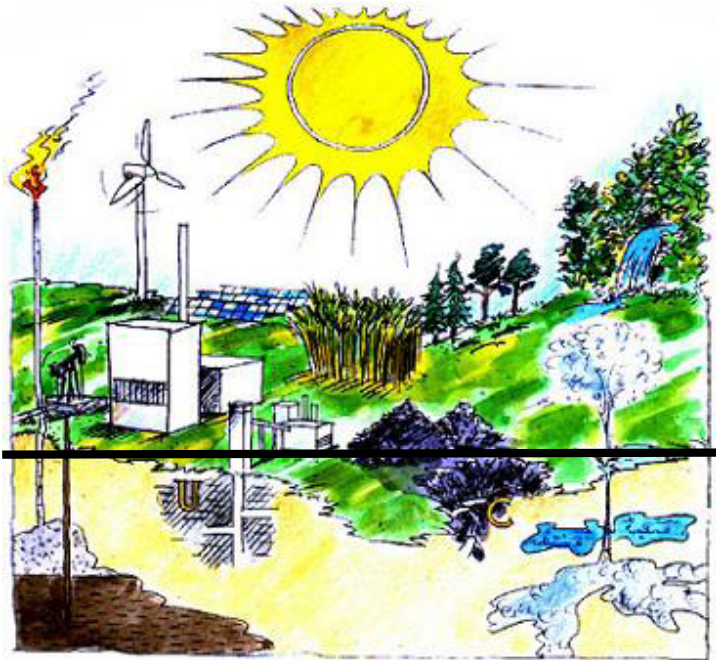
The General Depletion Picture



ESTIMATED PRODUCTION TO 2100							End 2007			
Amount			Annual Rate - Regular Oil					Gb	Peak	
Regular Oil			Mb/d	2007	2010	2015	2020	2030	Total	Date
Past	Future	Total	US-48	3.7	3.1	2.4	1.8	1.0	200	1970
Known Fields	New		Europe	4.3	3.5	2.5	1.7	0.9	76	2000
1009	725	141	Russia	9.7	9.7	7.8	6.2	3.9	230	1987
	866		ME Gulf	19	19	20	20	17	663	2015
All Liquids			Other	29	27	23	19	13	706	2005
1151	1299	2450	World	66	63	55	48	36	1876	2005
2007 Base Scenario			Annual Rate - Other							
M.East producing at capacity (anomalous reporting corrected)			Heavy etc.	3.9	4.6	5.2	5.5	6.2	184	2030
Regular Oil excludes Heavy Oils (inc. tarsands, oilshales); Polar & Deepwater Oil; & gasplant NGL			Deepwater	6.7	8.8	9.1	7.5	3.6	85	2013
			Polar	1.2	1.3	1.7	2.2	3.0	52	2030
			Gas Liquid	7.7	7.7	8.0	8.4	8.2	228	2027
			Rounding			1	-2	-2	26	
Revised 06/05/2008			ALL	85	85	80	70	55	2450	2008

The unsustainable iceberg

Global Primary Energy Consumption	Oil	Gas	Coal	Nuclear	Hydro	Biomass	Total
In Million Toes	3,890	2,582	3,090	637	696	1,389	12,284
In %	31.7	21.0	25.2	5.2	5.7	11.3	100%

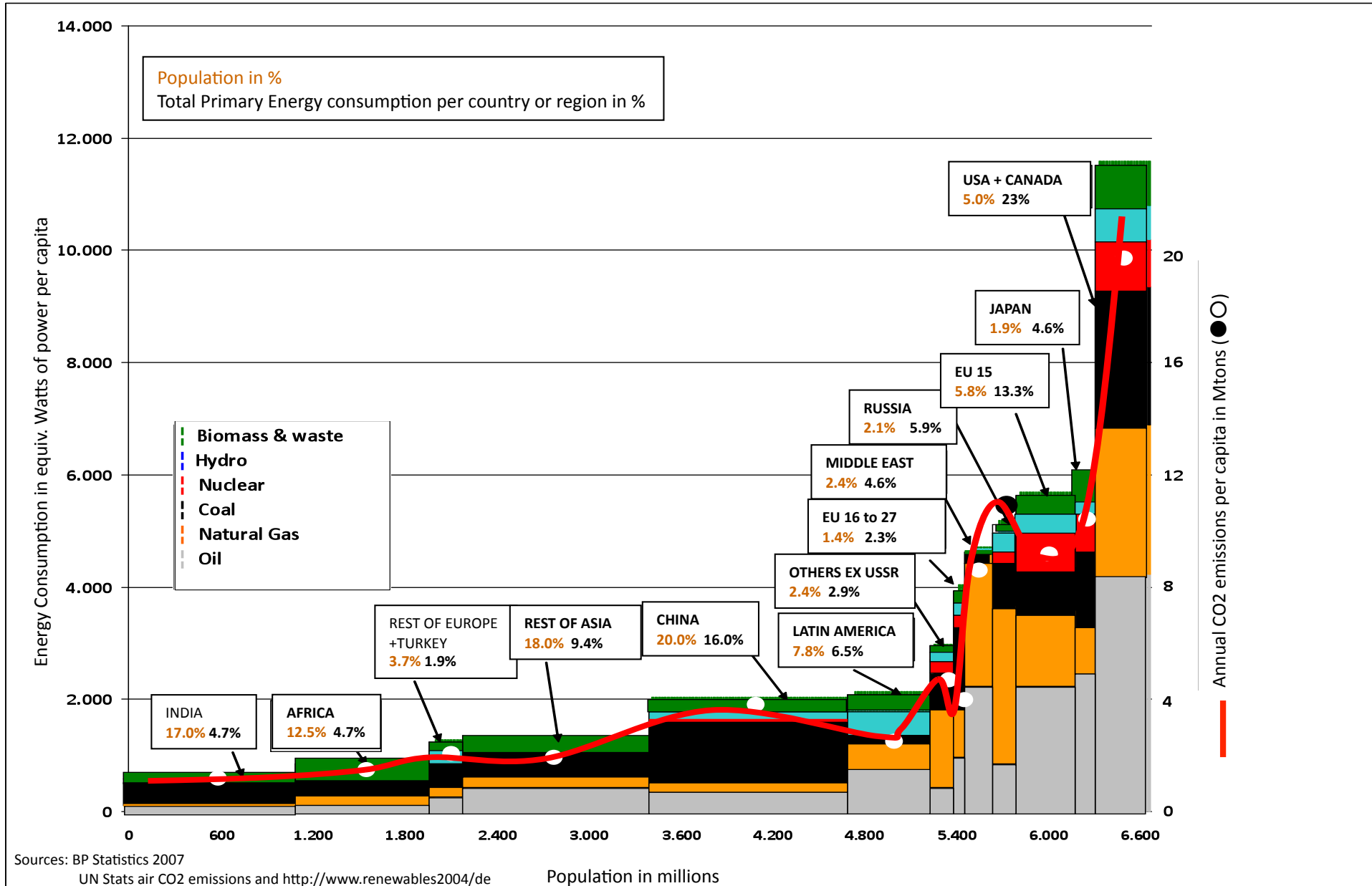


Only 20% of our primary energy system comes from the biosphere at present.

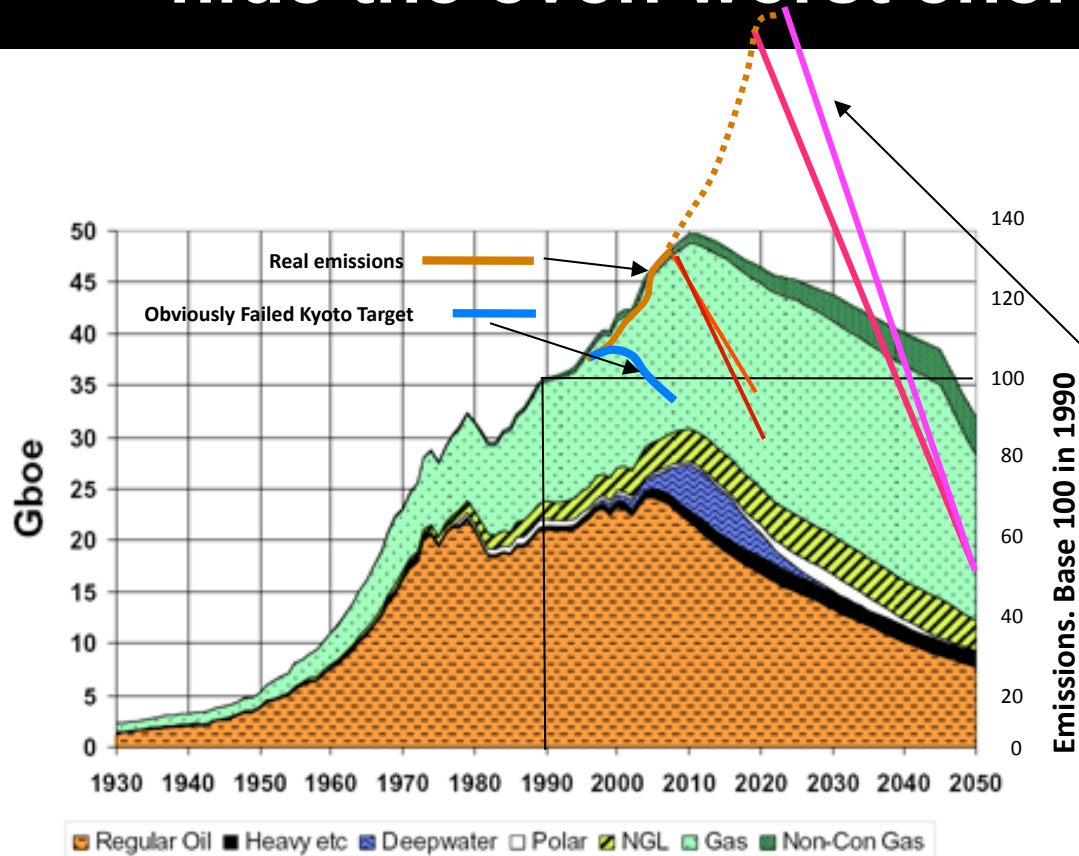
80% comes from the lithosphere

Just picking 2/10 of this gigantic volume, we are already deteriorating in an accelerated form our environment

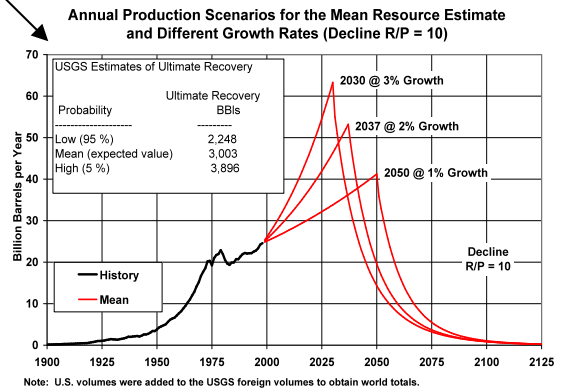
Economy and emissions: An identity (or GDP Pollutes)



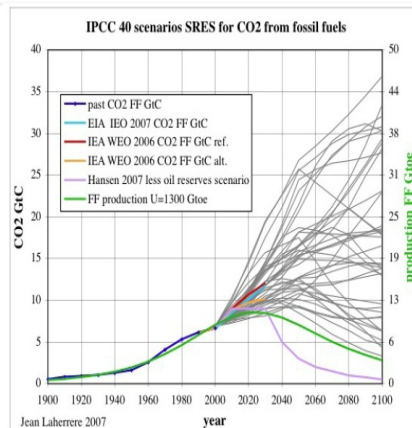
Global Warming: a good alibi to hide the even worst energy future



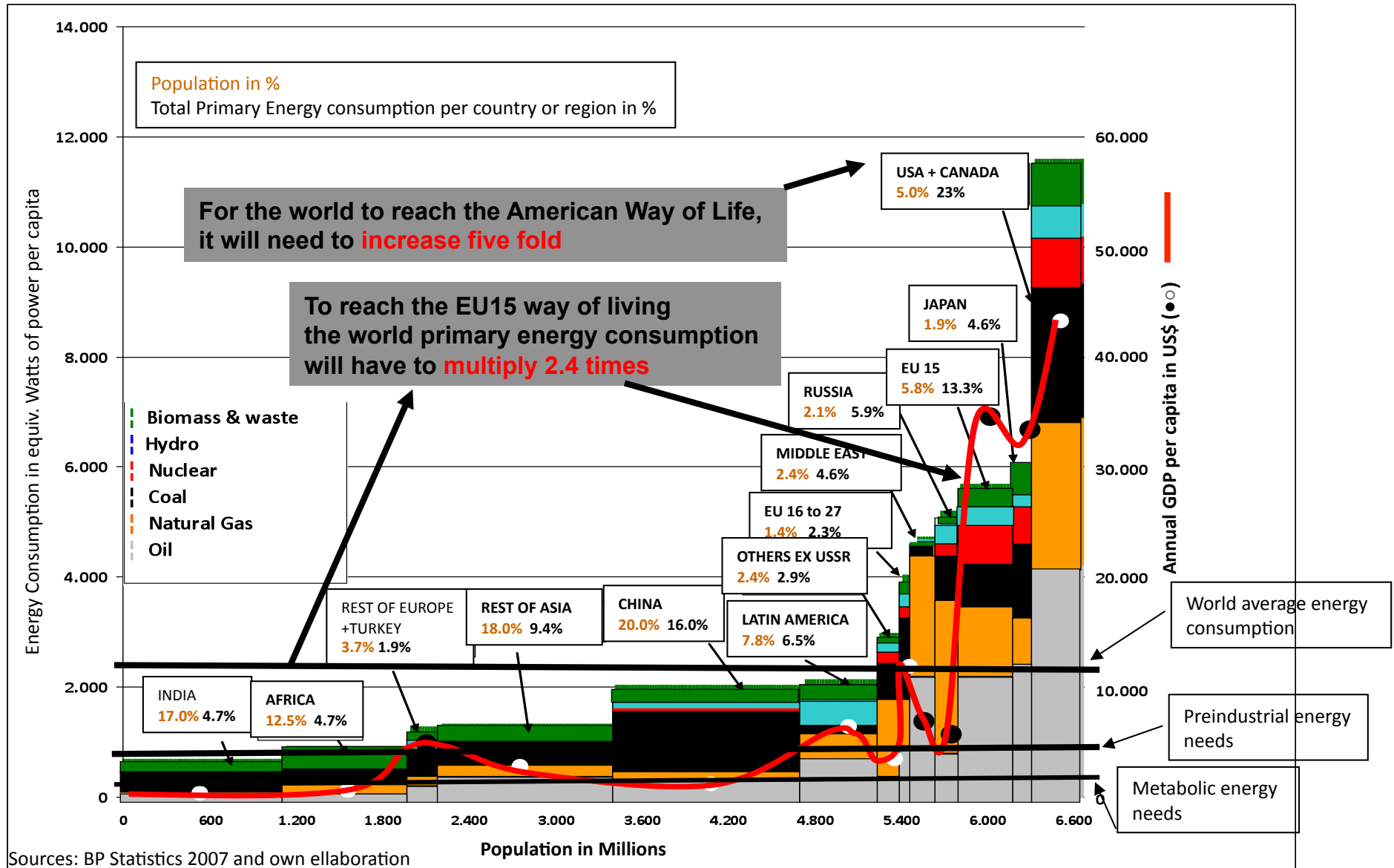
- Bali. European Objectives.
 - Reduction 25
 - Reduction 40% for 2020
- Bali. Objectives
 - with Emission's Peak in 10 years
 - with Emission Peak in 15 years (and further emission's reduction to 50% for 2050)



USGS OIL PROD. FORECAST



Economy and Energy Consumption: An Identity Despite Singularities



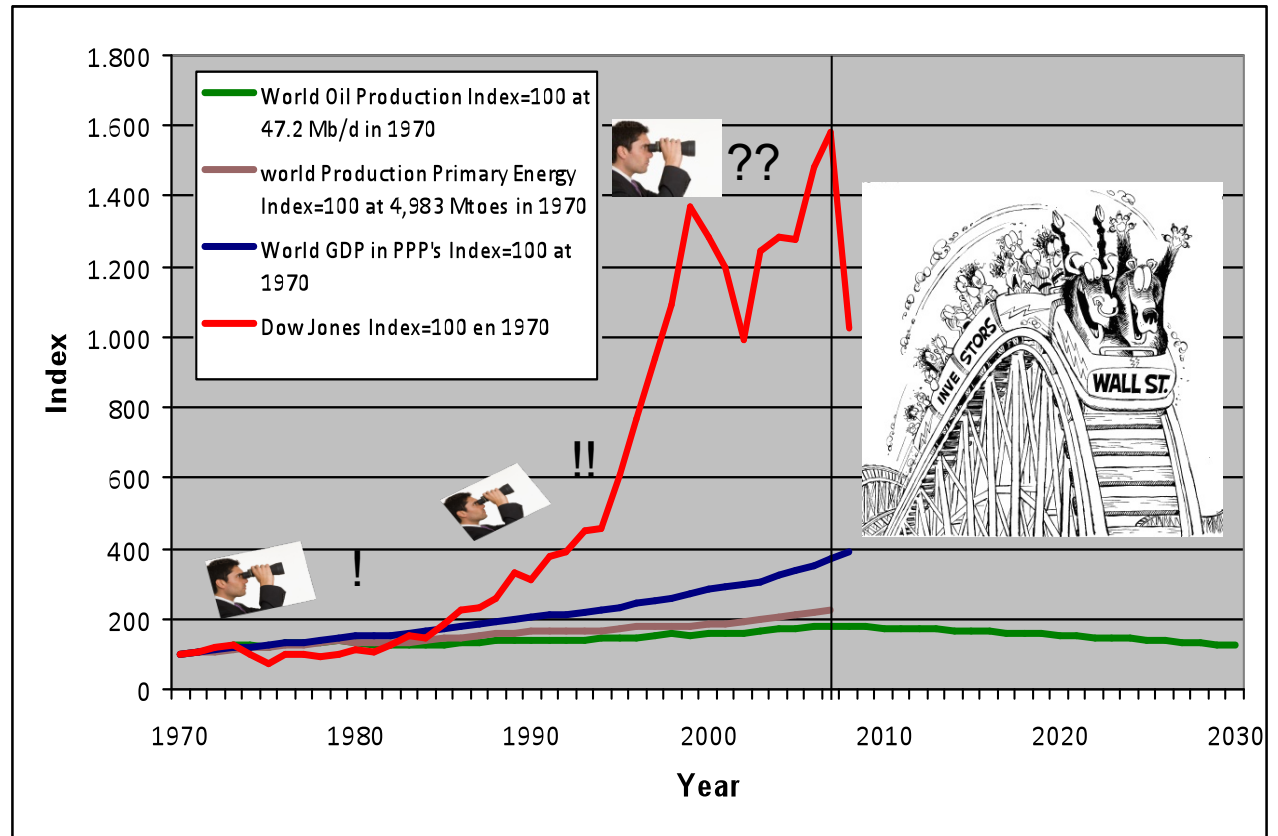
The Financial Collapse: Divorced Visions from the Physical World

Everybody happy
believing in infinite growth

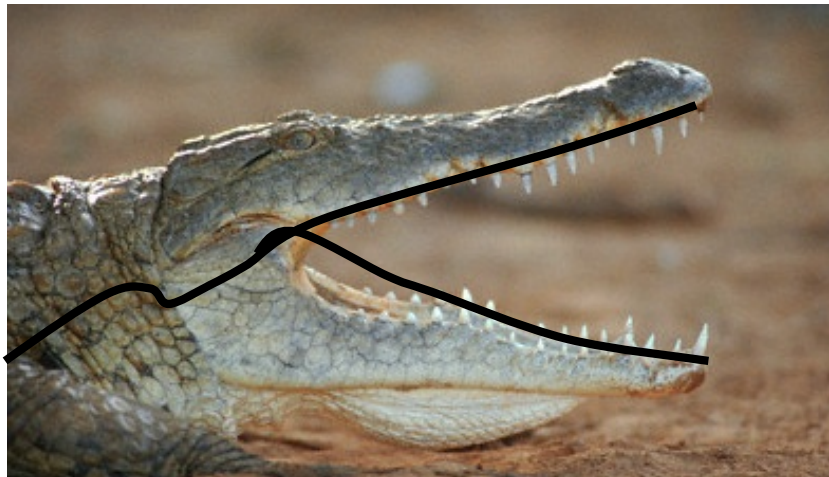
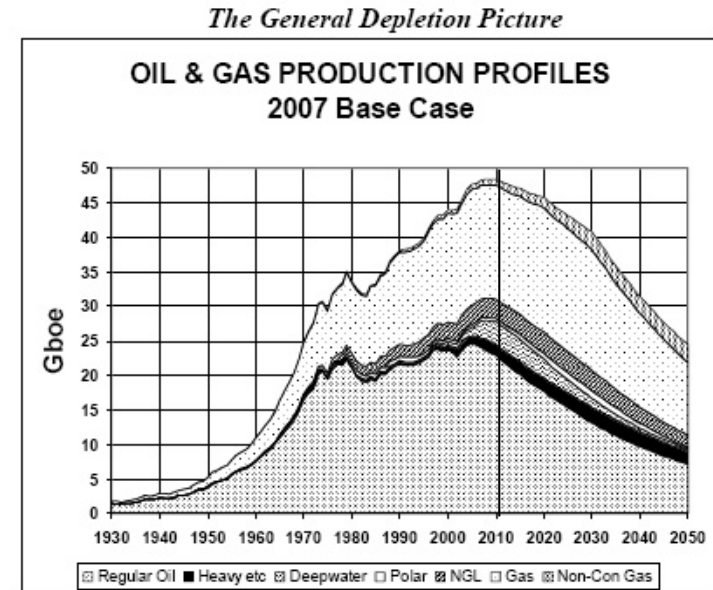
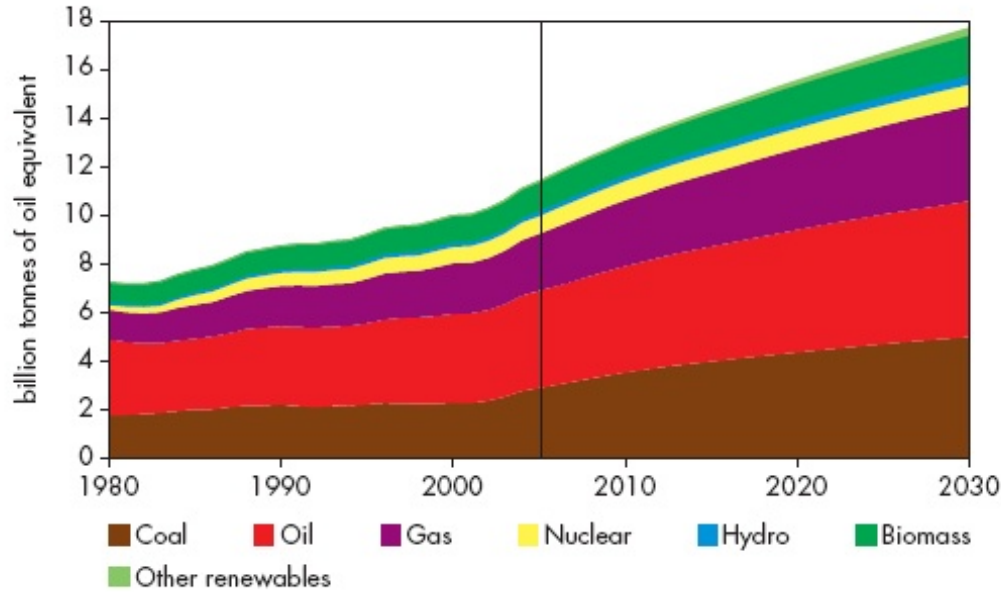
If money is to represent
an equivalence of the
physical reality, we have been
lying ourselves for quite
a number of years

Time of hard landing?

When economy will again
Reasonably reflect actions
and transformation of the
physical world?

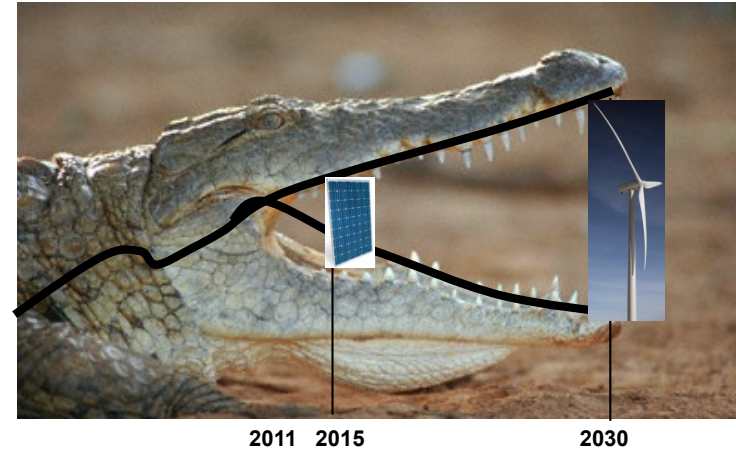
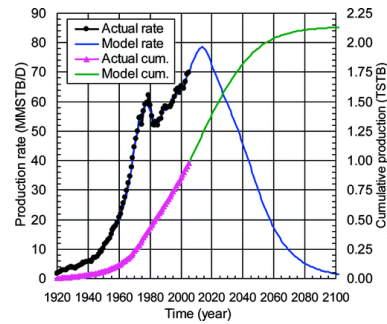
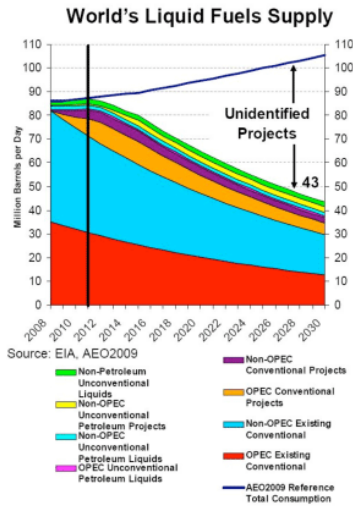


The IEA forecasts for gas and oil vs the ASPO forecasts. Quo Vadis?



The Oil-I-Gator

Alternative Energies to a very difficult rescue



FIXING THE OIL-I-GATOR JAWS WITH RENEWABLE ENERGY

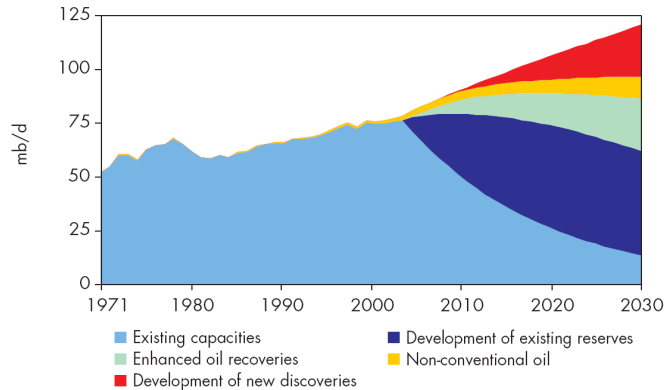
Filling the gap in 2015 will require 1 Saudi Arabia (10 Million barrels/day)

Filling the gap in 2030 will require 6 Saudi Arabias (60 Million bpd)

All the present wind +solar world installed park generates 330 Twh/year

1 SAUDI ARABIA = 6 times the present world renewable installed power

6 SAUDI ARABIA = 36 times the present installed power



Sources: Department of Energy of the USA <http://www.eia.doe.gov/conference/2009/session3/Sweetnam.pdf> Page 8

Department of Petroleum Engineering, College of Engineering and Petroleum, Kuwait University. <http://pubs.acs.org/stoken/presspac/presspac/full/10.1021/ef901240p>

UK Industry Taskforce on Peak Oil and Energy Security. <http://peakoiltaskforce.net/download-the-report/2010-peak-oil-report/>

The Wall Street Journal. February 11th. 2010. The Next Crisis: Prepare for Peak Oil.

<http://online.wsj.com/article/SB10001424052748704140104575057260398292350.html#articleTabs=article>

The Independent. August 3rd. 2009. Warning: Oil supplies are running out fast. Fatih Birol. Chief Economist IEA.

Energy and Economy: Chicken and egg

What was first, Financial Crisis or Peak Oil?



<http://www.peakoil.net>

<http://www.crisisenergetica.org>

Pedro A. Prieto
Vice president



Thank you for your attention

Z.Z.