

# **World Energy Market**

**Optional Discipline**

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# **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.**

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## **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**

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# **World Energy Market. Market Situation**

## **Main Points:**

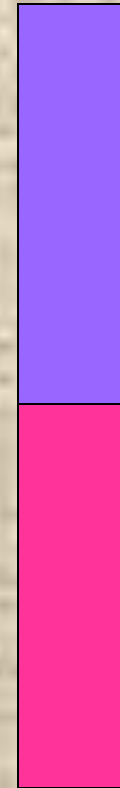
- 2. Volume, Structure, Growth and  
Development Trends.**

# World Oil Market

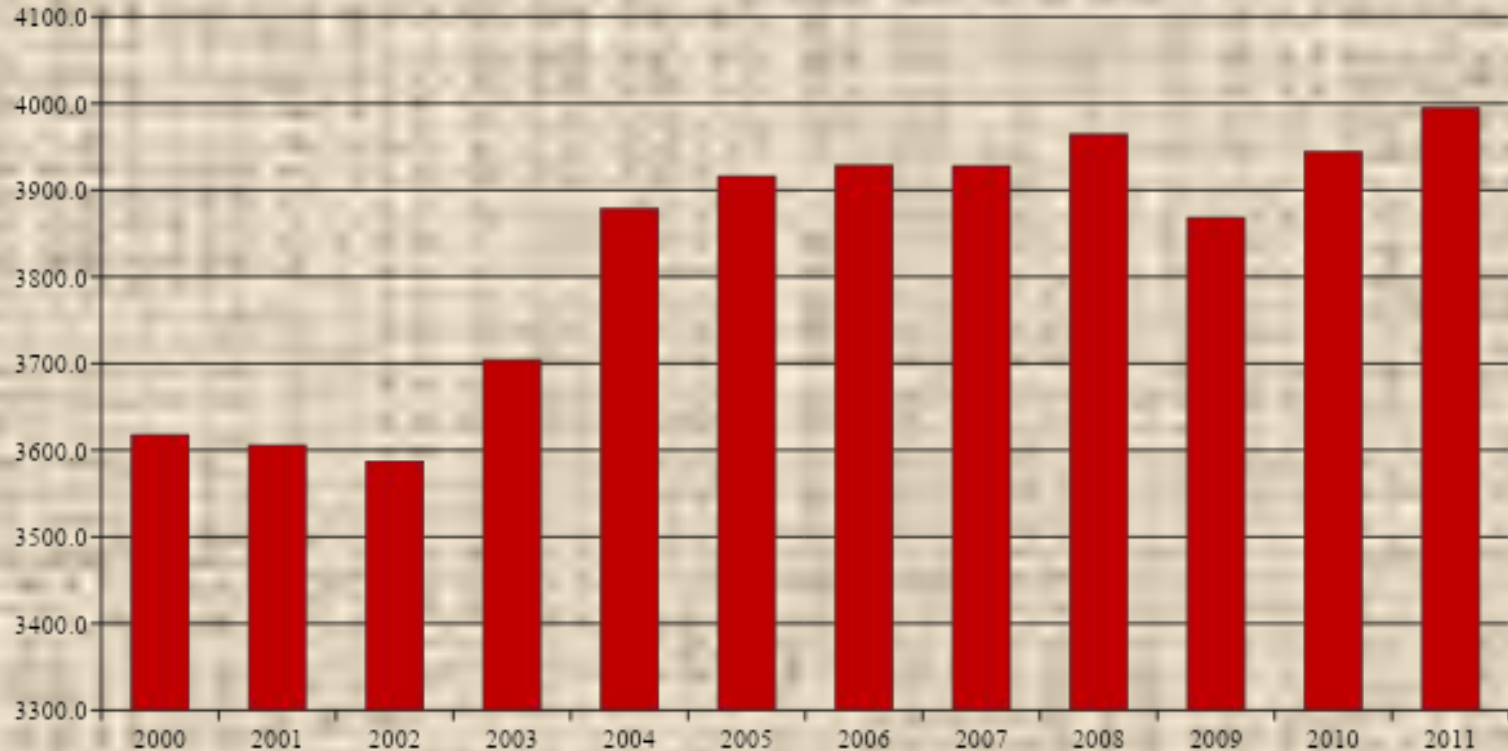
is unique

**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**

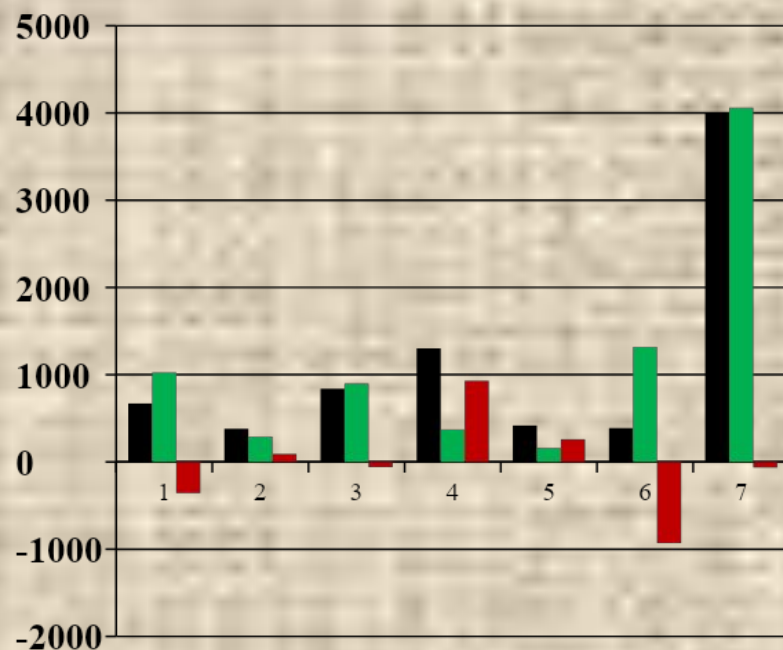


# Oil Production and Consumption in 2011 (mn tons)

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

# Oil Production and consumption in 2011 (mn tons)

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**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**

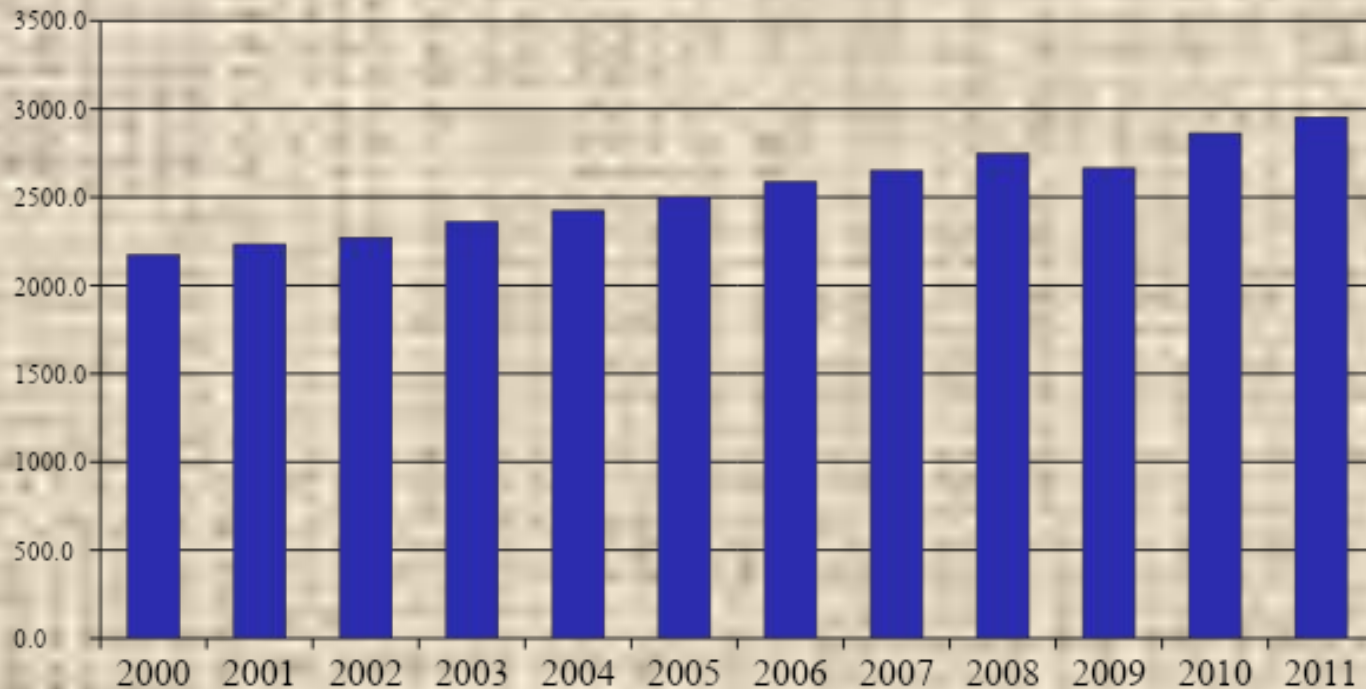
```
graph LR; A[Three big regional gas markets] --> B[European]; A --> C[Eastern Asian]; A --> D[North American];
```

**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

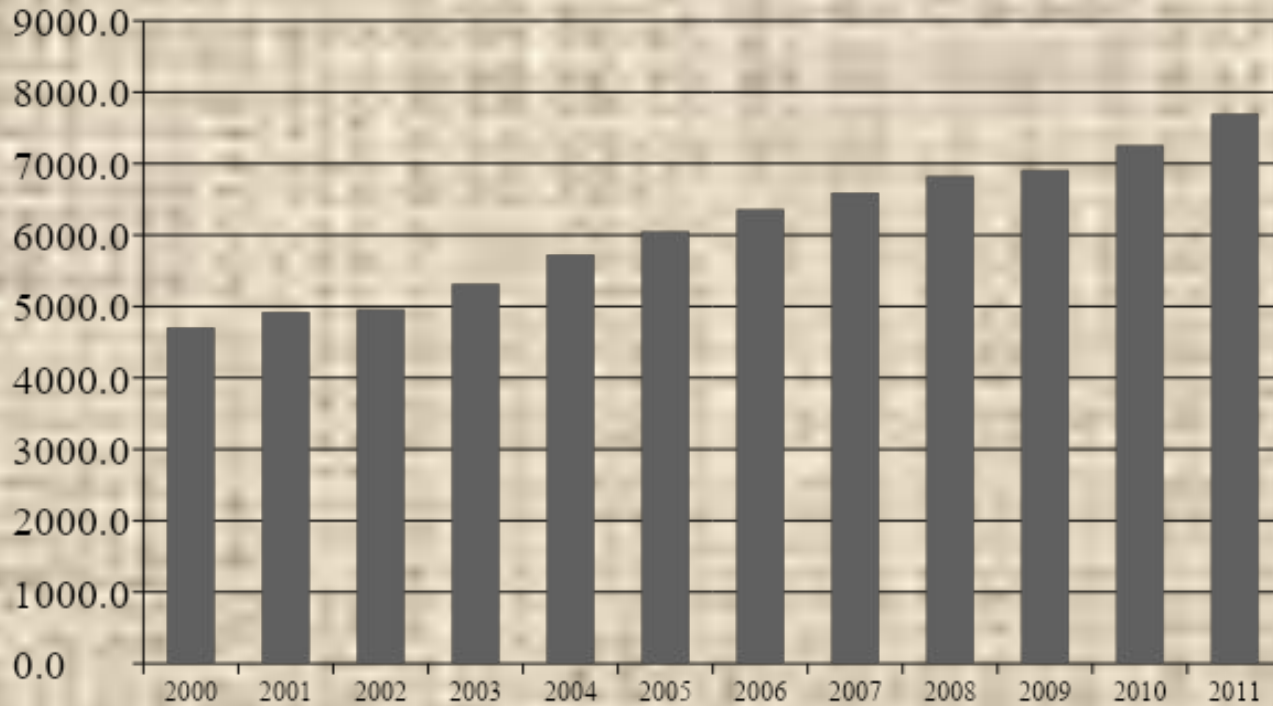
( mn t oil equivalent)

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

**Source:**

**[www.eia.gov](http://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)**

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## **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

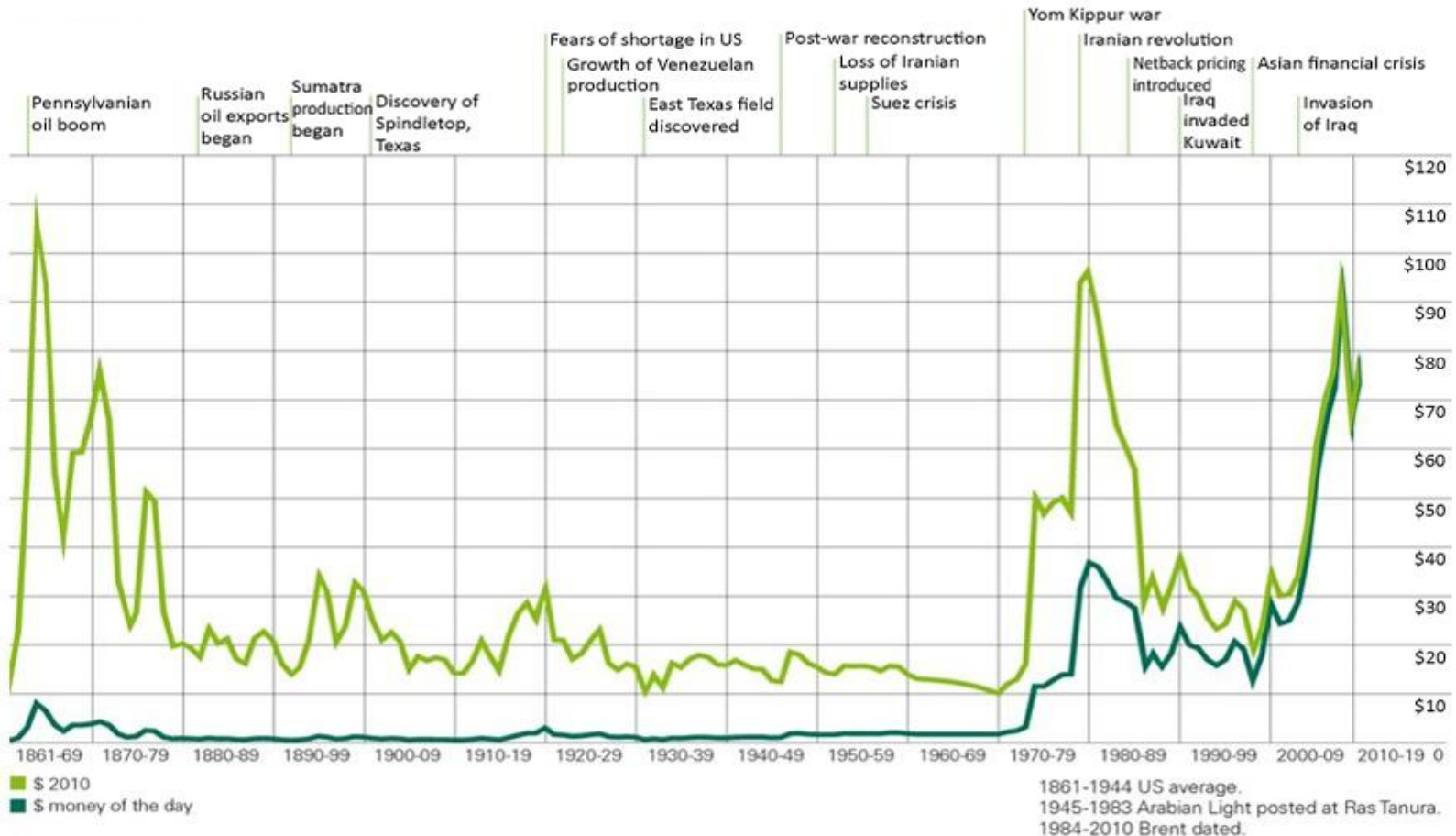
indicators

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!**