

World Energy Market

Optional Discipline

Valentin K. Pospelov

Financial University under the Russian Government

Moscow 2014

MARKET

Subject 2

World Energy Market. Market Situation

Main Points:

- 1. Definition of World Energy Market.**
- 2. Volume, Structure, Growth and Development Trends.**
- 3. Current State of Energy Markets.**

MARKET

Subject 2

World Energy Market. Market Situation

Main Points:

- 1. Definition of World Energy Market.**

World Energy Market

**is totality of world markets of
different energy resources**

World Oil Market

**World (International)
Gas Market**

World Coal market

**International Electricity
Markets**

**World Market of
Uranium Fuel**

**World Energy
Market**



Possibilities and Limits of Energy Resources Substitution

One type of energy resources may be substituted with another, but this has its limits

In the second half of the XX century oil made significant advances at the expense of coal, then natural gas presented a serious challenge at the end of the past and at the beginning of the XXI century

The latter half of the XX century saw increased interest in nuclear energy only to witness its subsequent gradual decrease. The end of the current decade is characterized by a renewal of interest in nuclear energy

Renewable energy has been gaining more supporters, however, all forecasts agree that its share in world energy production in the next 20 to 25 years will be modest at best

MARKET

Subject 2

World Energy Market. Market Situation

Main Points:

- 2. Volume, Structure, Growth and
Development Trends.**

World Oil Market

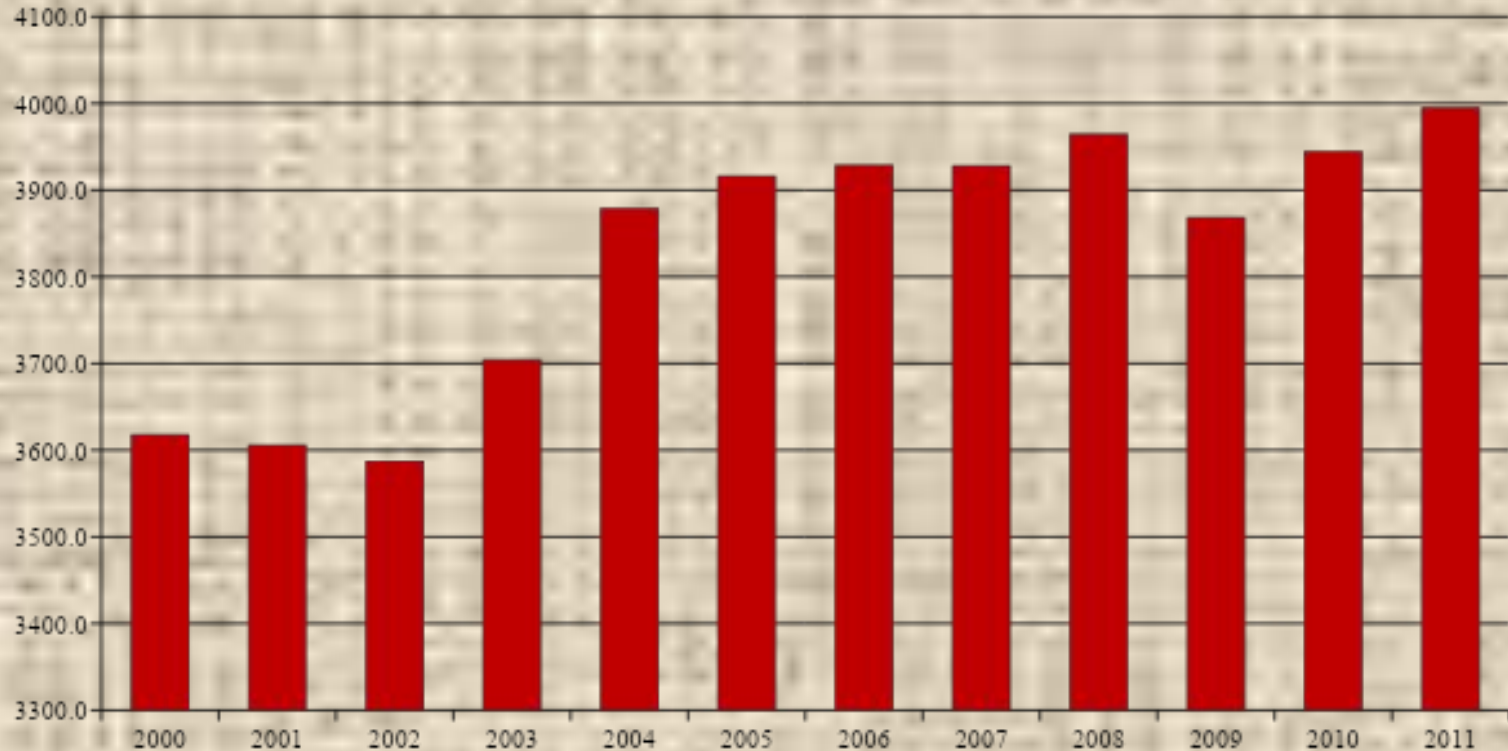
is unique

**World daily oil production
in 2011 reached 3995,6 mn t**

**About half of
extracted oil was
exported**



World Oil Production (mn tons)



2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
3618,2	3606,7	3587,5	3704,5	3879,3	3916,4	3929,2	3928,8	3965,0	3869,3	3945,4	3995,6

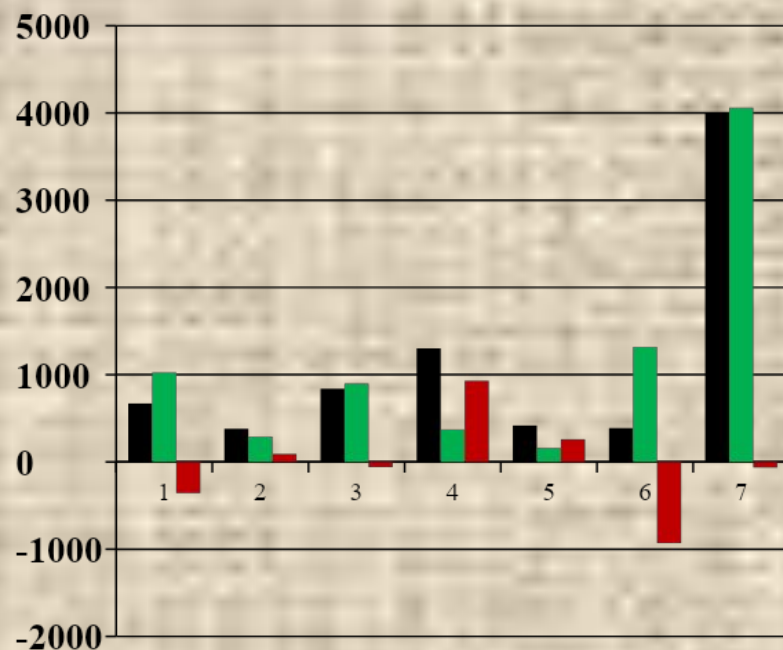
Source: BP

Oil Production and Consumption in 2011 (mn tons)

N. America	670	1026,4	-356,4
Cen/S. America	379,9	289,1	90,8
Europe/Eurasia	838,8	898,2	-59,4
M. East	1301,4	370	931,4
Africa	417,4	158,3	259,1
Asia and Oceania	388,1	1316,1	-928
World	3995,6	4059,1	-63,5

Oil Production and consumption in 2011 (mn tons)

N. America	670.0	1026,4	-356,4
Cen/S. America	379,9	289,1	90,8
Europe/Eurasia	838,8	898,2	-59,4
M. East	1301,4	370.0	931,4
Africa	417,4	158,3	259,1
Asia and Oceania	388,1	1316,1	-928
World	3995,6	4059,1	-63,5



Source: BP

Largest oil importers and exporters in 2011, 000s b/d

Largest oil importers	000s b/d	Largest oil exporters	000s b/d
<u>1 United States</u>	8,818	<u>1/1/Saudi Arabia</u>	8,533
<u>2 China</u>	5,474	<u>2 Russia</u>	7,119
<u>3 Japan</u>	4,328	<u>3 Iran</u>	2,534
<u>4 India</u>	2,418	<u>4 United Arab Emirates</u>	2,458
<u>5 Germany</u>	2,235	<u>5 Nigeria</u>	2,313
<u>6 Korea, South</u>	2,17	<u>6 Kuwait</u>	2,272
<u>7 France</u>	1,716	<u>7 Iraq</u>	1,915
<u>8 Spain</u>	1,355	<u>8 Norway</u>	1,752
<u>9 Italy</u>	1,301	<u>9 Angola</u>	1,752
<u>10 Singapore</u>	1,239	<u>10 Venezuela</u>	1,715
<u>11 Taiwan</u>	1,002	<u>11 Algeria</u>	1,531
<u>12 Netherlands</u>	951	<u>12 Qatar</u>	1,478
<u>13 Turkey</u>	648	<u>13 Kazakhstan</u>	1,424
<u>14 Belgium</u>	634	<u>14 Canada</u>	1,311
<u>15 Thailand</u>	608	<u>15 Azerbaijan</u>	994

International Gas Markets

There is no global gas market

There are regional gas markets

**Three big
regional gas
markets**

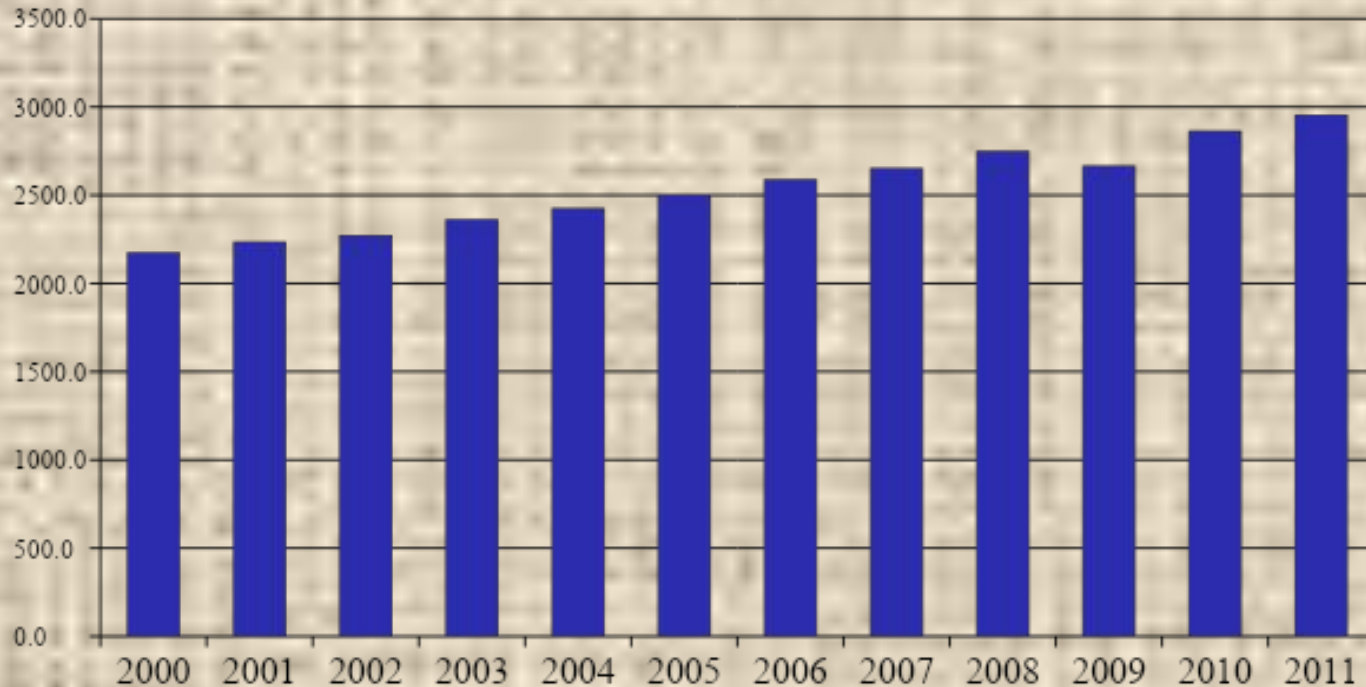
```
graph LR; A[Three big regional gas markets] --> B[European]; A --> C[Eastern Asian]; A --> D[North American];
```

European

Eastern Asian

North American

World Natural gas production (mn t oil equivalent)



2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
2176,8	2237,8	2274,5	2362,9	2426,5	2501,0	2590,2	2654,0	2750,5	2667,4	2866,7	2954,8

Source: BP

Gas production and consumpt in 2011

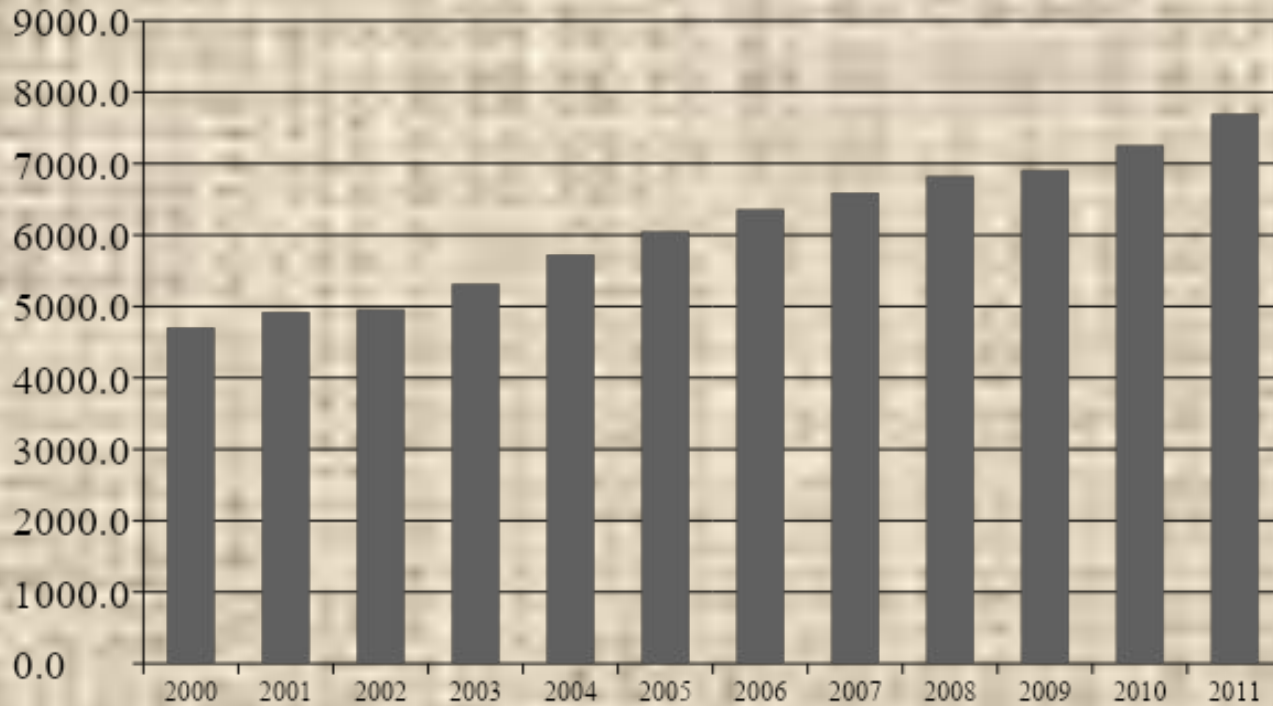
(mn t oil equivalent)

US	592,3	US	626,0
Russia	546,3	Russia	382,1
Canada	144,4	Iran	138,0
Iran	136,6	China	117,6
Qatar	132,2	Japan	95,0
China	92,3	Canada	94,3
Norway	91,3	Saudi Arabia	89,3
Saudi Arabia	89,3	UK	72,2
Algeria	70,2	Germany	65,3
Indonesia	68,0	Italy	64,2
Netherlands	57,8	Mexico	62,0
Malaysia	55,6	UAE	56,6
Egypt	55,1	India	55,0
Turkmenistan	53,6	Ukraine	48,3
Uzbekistan	51,3	Egypt	44,7
Mexico	47,2	Uzbekistan	44,2
UAE	46,6	Thailand	41,9
India	41,5	South Korea	41,9
UK	40,7	Argentina	41,9
Australia	40,5	Turkey	41,2

Source:

www.eia.gov

World Coal Production (mn t)



2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011

4701,4 4917,9 4960,8 5313,8 5723,1 6049,0 6356,5 6588,3 6822,1 6904,6 7254,6 7695,4

Source:BP

World Coal Market

Global coal market consists of two segments



North Atlantic



Asian Pacific



Main Exporters

**US, APEC countries and
Latin American
countries, Poland, Russia**



**Australia. South Africa,
Canada**

Intrnational Electricity Markets

There is no world electricity market

Only 4 to 5 per cent of produced electricity enters international markets

States and countries prefer to import electric energy rather than export it

Big net exports of electricity (over 20 bn KWh per year) are effected by a handful of countries (Canada, Paraguay, France)

MARKET

Subject 2

World Energy Market. Market Situation

Main Points:

3. Current State of Energy Markets.

State of the Market

Is the concrete situation in a particular market at a given period of time

It is subject to constant change due to various cyclical and non-cyclical factors

indicators

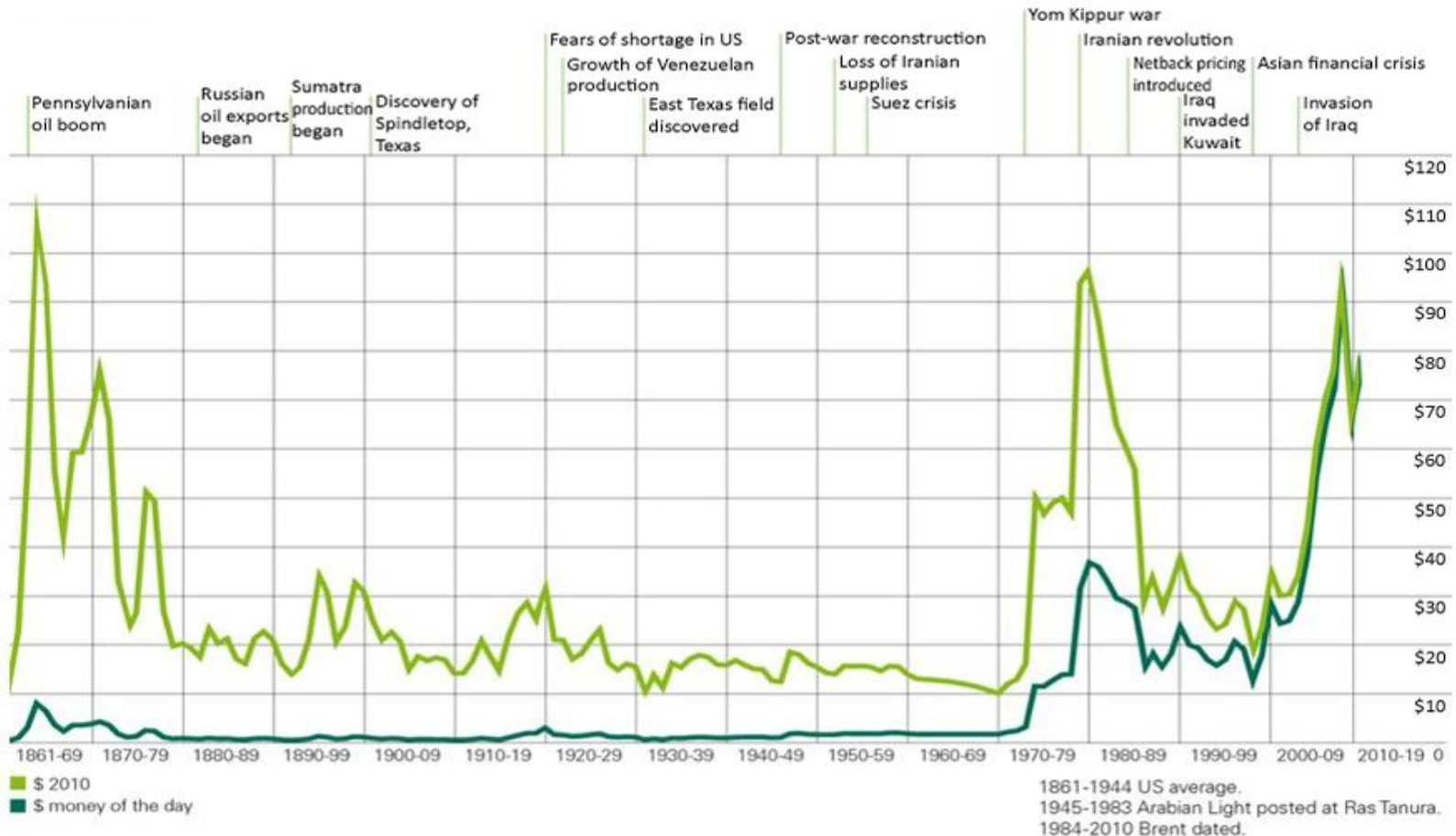
1. Production
2. Supply and Demand
3. Trade indicators
4. Prices

Crude oil price since 1861

Clusterstock  Chart of the Day

Crude Oil Prices 1861-2010

US Dollars Per Barrel & World Events



Light Crude Oil (CL, NYMEX)

Monthly Price Chart



Light Crude Oil (NYMEX)



How oil trade is organised

Oil and oil products are mainly trade on oil exchanges

How oil trade is organised

Market mechanism of oil trade has changed

Physical Market has developed into financial (instead of crude oil, financial contracts are traded)

physical market is a commodity market where purchasers actually buy the commodities, as opposed to the futures market, where they buy and sell **the right to purchase commodities at a future date**

Crude oil is one of the world's most widely-used commodities and one of the most actively traded commodities worldwide

A key geo-political benchmark, the price of oil is among the most quoted statistics in business headlines today

That's why hedgers, traders and risk managers around the world rely on the ICE Brent, ICE WTI, ICE ASCI and ICE Gasoil futures markets

<https://www.theice.com/crude.jhtml>

Home Assignment

Find data on the Web relating to the oil price developments in 2010-2013 and make a graph

Thank you for attention!