

Global Petroleum and Gas market Outlook

Module 3, 2022

Visiting Professor Alexander Malanichev, Ph.D.

NES, PSB, ex-Rosneft

e-mail: a_malanichev@list.ru

Course description

The objective of the course is to provide the student with the fundamental knowledge and applied skills necessary to develop of economic rationales for making informed operation and strategic decisions in global Fossil Fuel markets. The students will:

- get acquainted with historic background and modern fundamentals of global Oil & Gas industry, its basic notions, definitions and theories;
- understand interconnection between energy and financial markets (Fed rate, exchange rates, inflation, oil prices, etc.);
- learn how to build global primary energy balance (Oil, Gas, Coal, Nuclear, Renewables);
- model US shale oil production;
- forecast global oil market balance and price;
- predict OPEC+ decisions;
- develop the solid competence of working in team and excellent command of their business-communication abilities;
- practice to solve the most actual tasks of Research, Strategy and Planning Departments at Investment Banks (IB) and Oil & Gas industry.

Course requirements, grading, and attendance policies

Prerequisites: Micro- and macroeconomics, Statistics, Econometrics

Teaching and Work Forms: 2 lectures or 1 lecture + 1 workshop every week. Workshops will be devoted to the individual or group presentation of the student's independent researches.

Grading policy: Grade will come via following criteria:	max	threshold
• Attendance	14%	8%
• Presentation	10%	6%
• Homeworks	36%	22%
• Final exam	40%	24%

Course contents

1. Global energy outlook:
 - Course overview, grading, sources of information, basic definitions
 - 40 topics for individual presentations
 - Introduction to the energy (its role in economy, units of measurement, etc.)
 - Primary and secondary energy, its intensity and transformation
 - Energy S-D balance, transition and climate change
2. From geology to technology:
 - Workshop on HW1
 - What is oil?
 - Hydrocarbon's and its origin
 - Exploration and extraction technologies
3. Oil resources & reserves

- Quiz & Workshop
 - Wolf camp case
 - Reserves and resource classifications
 - Resource types and distribution
4. Production:
 - Quiz & Workshop
 - Decline curve analysis
 - Peak oil concept & Hubbert bell-curve
 - Shale gas & oil revolutions
 - Tight oil production modelling
 5. Supply:
 - Workshop on HW2
 - Global oil supply overview
 - OPEC regulation
 - Seasonality of oil supply
 - Oil supply structure in the long-run
 6. Consumption:
 - Quiz & Workshop
 - Oil refining & product's markets
 - Oil consumption by different industries
 - EVs penetration, mobility revolution and peak demand threat
 7. Oil demand:
 - Workshop on HW3
 - Apparent consumption
 - Key technologies on demand side
 - Oil market balance and inventories
 - Seasonality of oil demand in different countries
 8. Final exam

Description of course methodology

The course will mix conventional lecturing with more interactive techniques, such as class discussions, discussions of cases, student presentations, research papers, etc.

Course materials

Required textbooks and materials

There will be no base textbook. The course will be predominantly based on papers, presentations, data tables, provided before and during the course. Basic sources of information on international oil and gas markets are the following:

[International Energy Agency \(IEA\)](#)

[U.S. Energy Information Administration \(EIA\)](#)

[Organization of the Petroleum Exporting Countries \(OPEC\)](#)

[Joint Organizations Data Initiative \(JODI\)](#)

[BP Energy Economics](#)

[Shell: The Energy Future](#)

[ExxonMobil: Outlook for Energy](#)

[IMF Primary Commodity Prices](#)

[IHS](#)

[Wood Mackenzie](#)

[Rystad Energy](#)

[Ministry of Energy of RF](#)

[Baker Hughes Rigs Count](#)

Additional materials

Daniel Yergin (2008) *The Prize: The Epic Quest for Oil, Money, and Power*

Daniel Yergin (2012) *The Quest: Energy, Security, and the Remaking of the Modern World*

[The Economist](#)

[Energy Policy](#)

[Energy Economics](#)

Academic integrity policy

Cheating, plagiarism, and any other violations of academic ethics at NES are not tolerated.